THE WORLD'S WORK

MAY TO OCTOBER 1904

THE WORLD'S WORK

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A HISTORY OF OUR TIME

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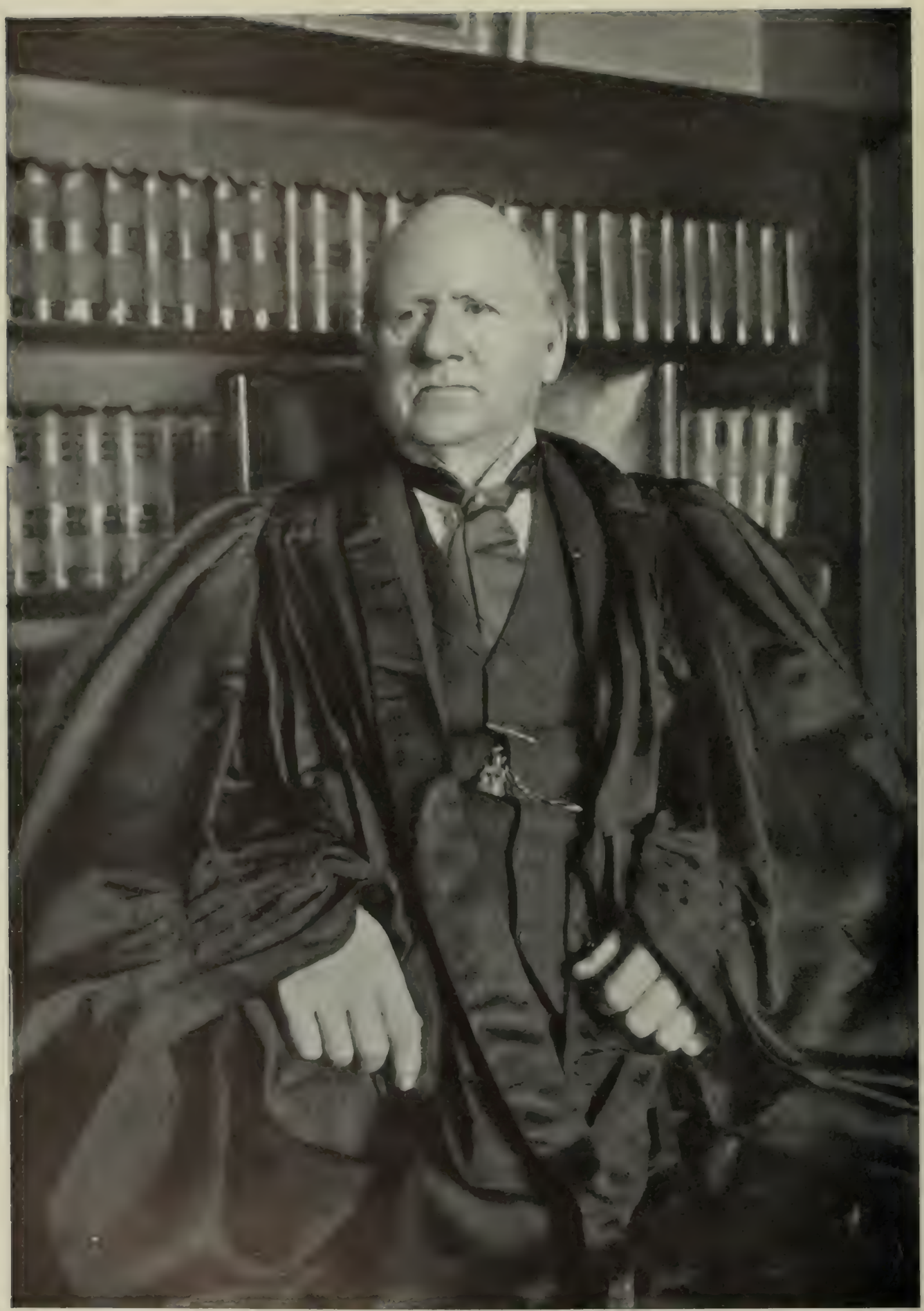

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JUSTICE JOHN M. HARLAN OF THE SUPREME COURT

WHO READ THE DECISION IN THE NORTHERN SECURITIES COMPANY CASE

(See "*The March of Events*")

THE WORLD'S WORK

MAY, 1904

VOLUME VIII NUMBER 1

The March of Events

THE magnificent world's fair at St. Louis is open this month to remain open till December 1st. It is literally magnificent—made big; and bigness is an essential fact about a world's fair. This is the first one big enough to show the products and processes of modern industry.

Everybody has read the statements and statistics that show how much bigger it is than any of its predecessors—how it is as big as several of them put together. The buildings are measured by acreage; the railroad that runs from building to building and from outdoor display to outdoor display is seven miles long; there are four miles of track inside the transportation building—everything is long and big and spacious beyond precedent. Mere figures convey a very dim idea of it. If bigness were all, it would mean only so much more weariness to see it. But size denotes quality and variety.

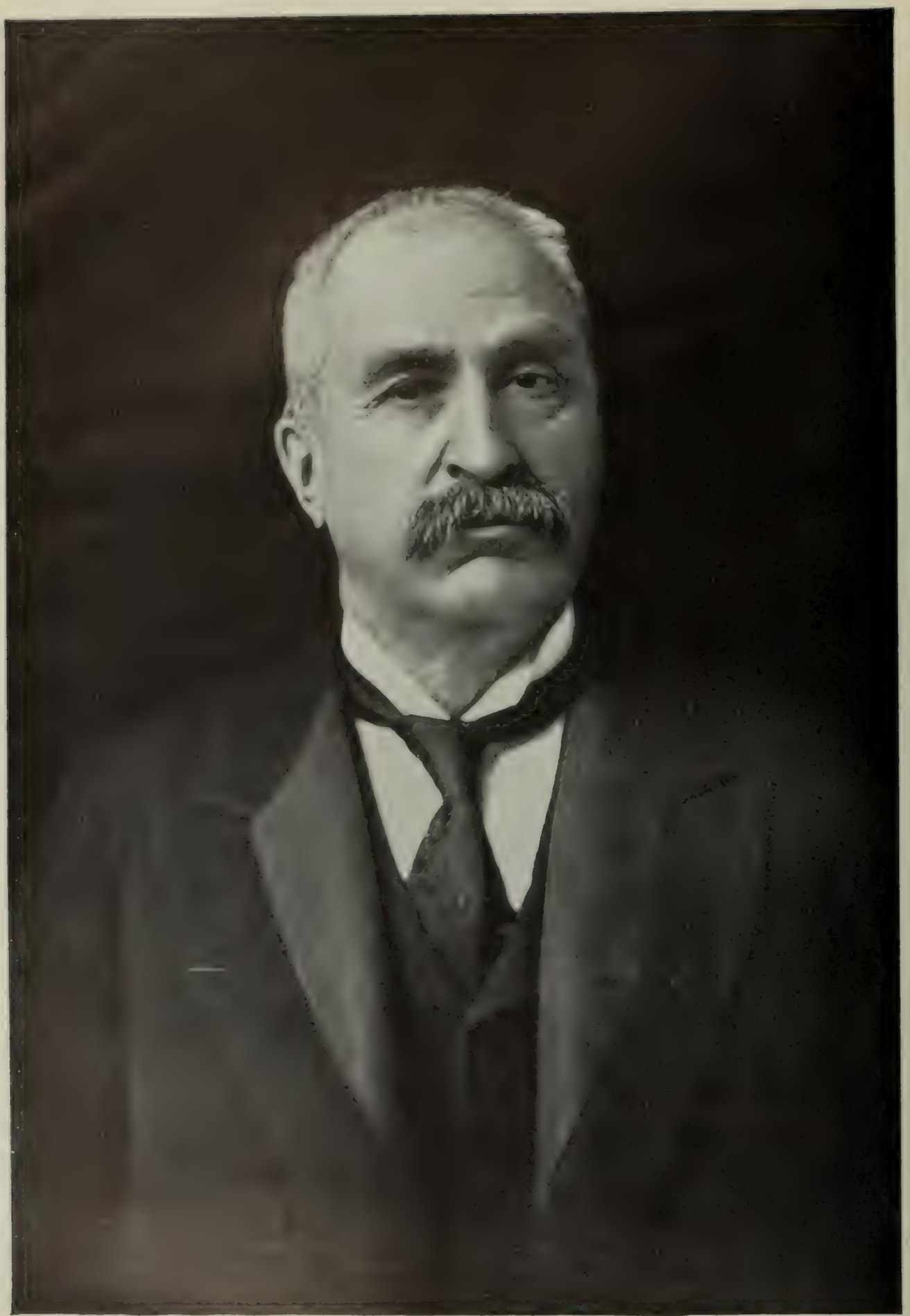
The fair-makers have worked us hard since 1876, when the Centennial Exposition gave the public new ideas about many useful arts. But we have traveled a long way in prosperity and in industrial development since then. Witness this fact—the great Corliss engine at Philadelphia had 300 horse-power; at St. Louis there is one engine of several that has 8,000 horse-power and could, under pressure, develop 12,000 horse-power. If so much may be said for our growth in sheer strength, more could be said for the development of variety. All the indoor part of the Centennial Exposition could be put, perhaps, in a single one of the dozen great exposition "palaces" at St. Louis.

The great manufacturing nations of the world have never before sent such a variety of products to any fair. Nor have our own people ever before made public exhibition of so many products and processes. The riches of these recent years of marvelous ingenuity are abundantly gathered there. The distinction of this exposition is that many processes are shown. You may see not only things that have been made, but things in the making. This fact marks important advance—perhaps a revolutionary advance—in fairs.

HOW TO SEE THE WORLD'S FAIR

BUT it is not meant here to describe the great fair. The August number of this magazine will be given to a description of it—and to more than a description; for that number of the magazine will contain a practical guide and an interpretation, made by pen and camera—a picture of its fleeting grandeur that, it is hoped, will be worth preserving for many years to come, and an accurate explanation of the most significant things seen there.

Here let it be said only that this huge fair

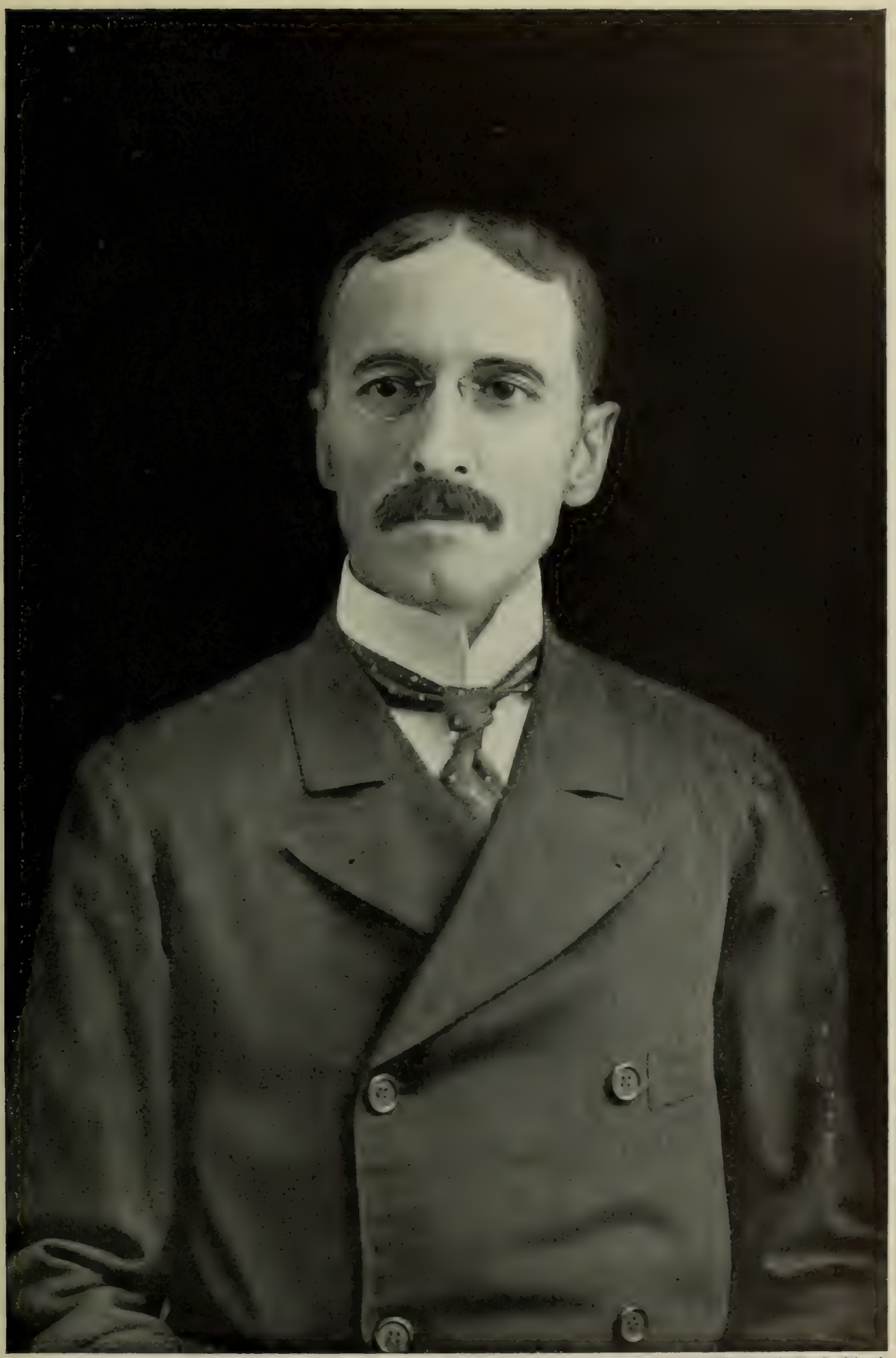


Photographed by Clinedinst

GENERAL GEORGE W. DAVIS

GOVERNOR OF THE CANAL STRIP OWNED BY THE UNITED STATES ON THE ISTHMUS OF PANAMA

(*See "The March of Events"*)



Photographed by R. Colorado

GOVERNOR WILLIAM H. HUNT, OF PORTO RICO

(See page 4759)

will be an event in our history quite as great as the Centennial Exposition or as the Columbian Exposition was perhaps greater in many practical ways than either of them; for a display of many processes of manufacture and methods of doing things may give a greater impetus to our ingenuity and fertility than any fair in the world has hitherto given us. It is, therefore, a duty that every American owes to his own education to see it.

And it has been made easy to see—that is to say, the railroads have given cheaper rates of travel than they ever gave before; the managers of the fair have made more liberal arrangements than the public has ever before enjoyed (for example, you may carry your camera there and take pictures to your heart's content); and you will get more instruction for your admission-fee than was ever before offered for half-a-dollar—both a more magnificent spectacle and a chance to study a greater variety of exhibits. A wise visitor will not expect to get even a superficial view of it all within less than a week. (It will, thanks to Congress, not be open on Sundays, nor will the buildings be open at night.)

The way to go is to go to the fair—not into the city of St. Louis, if you can help it. The good hotels in the city proper are few, and no one can hope to get rooms at them except by an engagement long in advance. But there are hotels—good, bad, and worse—in the part of the city near the fair and even inside the fair itself; and there are many private houses—good, bad, and worse—where rooms may be engaged. It will be well to secure them in advance. The managers of the exposition have done all that they could do to prevent the robbery of the public. But persons who have rooms to let now at $1 or $5 a day may soon discover that they can get $2 or $8; and human nature in St. Louis is very like human nature elsewhere. But by forethought, by good management, and by avoiding a daily trip to and from the city, any family in the land may spend a week at the fair even more cheaply than it was ever before possible to take such a journey and to see a less excellent show.

Make your plans deliberately. Engage your railroad accommodations and your sleeping place in advance; spend a day in getting your bearings—ride on the intramural railway, and see the great spectacle as a whole from many points of view; retire early and sleep long; put on your old shoes the next day, and go to the building that interests you most. You cannot walk or even ride along all its aisles in one day. You may wish to spend a second day there. But you cannot see the whole fair within less than a fortnight at that pace. Yet everybody knows—afterward—that it is better to see some things well than to see many things in the haze of a hasty view.

And for many years afterward you will read and talk about what this magnificent exposition meant to you. Those that see nothing else will see the American people as they were never seen before; and a sight of them, at such a place, will be worth a long journey, even if it bring some discomfort. The American citizen and all his works will be there.

THE PRESIDENTIAL CAMPAIGN

CHIEF-JUDGE ALTON B. PARKER, of the New York Court of Appeals, now seems most likely to be nominated by the Democrats for the Presidency. If he be chosen, the chief reason for his nomination will be the hope that he will carry New York. Although this is a negative reason, perhaps no wiser nomination could be made. He is yet in the prime of life, having been born in 1852; he has spent the greater part of his mature working period on the bench; he has borne himself with becoming dignity since his nomination began to be discussed; he is a man of modest manner, of a simple life, and of a training and experience that have kept him aloof from both commercial and political entanglements.

It is true that Judge Parker has not had executive or even political experience; but, if he have as robust a personality as his friends say that he has, the lack of such experience is no great disadvantage to him either as a candidate or as president if he should be elected. That he is a man of character and of ability as a judge, the public knows; and the public knows little else about him. The presumption is that he has a sound and ripened judgment; and his nomination would be a dignified ending of Democratic indecision. It would not please Mr. Bryan; but the greater Mr. Bryan's displeasure, the better would Judge Parker's chance be to carry New York.

Even with New York, the Democratic

Photographic by Arthur Hewitt

MAYOR GEORGE B. McCLELLAN, OF NEW YORK

(See page 1812)

Photographed by Aime Dupont

THE LATE WILLIAM R. GRACE

FORMER MAYOR OF NEW YORK AND A MAN OF UNUSUAL ACHIEVEMENTS

(*See page 4818*)

candidate is not likely to be elected. In spite of the chatter about Mr. Roosevelt's offense to "capital"—or perhaps by reason of it—and in spite of the sputter about his conduct touching Panama—or perhaps by reason of it—he is practically sure of election. The mass of voters in the Republican States are pleased with the administration. In fact, it would be impossible to recall a presidential candidate in the White House (with the possible exception of Mr. McKinley) of whom so little serious criticism was heard a month or two before the nominating conventions. Mr. Roosevelt is personally very popular, and there is effective opposition to him neither in his own party nor among independent voters.

But, if Judge Parker receive the Democratic nomination, his party will present a dignified and wholesome opposition; and we shall have a campaign during which the prophets of impending calamity will not receive much attention. The candidates will be the platforms. The question raised will be, Mr. Roosevelt or a change? Since the well-organized Republican mass of voters will stand firmly for him, the burden of proof will rest with the Democrats. If a reasonable degree of prosperity continue, there will surely be no change; for "hard times" is the only leverage that could lift the Democrats into power this year. Such, at least, seems a safe prediction six months before the election.

THE POLITICAL OUTLOOK SIX MONTHS AHEAD

THE extraordinary conservatism of the American voter is explained in Mr. Tracy's review of recent presidential elections in this magazine. There is something elemental in the stability of the two political parties; for no considerable body of men changes its party allegiance from generation to generation. Now and then, the majority in the House of Representatives is lessened or even shifted from one party to the other. But in a popular vote the strength of each party, relative to the other, remains substantially the same. Nearly half the voters are Republicans. A little less than half are Democrats; and there is hardly 1 per cent. difference between the strength of the parties. Our political parties are very much more stable than parties in England or in Germany or in France; and we are the most conservative voters in the world.

The great majority that McKinley had over Bryan in the electoral college did not represent a great popular majority. Presidential elections are carried by States. The real task, therefore, in a presidential election is to win such states as New York and Indiana, which sometimes vote with one party and sometimes with the other.

For this reason, it will be a perfectly logical and proper thing if the Democrats nominate Judge Parker for the presidency, chiefly because they regard him as the strongest candidate in New York; and if the Republicans nominate Senator Fairbanks for the vice-presidency because they regard him as the strongest candidate in Indiana. The stability of the parties is such that it will make no practical difference that Judge Parker's opinions on specific political subjects are unknown beforehand. It is certain that he holds no very radical opinions; and one set of reasonable opinions is, under present conditions, practically as good as another. The whole question is whether he can carry New York and a few more doubtful States; for New York alone, added to the surely Democratic States, will not be enough to elect him. Our traditional party stability is favorable to the Republicans. No "landslides" or great changes are likely to come, and for this reason Mr. Roosevelt is practically sure to have a comfortable, perhaps a large, majority in the electoral college.

THE CAMPAIGN AND OUR FOREIGN RELATIONS

THERE is a sense in which this year's Presidential and Congressional election will have a meaning wider than the vanishing doctrinal difference between the parties implies. The foreign relations of the United States and our relations to our dependencies are more delicate and important than they have before been during the life of this generation. Fortunately, about these great subjects there is not now any very serious division of opinion; and it is not probable that there will be.

The Panama Canal and our whole conduct touching it—the action of the Administration has received the approval of a large part of the Democrats in the Senate and of the Democratic press. The public opinion of the country is practically united on this subject.

The problem of the Philippines—the futile effort that was made four years ago to stir up opposition to our policy of so governing

the archipelago as to prepare these peoples ultimately for self-government so utterly failed that it will hardly be repeated—especially since four years of extraordinarily successful work has since been done toward the pacification and the building up of the islands.

Our thus far successful diplomacy toward preserving China from spoliation—this is the most striking triumph, as far as it has gone, of modern diplomacy, and it has given our State Department a reputation such as it never before enjoyed.

Our relations with Santo Domingo—here problems of great delicacy may await us. But we now have experience to guide us.

Our relations to South America—in the future we shall have an increasingly difficult problem in this quarter of the world because it will always suit the purpose of demagogues, or revolutionists, in some of these States to misrepresent our policy and our motives; and suspicions that have, perhaps, been naturally aroused in uninformed and backward communities may long be kept alive.

Every act of the Administration touching these questions has been criticized by somebody—perhaps every act of every man since man began to act displeased some other man. But there has been so far no organized or effective opposition to what Secretary Hay has come to stand for in the high diplomacy of our time. The fact that we shall have a campaign during which our foreign policy and our policy touching our dependencies will not be seriously called into question—this will greatly impress other nations. Or, if it be called into question, there is no likelihood that the criticism will be effective.

GOOD MANNERS TOWARD JAPAN AND RUSSIA

OUR government has, of course, maintained a strict neutrality toward Russia and Japan, and it is friendly to both. But the general attitude of the people and of the press of the United States is decidedly pro-Japanese, and the almost universally expressed desire is that Japan may win.

Now the very essence of free institutions is that individual opinion shall have free play. But there is some danger that the pronounced American sympathy for Japan may lessen our international influence, and have a tendency to change our unique position when the time for settlement comes. The United States is, as international jealousies now are, the only nation whose official and commercial relations are thoroughly friendly to each of the combatants. They have each looked to us as a disinterested and intelligent friend, willing frankly to help and to advise. We have developed promising trade interests in China and Manchuria, as well as a good trade with Japan. We have potentially larger, and more important, possessions in the neighborhood of the disputed territory than any other western nation. Since we have a longer available Pacific seacoast than any other nation, the foreign trade of a great portion of our country should logically look for its best development in China and Japan and Siberia. Too strong a partiality for Japan may have a tendency to cause us to lose our influence with Russia.

If there should be any need of mediation, the United States is now the country to which both of the combatants would naturally turn, secure in their feeling of our honor and our disinterestedness. It is not improbable that the preliminary negotiations for peace should be conducted through the government at Washington. Such a service might give us a standing and an influence in Asiatic matters that no other western nation has. And should our chance for the attainment of this commanding position be thrown away by the partisanship of the people and of the press, the world would regard our action as practically foolish, even if it bring us a sentimental satisfaction. One of the routine items in the foreign despatches to our newspapers now is the suspicion felt at St. Petersburg of the American people.

All this is not to say that the people or the press of the United States should suppress their feelings, or should affect a neutrality that they do not feel. It is meant to point out only the difference between good manners and bad manners. To put the question on its lowest justification—bad manners do not pay.

THE CONTINUED EXCLUSION OF THE CHINESE

OUR treaty with China touching the exclusion of Chinese from our territory will expire in December. The Secretary of State and the Secretary of Commerce and Labor have been preparing another treaty. It is understood that Wu Ting Fang, lately Chinese Minister at Washington, and now

Secretary to the Chinese Board for Foreign Affairs, is directing the negotiations on the Chinese side.

The new treaty is expected to be essentially the same as the present one, with the addition of a clause by which rich or noble Chinese travelers will be better enabled to enter this country. The coolie or laborer will be as strictly excluded as before. It is believed that pressure will be brought to bear to exclude the Philippines from the effects of the treaty, as it is claimed that sufficient labor can not readily be procured there. There is also a demand that Chinese laborers be admitted to the Panama Canal strip in order to facilitate work on the canal, but this will be made extremely difficult by the newly ratified Panama constitution, which expressly prohibits the residence there of any people of Chinese blood.

This treaty, most unjust to the Chinese, no matter how essential to us, comes up for renewal at a most inopportune time. China is prospectively a great market for our export goods, and she would be not only perfectly within her rights, but even morally justified, in excluding our wares. Our government offered rather a wanton insult to the Chinese merchants when it invited them to come and exhibit their products at St. Louis, and then informed them that, unless they complied with very rigid regulations and made promises which were manifestly impossible to perform, they would not be allowed to enter this country. This conduct has annoyed the Chinese, who already had begun to turn to Japan in preference to dealing with us. Japan's trade with China is growing rapidly, to the loss of our own. The trade reports for 1903 show a great loss of shipments of American and English cotton goods to China, and a corresponding increase of Japanese.

It is a rather interesting coincidence that, just as this treaty comes up for renewal, the tottering Balfour Cabinet should receive a slim majority on its proposition for the importation of Chinese bond laborers into the mining districts of South Africa, where the pros and cons are almost identical with those on which the issue was fought out here.

But, apart from all treaties, the Geary law forbids the coming of Chinese to be residents of the United States. It excludes them all, and provides for a police at an expense of more than $200,000 a year to prevent their coming. Yet a considerable number are every year smuggled in.

THE SECRET PROGRESS OF THE WAR

THE repeated efforts of the Japanese Admiral Togo to block the entrance to Port Arthur and to shut the Russian fleet in, and the movement of the Japanese armies northward to meet the Russians—these general facts are all the news from the war that came for fully two months after the dramatic beginning of hostilities. The daring of the Japanese in repeatedly sending old boats into the channel at Port Arthur and sinking them there will stand out in the history of modern warfare as most unusual exploits. The report is that 2,000 officers and men volunteered for this almost certainly fatal exploit every time that it was undertaken. To what extent Port Arthur has been damaged by the Japanese bombardments is not yet known. The Japanese campaign on land has evidently been as carefully planned as their naval movements. The Japanese, early in April, reached the Yalu River. That is, they hold the whole Korean peninsula; and it looks as if their preliminary land campaign had been as successful as their early naval attacks.

The censorship of war news, or, to be more accurate, the practical suppression of it, for more than two months, would be an impossible feat in the western world. The modern war correspondent has for once been kept practically silent. The movement of the armies, their size, their very commanders, to say nothing of their military plans, are unknown. There doubtless are good military reasons for such secrecy; but the successful concealment of news that the whole world waits for with eagerness seems strange almost to the point of incredibility. It is distinctly Oriental. One result of it is the impossibility of following the events of the war with any certainty. The scrappy despatches of one day are denied the next; and a bit of news that comes by St. Petersburg is denied the next day from Tokio. The coming of milder weather will enable commanders to carry out their land campaigns with greater rapidity. But it seems likely that a long and cautiously waged war lies ahead of them. The world does not even know how many men either side has in its army.

THE PERSONAL CHARACTER OF THE CZAR

THE war in Asia gives a new reason for a natural curiosity to know the personal characteristics of the Czar. As about all other royal personages, there are contradictory descriptions of him. But out of the mass of contemporaneous literature the clearest idea that forms itself in any careful reader's mind confirms, in the main, the description given by an anonymous writer in the *Fortnightly Review* for March.

He is melancholy, by inheritance and by reason of the suspicious life that he must lead; and, like his father and many other Russians, he is superstitious. He can hardly be called effeminate, but his manner is shy and his voice low and soft like a woman's. In these respects, he is the antithesis of the German Emperor. He cares little for outdoor sports. He rides a wheel, but he is not fond of shooting. On his visit to England several years ago, where excellent shooting was provided for his entertainment, he provoked from an English game-keeper the comment that he didn't know enough to hold a gun straight.

He was sincere in his proposal of the Hague tribunal, for he is peace-loving; but his mother, whose influence over him is at times very great, is possibly responsible for his peace-dreams. She has an unusual horror of war. The Czar is thought by many to lack personal bravery—a belief that was encouraged by the story told of his conduct years ago, when, during his visit to Japan, a crazy Japanese tried to assassinate him. One of his kinsmen (the Crown Prince of Greece) wrote that "Nickie ran." This remark has clung to the Czar all these years, and has put into many minds what is doubtless an unwarranted notion of the man.

There is a practically universal agreement among those writers who have direct knowledge of the Russian court that the Czar's ministers purposely overwork him. They keep him burdened with details so that he may not have time to give to questions of larger policy. He is an overworked, melancholy, home-loving, peace-loving man, who will never see his great task or his great opportunity in the large. The present war came before he knew it, probably because of the stupidity of Admiral Alexieff and the contemptuous attitude of many of the Czar's ministers toward Japan.

IS JAPANESE PROGRESS CHANGING JAPANESE CHARACTER?

THERE was a few weeks ago a very enthusiastic celebration in Japan of the fiftieth anniversary of Commodore Perry's visit to the Closed Kingdom, which then began, with such marvelous profit to itself, to open its ports and the minds of its people to western civilization. The change that has taken place this half-century in Japan's place and power in the world is without precedent in history; and the usual assumption is that Japanese civilization and character have changed correspondingly. Japan—measured by her government, her navy, her trade, her use of the machinery of western life—is indeed wholly a different nation. But are the people themselves different from the Japanese of fifty years ago in their character and in their outlook on life?

Mr. Felicien Challaye, writing in the *Revue de Paris*, maintains that the Japanese have become "Europeanized" only the better to remain Japanese. No change has taken place, he argues, in any essential thing in Japanese life—neither their houses, their costume, their religion, their morals, their point of view. These are the same as they were 300 years ago.

Similarly, Mr. Colgate Baker, who lived many years in Japan, writes in the (New York) *Independent* that, in the Japanese philosophy of life, right and wrong are terms of mere expediency. It is right to be honest when honesty gives you an advantage. It is not wrong to be dishonest when you would lose by honesty. There is no conception of right for the sake of right. In other words, Mr. Baker's contention is, that the Japanese lack what we call moral character. Their ideals are wholly material and national.

The inference from these writers and others like them is that, in a sense, the Japanese have deceived the western world. They have seemed to accept western civilization, but they have accepted merely its mechanism and not its ideals. They are playing a part, the better to carry out the strengthening of their nation.

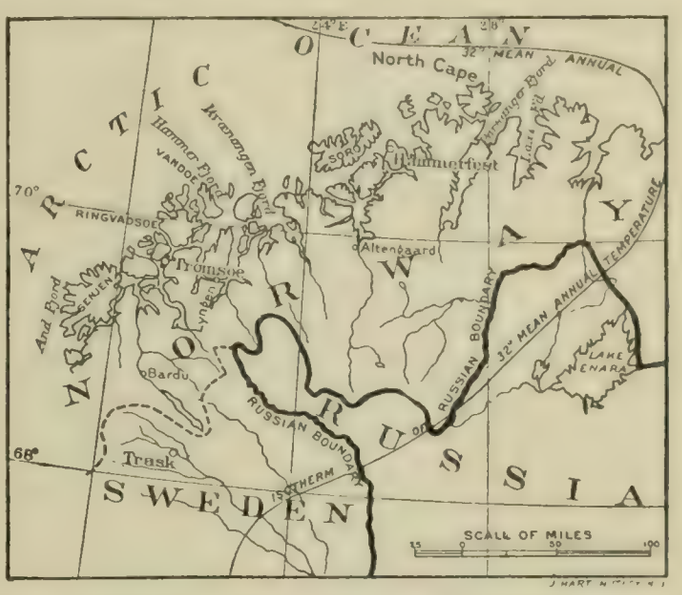
Here almost any writer goes on treacherous ground. The most difficult of all subjects is to make a moral appraisal of a contemporaneous people. But could it be expected that the Japanese character would undergo a change—especially a rapid change—because of the

adoption of the mechanical conveniences of western life? A religion and a philosophy of life have longer cycles than mechanical inventions. There is a difference between the western and the Asiatic mind that lies centuries deep. It is hardly to be expected that a radical change in the innermost thought of a people will come as quickly or as easily as a change in methods of work and of warfare. In fact, a complete change may never come; for there is a difference of race as well as of religion and of language. And what if the Japanese are never "Europeanized"? It becomes the duty of other people who have to do with them to understand them as clearly as possible; but it does not follow that it is morally reprehensible that they should remain Japanese. Since they have an older civilization than ours, they might ask us to change our ways and our character with at least as great propriety as we could ask them to change theirs.

WHERE WILL RUSSIA REACH UNFROZEN SEA?

WHERE will Russia first reach unfrozen sea, and what will she become when she reaches it? Industrially, she is sunk in the sloth of peasant agriculture. The lack of a middle class clogs manufacture. And though Russia has a coast-line as long as half the circumference of the earth, ice so blocks every port, except those the Sultan locks within the Dardanelles, that Russian commerce is held in check. Her potentiality to become great through commerce from ice-free ports, if she had them, is hardly less great than that possessed by Holland, Spain, England, and the United States when they sent their merchant adventurers abroad to build up trade. The building of the longest railroad in the world is proof of Russia's pioneering ability. Nor is she unaware how sorry a figure her navy presents in a winter campaign, with ships ice-bound in Vladivostock, others shut within the Black Sea by the Sultan's gateway, and still others unable to leave the Baltic for the Far East, for lack of ports of call on the way to coal. Those nations, be it noted, that stand between Russia and the sea, have a Russian problem.

Russia drove Japan to war by its slow closing of a grasp on Port Arthur. Colonel Younghusband, of the British army, is now forcing a sanguinary way to the heart of Tibet in England's interest for no other reason than that Tibet is falling under Russian influence, and is a pathway to the Bay of Bengal, and indirectly to the Gulf of Tonkin. Tibet, as Tibet, is of no interest to the British. British and German interests join in fending off Russia from the Persian Gulf. The planned Bagdad Railroad was but a fence against Russia, and England would not permit Russian occupation of Afghanistan. Every great power in Europe is concerned for Turkey's "administrative entity," in Mr. Hay's subtle phrase, merely because Turkey bottles up Russian fleets within the



MAP SHOWING HOW RUSSIA IS REACHING OUT TOWARD TROMSOE, AN ICE-FREE ATLANTIC PORT IN NORWAY

The isotherm marks off the frozen region to the east from the unfrozen seacoast

Dardanelles. The Balkan States hate Turkey, but they fear Russia, for they stand in Russia's way to the Adriatic. Norway, Sweden, and Denmark, having watched the swift stroke that Russianized Finland, are now leaguing to keep the warmer Baltic ports neutral and hold Russia locked in by the floes that close the Neva for at least four months every year. Each fears that, alone, she could not prevent Russia from breaking her bonds so as to reach the Baltic farther to the south. In brief, all the possible outlets are watched.

Yet the accompanying map shows the weakest spot of all. Granting that Russia wins from Japan, there is yet the longest railway journey in the world from the heart of Russia to any empire that Russia might establish on the Pacific. Russia would rather have a port for its navy and its potential merchant

adventurers on the Atlantic or the Mediterranean. And far to the north of all European commerce, yet as ice-free all the year as New York harbor, lies a deep-water port—Tromsoe in Norway—nearer to the Russian boundary than any other harbor. It is near because the boundary reaches out to it. Russia would pay a higher price for the intervening strip than any other stretch of territory of equal size in the world, and has long tried to purchase it. Norway and Sweden will not sell. But the space is narrow. Will Russia ultimately break through here? The Russianization of Finland was certainly a step in this direction.

THE ENGLISH IN TIBET AND THE POSSIBLE CONSEQUENCES

COLONEL YOUNGHUSBAND and his English soldiers, who have made an expedition into Tibet, have killed a number of Tibetans who opposed them. The expedition, in consequence, will now probably have to fight its way to Lhasa at the cost of much money, great suffering, and the loss of many lives; and the British Government in India will feel that it cannot abandon its purpose in sending the expedition. For India can be held in subjection only by showing that whatever the government sets out to do it will accomplish. To retreat and to abandon the expedition would cause an immediate fall in England's prestige in Asia that it would take many years to overcome, and that might have very grave political results. The pity of it all is that the fight was unexpected and might so easily have been avoided.

The advance into Tibet is England's way of thwarting Russia's intrigues at Lhasa. Both nations realize the importance of having a direct influence over the Grand Lama, for his political importance is so great that it must be considered in any attempt to build up political influence in China. If Russia were to be victor in the struggle with Japan, she would have China at her mercy and India hemmed in. While Russia was distracted in Manchuria, England, therefore, determined to get control of the most powerful single factor in Chinese affairs that was within reach. Should Russia win, there would be something to offset her success, and if she were to be defeated, England would still be by so much the more influential than before.

But this unexpected battle and slaughter has placed England in such a position that she can gain less than she had hoped for, and may lose more than she had thought possible. It is more likely than the Japanese alliance to involve her at last in a conflict with Russia.

This new war, to call it so, makes fifteen wars or military expeditions in which England has been involved since the Unionist party, now apparently about to fall, came into power nine years ago. The Unionist Parliament has spent on war the accumulated savings of the thirty years from 1868 to 1898, when Sir Michael Hicks-Beach raided the Sinking Fund for South Africa. The government has spent in these nine years, in addition to the extraordinary war expenditure of about $1,250,000,000, more than $2,000,000,000 in so-called "normal" or peace expenditures on the army and navy. During this same period the price of consols has fallen from 114 to 85. It is, therefore, easy to understand the very mild enthusiasm with which the British public has received the news from Tibet, and the gloomy atmosphere that prevails in the London money market.

THE MERGER DECISION

THE decision of the Supreme Court, whereby the "merger" of the Great Northern and the Northern Pacific Railroad companies was declared illegal, has been discussed more than any other decision handed down by the Supreme Court for many years. By a majority of one, the court decided that the Northern Securities Company, "a holding company," cannot lawfully own a majority of the stock of two great transcontinental railroads; for the "merging" of them is in restraint of interstate trade and, therefore, contrary to the Sherman anti-trust law. The court ordered that the stocks of these two railroads, held by the Securities Company, be distributed to the stockholders of the Securities Company.

The suit that culminated in this decision was begun by Attorney General Knox on March 10, 1902; decided against the company by a special jury of four judges at St. Paul on April 9, 1903; and immediately appealed to the Supreme Court. The government contended that the merger violated the Sherman anti-trust law of 1891, which declares combinations in restraint of trade

between the States to be illegal. The defense claimed that no restraint of trade had arisen out of this combination, but that, on the contrary, trade had been greatly assisted thereby; and that, in any case, the regulation of such a combination belonged to the State that chartered the company, and not to the Congress of the country.

By five to four, the court decided that the Securities Company was a combination in restraint of trade; "a holding company" in the form of a trust, such as was expressly forbidden by Congress; a direct conspiracy to put the control of two great carriers in the hands of one body of directors; a means for pooling the earnings of those two roads—and, on every count, guilty of violating the Sherman Law.

Judge Harlan, who wrote the majority decision, declared that: "Every corporation created by a State is necessarily subject to the supreme law of the land. . . . No combination, however powerful, is stronger than the law." The court ruled that, though New Jersey had granted this company a charter permitting it to hold these stocks, the Securities Company must comply with the law of Congress, which forbade this tenure.

There were four dissenting opinions. Justice Holmes, in his dissenting opinion, went to the full extreme of declaring that the majority opinion struck at the very ownership of property. Justice Brewer, of the majority, differed from his associates, and held that the law forbade not all restraints of interstate trade, but only "unreasonable" restraints. If, therefore, there should come before the court a case, similar to this, which seemed to Judge Brewer to present a moderate but not unreasonable restraint, the presumption is that he would not hold the opinion that the combination was illegal.

The decision, therefore, can not be said to have established, once and for all, the illegality of such "mergers." It has established, once and for all, nothing but the fact that the Sherman anti-trust law forbids this particular merger. Doubtless many similar combinations would be declared illegal in the same way if suits were brought against them. But the decision has not affected any other combination. It has, at most, discouraged the formation of similarly spectacular combinations.

The probable ultimate result will be the repeal or modification of the Sherman law at the next session of Congress. It is likely, too, that the decision will stand as a warning that combination can go too far—that Congress can regulate inter-state corporations; and it will thus act as a check on reckless consolidation.

But the practical effect in this very case is not yet clear. The Securities Company proceeded at once to obey the court and to distribute, on a basis that it regarded as equitable, the shares of the two railroad companies to their owners. But a suit was almost immediately begun by the "Harriman interests" to compel their distribution on a different basis. By one method, Messrs. Hill and Morgan will still control both the Northern Pacific and the Great Northern, and they will thus be practically "merged" so long as these owners work in harmony. The one characteristic of the "merger" was that it made harmonious action necessary for all time to come. If Mr. Harriman win his suit, he and his friends will control the Union Pacific, the Northern Pacific, and the Southern Pacific as well—a still bigger "merger," in fact. Railroad consolidation, therefore, is not going to cease because of the decision. A mechanically perpetual consolidation has been prevented—that is all.

We are yet in the experimental stage of dealing with these great problems. The decision will be more important as a warning than because of its definite effect even on the consolidation of these particular roads.

PENSION INCREASE BY A RULING, NOT BY LAW

IN 1887, when thirty-nine years had passed since the Mexican War, all veterans of that war who had passed sixty-two years of age were made pensioners by an act of Congress. An act of Congress (1890) permitted the Pension Bureau to treat every applicant for a pension who was seventy-five years old as "incapacitated for manual labor," and, therefore, entitled to $12 a month.

Now a new ruling by the Pension Bureau took effect April 13th—just thirty-nine years after the close of the Civil War—which assumes that an applicant is wholly incapacitated at seventy years of age and half incapacitated at sixty-two. This ruling follows the preceding law by analogy; and,

under it, applicants, without examination, shall receive $6 a month if they are sixty-two years old; $8 if they are sixty-five; $10 if they are sixty-eight; and $12 if they are seventy.

The practical reason for such a ruling is—the pressure for a service-pension. This schedule will cost less than the proposed service-pension and cause less trouble. But these facts do not go to the root of the matter; for, by making such a ruling, the Pension Bureau and the Administration really do an act of legislation; and an act of legislation is clearly not within their province, even when it is done by analogy. Congress has power to set aside the ruling when the next appropriation bill for pensions comes up; but there is hardly a chance that it will hesitate to make the necessary appropriation. That once made, the ruling will have legislative sanction. If the executive department of the government had encroached on the legislative department in this fashion touching any other subject, there would be a vigorous protest. But pension-giving never moves backward.

OUR WORK AT PANAMA PRACTICALLY BEGUN

GENERAL DAVIS, a member of the Panama Canal Commission, has been designated by the President as "Governor" of the slip of land under our control, pending the determination of the precise form of governing it. The first practical work will be work of sanitation. Sanitary engineers declare that this whole pest-laden region can be made as healthful as Cuba, but the task will require great drainage works and the supplying of good water. All this will cost, in the opinion of some of the members of the commission, the expenditure of, perhaps, $2,000,000. But this part of the isthmus will then be healthful for all time to come—as it must be made. The commission is now on the isthmus; and, although the transfer of title has not yet taken place, when this is written, work toward our completion of the canal may be said to have begun with the preliminary labor of the commissioners.

RESTRICTING SUFFRAGE TO AN OLIGARCHY

WHEN the constitutions of several of the southern States were amended so as to exclude the mass of Negroes from the suffrage, the most effective method of exclusion was the requirement that a poll-tax be paid a considerable time before the election. In some States it is required when a man registers that he shall show a receipt for his poll-tax paid two years before.

This provision has proved effective. A very small proportion of the blacks who comply with the other parts of the law can comply with this. Few, even of those who can read and write and understand a test clause of the constitution, pay their taxes in time. But the poll-tax has excluded also a very large proportion of the whites. In some States the suffrage has been restricted to an unexpected and absurd extent.

For example, in the State election in Alabama last year less than 92,000 votes were cast. These are only 9 per cent. of the white population or 5 per cent. of the total population—in other words, there was only one voter for every twenty inhabitants. It was estimated that 47,000 white men were self-disfranchised because of their failure to pay the tax; and this year it is expected that the number will reach 60,000. A similar result has followed in Louisiana, in Virginia, and in Mississippi.

When the suffrage is thus severely restricted, the tendency is made the stronger for the development of rule by bosses and cliques. Especially is this true since there is no effective party division among this small number who are entitled to vote. An appeal to the people is impossible when the people are disfranchised. There is a grim humor in this unexpected result of the movement to exclude the Negro from the suffrage.

There was a similar law in Massachusetts. No man might vote there who could not read and write and who did not show his tax receipt for that year; but these requirements did not appreciably restrict suffrage because almost all men there can read and write and do pay their poll-taxes. If the law worked in the southern States as an incentive to education and to tax-paying, time would restore the usual percentage of voters to the normal. But all reports agree that, in some of these States at least, an increasing number of white men disfranchise themselves rather than pay $2 or $1.50 for the privilege of voting.

After all, it is rather difficult to pump up a strong flow of sympathy for any man who sets so low a value on his vote, however poor he be. But the total result is that these

States are governed, not by manhood suffrage, but by a sort of oligarchy.

WHY NOT A SOUTHERN MAN AS A PRESIDENTIAL CANDIDATE?

THERE has been much talk in the newspapers of the southern States—more than at any preceding time since the Civil War—about the advisability of nominating a southern man for the presidency in 1908, and perhaps for the vice-presidency this year. The most noteworthy thing about this talk is that so much of it has a tone of timidity. "Is it not quite time a southern man were put forward?" one newspaper asks. "The South supplies the greater part of the Democratic vote," says another, "and yet it asks nothing."

In a matter of this sort, timidity is defeat or surrender. Of course, there is no sound reason why a presidential candidate should not come from any southern State. The only pertinent question is, Is he a proper man? But so long as the southern Democratic press and southern opinion approach the subject in an apologetic way, no man is likely to be nominated at their suggestion. There has been a great change in the spirit and ambition of southern men since the days of their grandfathers. In the old time, the Southerner aspired to the presidency—to anything. His ambition was not bounded by "the South." He was not hindered a whit by what anybody thought of his forefathers' conduct. But his grandsons show a strange timidity for the descendants of such men. It is now the year 1904. Perhaps 95 per cent. of the men in active life in the southern States either had not been born when the Civil War began or were too young to take part in it. They themselves had no more to do with it than they had to do with the war of the Revolution. There is no reason, either, why they should be regarded by others as "sectional," or that they should regard themselves so—except that they seem to have restricted their ambitions and to have meekly accepted a sort of sectional judgment of themselves.

The Democratic party comprises 48 per cent., or more, of the voters in the Union, and its stronghold is in the southern States. There would be a fitness in selecting now or at any other time a southern man as the party's candidate for the presidency, if the man were worthy. The greatest difficulty in the way is this—the South is servilely Democratic; there is no doubt about its vote for any candidate. Consequently, the party managers, as long as this solidity continues, will naturally seek available candidates in "doubtful" States. Independence of thought and boldness would again give Democratic leadership to southern men; and it is their own fault if they do not take it.

THE PUBLIC SCHOOL IN RURAL LIFE

IN communities like eastern Massachusetts, Rhode Island, and our larger cities, it is a comparatively easy task to maintain a public school system that shall give every child a chance to be trained near its own home. In many such thickly settled communities a boy or a girl may have good training from a kindergarten through a high school—free of cost. But such a system is a much more difficult thing to build up in rural communities, because concentrated wealth, as well as concentrated population, is lacking.

By so much, therefore, must our admiration be greater for the great Middle Western States—Indiana, for example—which have built up successful public school systems for their whole rural population. In Indiana, and most of the adjacent States, a boy or a girl may attend a public school from the beginning of school-life till the completion of a college course without expense for tuition. Some schools are bad, some good, some better. As Miss Shaw points out in her article on Indiana, the excellence of the school depends on the teachers. But the great fact stands out—and a parallel can be found in the rural parts of no other country—that a well-developed and intelligently conducted public-school system exists there; and it is complete. An Indiana lad may become a scholar in literature or in science, or he may become a master of agriculture or of mechanics—he may be trained for any pursuit practically free of cost for tuition; and a school, during his earlier life, is near enough his own home to be easily accessible.

This fact has become such a commonplace that we take it for granted. But the whole future of American life may be said to rest on it; for it is such a system that keeps open the door of opportunity to the young American of every generation, whatever economic changes come. The task, of course, is not

merely to have schools, but to make sure that they are the best schools in the world. Our work toward this high purpose is hardly more than begun. More money, better equipment, better teachers, are almost everywhere needed. The saving fact is that a large part of the population appreciates this need, and is building up public opinion—even if slowly—to supply it. For example, the article that appeared two months ago in this magazine about the excellent schools at Menomonie, Wisconsin, has brought letters of inquiry by every mail; and men in Maine and in Maryland have considered moving to Menomonie in order that their children may have the advantage of the public schools there.

THE INDEPENDENT GROWTH OF EVERY SECTION OF THE COUNTRY

SOME interesting movements of trade are shown by the summary of exports during the last ten years which the Department of Commerce and Labor has recently compiled. As an exporting port, New York has, of course, kept its first place in the order of importance, and in ten years its outgoing business has increased about 50 per cent. But New Orleans, which is second in importance, has far outstripped Boston and Baltimore. The increase in the value of exports from the Atlantic cities has been about 50 per cent. since 1893; from the Gulf ports it has been 150 per cent.; from the Pacific ports 100 per cent.; and from the border ports (into Mexico and Canada) 150 per cent.

It is interesting to observe that north, west, and south the increase of both railroad and ship facilities has very rapidly made the development of the country's trade more natural and direct. Relatively, there is a lessening dependence of the West, the North, and the South on the eastern cities. The outgoing trade of Detroit, for example, grew from $7,000,000 in 1893 to nearly $23,000,000 in 1903; of Galveston from $36,000,000 to $144,000,000; of Mobile and of Pensacola from $3,000,000 to $15,000,000; of Puget Sound from $5,000,000 to $27,000,000.

There is a deeper significance in these changes than the mere growth of trade. They show an ever-increasing efficiency of transportation in every great section of the land. They show, too, that although New York constantly gains as the great seaport of the country, the other sections are becoming less dependent on it, relatively, than they once were. All this is a very healthful and natural development.

THE TERRIFIC DRAIN OF LABOR WARS

HOW far the labor world is from the millennium may be guessed by any one who will read the report of the New York Board of Mediation and Arbitration for 1903. Labor troubles (mainly strikes) during the year involved 117,000 workingmen and caused the loss of 3,900,000 work days. Yet all labor disputes did not run a violent course. Peace was made in many a case. The National Civic Federation during the two years of its work dealt successfully with more than 100 cases, and it failed, or was only partly successful, in only eighteen cases. This is, for the time being at least, the most successful peace-agency at work in this troublesome field of hostilities.

Another triumph for conservatism and peace was won by Mr. John Mitchell in preventing a general strike of the bituminous mine workers. Several times in the recent past their wages had been increased; and the operators proposed a two-year wage-scale which meant a reduction. The delegates of the miners refused to accept this reduction, and a strike seemed certain. But Mr. Mitchell by patient negotiation persuaded the operators to propose a smaller cut in wages. Having secured so much from the operators, he appealed to the local unions, which accepted the compromise. That was a noteworthy victory of good management.

A hint of the long and earnest struggle that is going on chiefly about the open shop will be got from Mr. Walling's careful summary, in this magazine, of the rapid organization of employers' associations to demand it. The wonder is that the almost incalculable losses of the past year, both of capital and of labor, in deferred work and in wages, have not brought much greater depression and suffering. It is indeed a steady and strong stream of prosperity that has withstood this drain and still runs boldly on.

FORCED LABOR IN THE TRANSVAAL

GREAT BRITAIN is torn with conflict over the government sanction of the ordinance providing for the introduction of indentured Chinese labor into the Transvaal

Nothing less than a form of human slavery is proposed, and the resulting controversy has reached the farthest limit of the empire. British Columbia, Australia, and New Zealand have joined with both political parties of Cape Colony in denouncing the ordinance. In England a proposed vote of censure of the government has just been defeated in Parliament by the narrow majority of fifty-seven.

These are the chief provisions of the ordinance: The Chinese laborer is to have the contract carefully explained to him; he, then, with full knowledge, indentures himself for three years, at the end of which time he is to be returned to China. He is to be carried on properly inspected ships. He is bound to serve "the master who imports him, or such master to whom the first shall legally assign his rights." He is bound to live in a compound, which he may not leave without special permit, nor shall such liberty in any case exceed forty-eight hours. If he is caught out of his compound, he is subject to immediate arrest; and any one who aids him to escape is liable to punishment. He may not engage in trade, lease land, or do other work than such as his importer, or assignee, requires of him. From the Chinese Minister in London came the humiliating suggestion that the prohibition of the use of the lash be added to the regulations.

The sole official defense of the measure is that the future of the Transvaal depends upon the prosperity of the mines; that it is impossible to obtain other labor; and that gold is necessary to ease the strained commercial situation in England. "There is no occasion for so much morality and sentiment," said a member of Parliament on the government benches. "The Chinaman will be well taken care of, and paid seven or eight times as much as he could earn in his own country."

The moral sense of Englishmen has not been aroused to the present point of indignation by a danger that the Chinaman may suffer in bodily comfort, but because the act turns a free man into a slave, and is utterly at variance with the traditions of the liberty-loving British people. Indentured labor is not a new thing, but it has never before been permitted in the empire without a provision as to the rate of wages, or without a set limit to the number of hours' work each day, and to the number of days' work in a year. The penal regulations are also new, and, as a Liberal member finely said, "They make convict settlements of the compounds; and the right of sale turns a contract of service into a state of serfdom."

The ordinance is characteristic of a phase of the new British Imperialism. The dwindling government majority gives the only hope of the future. New life has come into Liberalism, and one of the battle-cries of the next election will be "Free labor."

THE PUBLIC ACCOUNTANT AND DISHONEST PROSPECTUSES

IN an appreciative obituary notice of the late Mr. Thomas L. Greene, the founder and general manager of the Audit Company, of New York, it was said of him:

> "He was exceptionally conscientious in his view of the responsibility imposed on the auditor who publicly indorses a corporation prospectus or report. In a number of instances known in Wall Street corporation circles, Mr. Greene refused to affix the accountant's indorsement to prospectuses of certain large and newly organized industrial corporations unless the promoters would authorize him to employ an expert engineer to examine into the physical condition of the properties. His contention was, that if the plants were overvalued on the books, the accountant's guarantee that the books were in proper shape was worthless."

A statement that the books of a company are in proper shape gives no hint whatever about the value of its property; and it is the value of the property that a chartered or expert accountant is usually engaged to make known. A little while ago, the New York Stock Exchange suddenly dropped from its list a prominent industrial stock which had been put upon the market upon a favorable report made by chartered accountants. These accountants subsequently admitted that they added to the assets, under instructions from the officers of the company, $500,000 "additional capital to be furnished." This was never furnished, and from later events it seems probable that it was never meant to be furnished. Now, these accountants knew the purpose of the statement; they knew that the only reason for employing them, instead of the company's own bookkeepers, was to get the benefit of their expert judgment; yet they accepted and put out a statement which proved to be false.

A similar thing happened in the unsavory operations of the United States Shipbuilding

In the preliminary "private and confidential" prospectus of this ill-fated trust, there appeared a letter signed by a Fellow of the New York Institute of Accounts and a member of a prominent firm of chartered accountants. The receiver later said of this letter:

"If the examination of these accountants was made as of January 1, 1902, as the letter would imply, it must have been of the most superficial kind. The letter in question makes such exaggerated representations with reference to the profits, present and prospective, as to make it absolutely worthless as a guide in ascertaining the real condition of the plants. It is entirely refuted by their later reports."

Everybody has laughed over the condition to which "expert" testimony in handwriting and in medicine has degenerated in famous trials. Apparently, some members of the guild of accountants are doing their best to put the members of their profession alongside of these discredited "experts," whose evidence now means nothing except that they have been hired by one side or the other to find and report facts favorable to their employers. When unscrupulous promoters use such reports from accountants of established reputation to further their schemes for swindling the public, it is surely time for the accountants themselves to call a halt. Mr. Greene put the business on the only satisfactory basis when he insisted that, in judging the value of a corporation's condition, it was necessary to supplement the expert accountant's report with a report on the physical condition of the property made by an expert engineer.

THE FRENCH REPUBLIC FREEING ITSELF FROM THE CHURCH

IN Europe the idea that Church and State must be separate has never been applied, and has hardly even been understood. But now a new thing has happened in France. The orders of the Church have fought the Republic, and in their schools have taught anti-republican ideas. Priests and their adherents have been the mainstay of the Royalist and Bonapartist factions, of the parties of backwardness and illiberality.

Public opinion has forced the government to enact a series of laws, first, prohibiting all but certain licensed orders of priests and monks, and, secondly, forbidding them to control or to conduct schools. Other clergy, however, have not been affected as such by any of these laws. On Good Friday the government removed from all the courts and public buildings the sacred pictures and crucifixes that had always hung in them. The new laws do not interfere with the freedom of the individual to believe and worship as he pleases.

The meaning of all this is that France has at length realized what was realized at the beginning of our republic—that Church and State must be separate.

IS GERMAN STUDENT LIFE BARBARIC?

AN eminent German scholar and historian, Professor Eduard Meyer, spoke at the University of Chicago, on his recent visit there, heartily in favor of the beer-stein and the duelling-sword of German student usage. As we should say, "Young fellows must have vent for their energies, and football, therefore, in spite of the objections to organized athletics, serves a good purpose," so Professor Meyer says, "Boys must drink beer and have duels —I wish I could live that period of life over again."

Since beer-drinking is an established sanctity of German life, we will let that pass, not even noticing the grossness of the habit; but duelling? So long as defacing scars on the cheek are considered marks of honor among scholars and gentlemen in German academic circles there will remain a well-founded doubt in the minds of civilized men of other nations whether mere scholarship is a cure for barbarism.

There is nothing in American universities that remotely resembles the gross sport of German duelling, nor any university sentiment that would not reprehend any practice that resembled it. We have "class-rushes," in which the members of different classes good-naturedly jostle about their opponents; "cane-rushes," in which the winning party is the one which, after a scrimmage, is credited with the greatest number of hands upon a cane that is struggled for. In one university the second-year students attempt to "duck" the first-year students in a lake; in another to tie them up with ropes. Of whatever form, this kind of horse-play is harmless, and not brutalizing. Scarcely as much can be said of the sabre duels of German students.

JUST HOW A PRESIDENTIAL CAMPAIGN AFFECTS BUSINESS

[The World's Work publishes every month an article in which some timely and vital subject of the financial world is taken up]

"WITH the Presidential election settled, and with good crops, we may look forward, with confidence, to another period of prosperity." Thus recently spoke one of our greatest bankers.

The presidential election—that, then, is an influence in the business situation. Men must live, and the industries of the country will, therefore, continue. The wheels of commerce are not to come to a standstill, and there is a slowing-up due in part to causes not wholly relating to politics; but there might have been by this time a full, normal movement if it were not for the presidential campaign, which again presents an issue on which the whole mechanism of business revolves.

Yet any man is pardonable for saying, "I don't see why there should be this strange pause in business activities, this uneasiness that is felt more than it is spoken."

"I will tell you what I think it is," said a leading banker. "The cost of living is at the highest point in years. The prices of commodities are too high. The people are restless and uneasy. They associate the high cost of living with the exactions of both the trusts and the labor unions. The regulation of the trusts has become a national issue. Sober, conservative men are vitally interested in the problem, and know that it should be solved. Demagogues, however, are making much of it in order to arouse the passions of the people for their own selfish interests. Until the election is past, there can be no complete relief from a certain degree of uneasiness."

There is nothing unusual in this condition of business disturbed by a presidential campaign. It is the price the American people pay for a republican form of government.

No other great people subject themselves to such an ordeal. England has a government which approaches ours in essential liberty; and yet, in England, there are not such frequent political contests and changes as in the United States. England has had only two monarchs in sixty-seven years, and one of them reigned for sixty-three years. There have been thirty-four changes of ministries since 1783, while the presidential election of this year is the thirtieth since 1788, but there have been only twenty-two different prime ministers as against twenty-five different presidents. A general parliamentary election in England corresponds to a general congressional election in the United States. There have been since 1837 only fifteen parliaments and thirty-three congresses. This will be the seventeenth presidential election since that date.

In nearly every presidential year there has been an increase in the number of business failures, and in 1872, 1884, 1896, and 1900 there was also an increase in the aggregate of liabilities of bankrupt concerns. Money usually goes out of the country in presidential years. There was an excess of gold exports over gold imports in 1860, 1864, 1868, 1872, 1876, 1884, 1892, 1896, and 1900; in other words, in every year of a presidential election, but two, since the beginning of the Civil War. Since 1896 there has been only one year in which more gold left the country than came into it, and that was the year of the last presidential election. In three election years since 1860 there was a falling off in the circulation of money. Three other elections were followed by a decrease in circulation the next year. The other elections do not appear to have had any special effect in this particular.

In 1876, 1884, and 1896 there was a noticeable decline in loans and discounts of the national banks. Bank clearings in New York, which are a good barometer of the activity of speculation as well as of trade, declined in 1868, 1876, 1884, 1888, and 1900. They increased in 1872 and 1880, and there was a very slight gain in 1892. Bank clearings in the United States declined in 1888 and 1900, and the gains in 1892 and 1896

were so small as not to indicate a normal growth. Customs receipts decreased in four presidential elections since 1868. Merchandise exports per capita declined in four such years. There was a notable increase in 1892, a year which President Harrison described as having reached the high-water mark of American prosperity, though its records have since been exceeded. In 1896 the per capita exports were $12.29 against $11.51 in 1895, but expanded to $14.42 the year after the election. Pig-iron production declined in 1876, 1884, and 1896, and practically stood still in 1888 and 1900. All this indicates a decided disturbance of business in presidential years.

The effect of the political campaign is even more vividly shown by the course of Wall Street's stock market, always sensitive to every changing condition and every element of doubt and fear. In 1896, Mr. Bryan captured the Democratic party and paralyzed the business of the country by his free-silver campaign. There was great anxiety until early in August, when the candidate came to New York to deliver a speech in Madison Square Garden. After that, things began to improve. It was the only time in our political history when a political campaign stump speech determined the course of the stock market.

In the second Bryan campaign of 1900 the *Financial Chronicle* of July 21st said:

"In judging the effect, on industrial affairs, of the triumph of Bryan, it should be remembered that any state of facts, or any condition that excited a fear as to the stability of the currency, would be all-sufficient to bring on another era of general distrust and business prostration."

The records of security prices in presidential years are very instructive. Starting with 1888, it is found that on January 24th the average price of twenty leading railroad stocks, as reported by *The Wall Street Journal*, was 81 against 83 on the previous October 1st. By July 2d the average price had declined to 75. There was a rally to 83 by May 1st; then another drop to 77 on June 13th, with a recovery to 88 on October 1st; while on November 7th the figures were 86.

In 1892 the average price on January 2d was 91 against 88 on the preceding October 1st. On September 15th the average price was 86, but on November 7th, the day before the election, it had reached 90, to drop to 89 the day after election, and to 85 on March 4, 1893, the day the new administration went into power.

In 1896, the average price started at 51 against 62 the preceding October 1st. On August 8th, the time of the Bryan speech, the average price had dropped to 41, but on August 10th there was a rally to 43, and by November 2d, the day before the election, there being then little doubt as to the result, it had reached 53. There was a further recovery to 54 the day after Bryan's defeat.

In 1900 the average price was 61 on March 9th against 77 on the preceding September 5th. There was a further decline to 53 on June 23d, a rally to 59 on July 23d, while after the election, on November 20th, the average price was as high as 69.

Speculation usually drags in presidential years. The sales of the New York Stock Exchange declined to 54,654,096 shares in 1896 from 65,583,232 in 1895; and to 138,312,266 in 1900 from 173,912,086 in 1899.

All this shows that presidential years are periods of disturbance to prices with, usually, a falling tendency while the time of uncertainty exists, and with a rally when the strain of the contest is passed. At least one year out of four may be said to be lost to business enterprise on a large scale, and, if there is a change of parties in control of the government, there may be further uncertainty until the policy of the new administration is definitely known.

The bearing of all this upon the election of this year is self-evident. The main issue now is one that is vital to the business interests of the country. Even the tariff question, which was the bone of contention in 1884, 1888, and 1892, was not a matter of such deep concern as was the money question in 1896 and 1900, and as is the question of the regulation of the corporations now.

How important this issue is to the markets and general business may be appreciated by a few facts. Mr. John Moody in his recent book, "The Truth About the Trusts," gives a list of 318 industrial trusts having a capitalization of $7,246,342,533, 111 franchise trusts having a capitalization of $3,755,456,071, and six railroad combines having a capitalization of $9,397,363,907, a total of $20,379,162,511. The trust question, therefore, directly concerns one-fifth of the entire

wealth of the country and indirectly concerns the other four-fifths, because the trusts and the railroad combines and their banking alliances virtually control the business of the country. Every interest, agricultural, industrial, and financial, depends more or less on their welfare. Those most directly interested in the prosperity of these great corporations are the men and the institutions owning, or loaning upon, their security. These trusts have probably a million stockholders. Fully 40 per cent. of the loans of the national banks are made on stock and bond collateral, and their aggregate loans are upward of $3,500,000,000. The trust issue, therefore, strikes in one way or another at the pocket-books of millions of capitalists. It is, moreover, of vital concern to millions of consumers.

There is a feeling that the questions of publicity, of government supervision of industrial corporations, of government regulation of railroad rates, and of the enforcement of the Sherman Anti-Trust Law in restraint of internal commerce concern so closely the prosperity of the country that even any serious talk about these subjects makes business somewhat unstable. Then, allied with this question of the regulation of combinations of capital, is the difficult problem of organized labor. Moreover, Populism may not yet have run its course. There are political agitators who are preaching the gospel of the hatred of wealth and stirring up social unrest. All this contributes to the unsettlement of business.

It does not follow from all this that, because agitation of the trust problem disturbs business, the people are ready to drop the issue. There is something better than dividends and values. It is liberty. For that the people when aroused are willing to pay a great price.

Nor does the election affect every section of the country alike.

A representative of a leading New York bank recently made a tour of the country to obtain information at first hand of business conditions and among the questions that he asked of the bankers, merchants, and manufacturers whom he met was this: "What is the effect of the presidential campaign upon business?" He sums up briefly the results of his investigations as follows:

"Undoubtedly, the political contest is having, and will continue to have, an unsettling influence upon trade, but the effect is not equal throughout the country nor among all lines of business. Through the West, the Northwest, and the Southwest there was much less said about the election from the business point of view than in the East. Perhaps this was due in part to the widespread belief in trade circles in that great part of the country that the result of the election is not in doubt. President Roosevelt's election is, in their opinion, assured. But it was also due to the conviction that the prosperity of the West depends on the crops and not upon politics. The talk was, therefore, full of the crops, and the prediction was made that, if they averaged well, the business of the country would be active and profitable.

"Among the manufacturers, however, their interests being somewhat bound up in the tariff and the question of the government policy toward the industrial corporations, there was much more concern regarding the course of the political campaign. And it was noticeable that this concern increased the nearer I got to the East."

It is probable that, speaking broadly, the West underestimates the effect of the election upon business, while the East, perhaps, overestimates it.

A BUILDER OF SUCCESSFUL AIR-SHIPS

BY

CHARLES HALL GARRETT

THIRTEEN years ago, Alberto Santos-Dumont left his father's coffee plantation in the valley of the Rio Mogy Guassu, Brazil, an unknown lad. Last year on a visit to his native land he was met by war-ships, given railroad passes over all Brazil, and applauded wherever he went as the foremost inventor and practical air-ship builder of the world. He is thirty-one years old, five feet five inches in height, with

dark hair and eyes, a slight well-knit figure, and is quick, but not nervous, in all his movements.

When a student at the mining-school at Minas, he spent his vacations taking care of the engines on sixty miles of his father's private railroad, riding over every foot of the line in their cabs, and attending to repairs when necessary. Thus he learned practical mechanics. He then went abroad, climbed mountains in Switzerland, was one of the first to take seriously to automobiling, experimented with kites and hot-air balloons, and studied aeronautics in France, the school of that subject.

The highest balloon ascension ever made was 28,000 feet; Santos-Dumont went up 23,000 feet. Beyond that height the rarefied air causes bleeding of the nose, mouth, ears, and eyes. Frequently he ascended to 20,000 feet. Finally, however, he devoted himself to the development of the air-ship.

In previous experiments, the engine for propulsion was disproportionately heavy as compared with the lifting power of the balloon proper; present electric batteries are impossible because of their weight. When Santos-Dumont advanced the idea of petroleum, he was laughed to scorn by balloonists, who maintained that he could not prevent fire and explosion. In 1897, he made his ascension, and the petroleum was found to decrease in weight as it was burned, at the rate of one pound an hour. Number 7, his seventh air-ship, carries between 200 and 300 pounds, uses fifty pounds of petroleum an hour, and develops sixty-horse power, which can be pushed to seventy. The 200 or 300 pounds are exclusive of the bridge-like frame, two-thirds as long as the cigar-shaped balloon, and built in angles with the flat sides down. This invention of Santos-Dumont distributes the weight while keeping the balloon in shape. He seats himself comparatively near to the rudder in the long frame, managing twenty different ropes and two delicate metallic valves in a boiler. Since the "engine-room" is swung forward of the centre of the long frame, Santos-Dumont by controlling the ropes can swing the "engine-room" forward (below) the frame, or backward, to assist the rising or descending flight of the air-ship.

No. 9, his "runabout," which he exhibited at the races in France last summer, has its engine-room near his seat in the main frame. In this he is not able to take up with him more than the weight of a child, but No. 7 will carry three or four persons. The construction of the latter took more than five years, and cost between $30,000 and $40,000. Its total weight is 3,000 pounds, and it is 180 feet long. Santos-Dumont has not yet attempted to rise above 1,000 feet, because higher up the air-currents are more numerous and treacherous. His longest flight took two hours.

"As I take this for an amusement," he once said to me, "why should I stay up longer, choose anything but a clear day for an ascension, or go to a greater height? I do not carry with me a parachute, nor a small emergency balloon; they would be in the way, and besides, one must have no sense of fear to do what I am doing. Once when I was flying over Paris, a rope running from the long frame of the 'engine-room,' suspended, got caught in the pulley, fortunately in the long frame, not in the 'engine-room.' I walked along the frame, which is about three inches wide, sideways, leaned down, fixed the pulley, and got back to my seat in four or five minutes. How high was I then? Oh! about a thousand feet, but I held on to the braces. If anything happens to my engine, I am a balloonist, and, therefore, in a similar predicament to a sea captain whose ship has lost its propellers or broken its engines. He must hoist the sails or be at the mercy of the elements. The valves at the end of the balloon regulate the effect of the temperature upon the gas. If I have difficulty in rising quickly, I throw over some ballast, or let out water from the 'engine-room.'

"I have demonstrated that the air-ship can be controlled, and I belive that in five, ten, fifteen, or fifty years it will be commonly sailed. Its importance in warfare is acknowledged. Already England has one attached to the military headquarters at Aldershot, with which interesting experiments have been made. Personally, I own four air-ships—in time of war at the service of the French Government."

Although he continues to invent improvements of vital importance, Santos-Dumont has not taken out a patent in any country, nor does he intend to. A man of great wealth and public spirit, he gives his inventions to the world.

ALBERTO SANTOS-DUMONT

BUILDER OF SUCCESSFUL AIR-SHIPS

FROM COAST TO COAST IN AN AUTOMOBILE

THE STORY OF THE FASTEST MOTOR-CAR TRIP ACROSS THE CONTINENT—A NOVEL DEVICE FOR CLIMBING SAND-HILLS — COASTING DOWN TORTUOUS SHELF-ROADS — CRAWLING OVER GULCHES IN TWELVE FOOT JERKS— ADVENTURES IN MOUNTAIN, DESERT, AND PRAIRIE, ENDING WITH A WILD NIGHT DASH TO NEW YORK

BY

M. C. KRARUP

(Illustrated with photographs by the author)

UNTIL last summer nobody had succeeded in traveling across this continent in an automobile. Then, however, thanks mostly to improved construction of automobiles, three motor-car expeditions toured from San Francisco to New York.

The writer participated in the trip which followed the most direct and central, but also most problematic, route between San Francisco and Denver. We finished the trip in the shortest time of the three parties and with more regular progress from day to day. Mr. E. T. Fetch was the chauffeur for the entire distance and Mr. N. O. Allyn accompanied us from Reno, Nevada, to Colorado Springs, perched on the spare tires and the baggage piled behind the seats.

Starting on June 20th, in the evening, we traveled eastward through California, Nevada, Utah, and Colorado to Denver, and after

THE DESCENT HAD THE GRANDEUR OF DESOLATION AND LONELINESS

a rest of four days continued the journey, passing through Omaha, Chicago, Cleveland, Erie, Buffalo, Rochester, Syracuse, and Albany, finally reaching New York City on August 21st. The same twelve-horse-power car, weighing with baggage and three on board about 3,000 pounds, was the conveyance throughout. Interruptions due to failure of the motor or driving mechanisms were unimportant and brief.

We traveled in almost complete ignorance of what the next turn of the road would bring forth, depending upon information picked up at our nightly lodgings for finding the road or trail that would take us with least inconvenience to another stopping place, fifty or a hundred and fifty miles away. But a certain sense of adventure in mere transit through rough, uninhabited sections, even at a moderate gait, soon gave place to perfect confidence that the automobile could be relied upon for extra mileage when necessary.

We knew that even though we had strayed from the shortest road or had been misinformed as to difficulties it would take us into some port for the night. Fatigue of muscle or mind was of very small consequence, except where ravines or "dry washes" frequently crossed the mountain or desert trail and necessitated constant use of the change-gear and the brakes. The motor never fagged, of course. After strains which would have completely exhausted the best of horses it was as ready for a gay sprint as ever. From this fact sprang the exhilaration of motoring over rough and roadless country.

The climb from Placerville—the "Hangtown" of pioneer days—to the summit of the California range of the Sierras, in June, was a pleasant procession over the old stage-road of the "Forty-niners," which is still kept in fairly good condition. Following the picturesque American River closely for a day's journey, we enjoyed scenery to our heart's content, with halts for meals and rest at excellent road-houses strung along the route at intervals of a dozen miles, as far east as the famous summer-resort of Lake Tahoe. The climb is long, however, with only brief respites from steep grades calling for low gears,

A REST BEFORE REACHING A STEEP AND TORTUOUS GRADE NEAR LAKE TAHOE

and the abundant supply of cold water along these mountain roads is a convenience to assist in keeping the motor from overheating under its hard work. A greater surplus of power than we had and a motor fan—now so commonly used—would have been of advantage.

Crossing the Sierras we had to keep constant watch, with eye and ear, for the passenger-stages, mule-drawn freight-wagons, and even pack-horses, coming in the opposite direction. The bends of the road are continuous and often sharp. Timber and jutting rocks bar the perspective. The splash of the turbulent river in many places drowns the tinkle of the bells on the lead mules. Suddenly confronted with an automobile, the animals would probably take fright and

"WE MET ROAMING HERDS OF CATTLE AND HORSES—

jump over the edge of the road. Indeed, a stageful of passengers were overturned in 1902 when a steam-car driver ventured part of the way toward the summit. Accordingly, we were anxiously enjoined to time our passage so that the four-horse stage coming down from Lake Tahoe "full of women and children" would meet us at one of the way-

—WHICH ALL BUT BARRED THE WAY BY THEIR CURIOSITY"

THE CAR SAW HARD USAGE

stations. We did not mind observing the precaution, as these stages come down the mountains at a clip of about twelve miles an hour.

From the summit of the Sierras in California, 7,300 feet high, there is a sharp descent by a serpentine road down to the basin occupied by Lake Tahoe and the Truckee River. The drop—for such it would seem to the novice—is one of 800 feet in two miles of winding road. Down this the car slid in nine and one-half minutes under brakes. After crossing the valley the road rises again, now in Nevada, to the second summit and from here it falls through Daggett's Pass to the broad Carson Valley 2,400 feet below. The descent is as steep as the first and three times longer. The valley was visible from the pass as a distant misty triangle studded with barely discernible ranch-buildings and poplar groves—a veritable bird's-eye view. The road was carefully laid out and sandy.

These long descents over steep, tortuous, and narrow shelf-roads, with nothing but space on one side and mountain on the other, were the first initiation on this trip to something unusual. Over the last, the Kingsbury Grade, the brake-rings became so heated that we stopped three times to cool them, once at a very picturesque spring 1,200 feet above the valley.

At Wadsworth, Nevada, our troubles with sand began, and, I can almost add, ended. Repeatedly assured that we could never get the car through the sand, we approached a sandhill outside of Wadsworth with many misgivings. We were comforted when the

NEARING GREAT SALT LAKE

IT REQUIRED INGENIOUS MANIPULATIONS TO WIGGLE THE CAR BACK TO A FOOTING

CHAINS NEEDED TO MAKE THE WHEELS GRIP

means we had devised for such emergencies proved effectual. It consisted of two strips of canvas six feet wide and twenty-four feet long. Where the sand is round-grained, loose, and dry the driving-wheels of a car can get no hold, but spin around as in water or slimy mud. Our strips of canvas, laid on the ground for the wheels to run over, held the sand together, and then the motor-power was sufficient to drive us ahead. In this manner the two strips, each laid down three times, took us over Wadsworth hill, much to the astonishment of a number of citizens who had assembled there with a team of horses and stout tackle to help us. Our experience soon taught us that bad sand exacts about eighteen times more power per lineal foot than a 20 per cent. hill with good footing, but we ceased at Wadsworth to worry about sand, knowing that the canvas would serve its purpose.

Our next obstacle was more stubborn. Most of the 300 miles through the Humboldt

A DETOUR BY AN ABANDONED RAILROAD GRADE STREWN WITH ROCKS

THE PREDICAMENT OF A PARTY WE MET IN THE CANYON OF THE GRAND IN COLORADO

River Valley the soil is a sandy, alkaline marl which "washes" very readily, and the road consists of two ruts inclosing a ridge overgrown with stout sagebrush. Frequently the ridge is so high that the low-built car cannot be driven ahead. We found that the sage-bushes could be mowed down under the axles by the weight of the car, but when the differential casing struck the ridge and the rear wheels were lifted off the bottom of the ruts, it required a lifting-jack and ingenious manipulations to wiggle the car back to a footing. We wrenched the car in efforts at getting out of the ruts to avoid a high spot in the ridge ahead, and we had many a sudden drop in attempts to ride the ridge and straddle the rut. Then we drove many miles beside the trail, where the old sage bushes grow as thick as an arm and up to man's height. A tarpaulin stretched under the car for protection of the mechanism against dust and mud was soon whipped to shreds, and when that was gone all the paint on the axles and casings underneath the car quickly disappeared. Our shovel was strapped there with its hickory handle exposed. Before we got through Utah its long fibre was whipped loose, too, and a new shovel had to be bought. Sometimes twigs and pulp of sage accumulated in the quadrant in which the gear-changing lever moves and interfered with the management of the car, necessitating fre-

A TRANSCONTINENTAL HIGHWAY

SHALLOW STREAMS COULD BE FORDED WITH EASE, EVEN ALKALI SLOUGHS LIKE THIS

quent cleanings. But these, after all, were merely trifling vexations.

Between Mill City and Winnemucca the most direct trail was described to me as a succession of sandpits extending for about twenty miles, with the sand a little worse than any other in the State of Nevada. It was here that an automobile in 1901 had come to a final halt. But another road led over a spur of the nearby mountains through Dun Glen pass. This route we chose, although it involved a rise of 1,500 feet followed by a steep descent over a rugged mountain-side. Through the pass we met roaming flocks of cattle and horses, which all but barred the way by their curiosity. The descent had the grandeur of desolation and loneliness. Even by this route we did not escape four miles of deep sand when the plain was reached again, but fortunately at the worst places the sagebrush at the sides had been laboriously cut down and spread in a thick layer over the trail so as to ease the load for horses. This helped us.

Easy driving had been promised us beyond Wells, where the Humboldt River begins from a number of circular water-holes or craters. But it was just in this waterless portion of Nevada and in the adjacent portions of Utah that innumerable gullies and ravines crossed the trail with such wearisome repetition that about 2,000 move-

A WILDERNESS OF STEEP HILLS AND SAGEBRUSH

AN UNCOMMON EXPERIENCE—THE ONLY TIME THIS HAPPENED

ments of the gear, clutch, and brake-levers were required in one day to nurse the car into and again out of ditches. Often when the car stood almost on end in a dry gulch about six feet wide and three feet deep the headlight would graze the opposite bank. In proceeding to get across, one of the front wheels would be lifted from the ground while the other was swung around till it struck the panel of the hood—a contortion for which even our flexible car was never intended. The same section of the trip had many forbidding grades, more than twice as steep as any in the Sierras or the Rocky Mountains.

These hills we climbed in instalments. The motor was set going at full speed, running idle. Then the clutch was applied, causing the flywheel momentum to jerk the car upward some ten or twelve feet. Then the brakes were quickly clapped on while Mr. Allyn and I chocked the rear wheels with stones. The process was repeated till the top of each hill was reached. One at Fenelon, Nevada, required perhaps a dozen jerks. Another, leading up to the Promontory

IN THE DESERT INNUMERABLE GULLIES AND RAVINES CROSSED THE WINDING TRAIL

"THE WHEELS SPUN ROUND IN THE STICKY MUD WITH NO PROPULSIVE POWER"

Range at Lake Utah, required even more. It was scaled in full view of a number of railroad men, who cheered the performance from a distance by a chorus of locomotive whistles. Their professional sympathy was with the motor.

Through Corinne, Brigham, Ogden, Salt Lake City, and almost to the heart of Utah, at Provo City, the driving is free from all difficulties. The main road runs in the shadow of the eastern range of the Wasatch Mountains and compares favorably with eastern highways. From Provo we made our way through Spanish Fork Canyon to the crest of the main range of the Wasatch Range and over Soldiers' Summit to Colton. Here we were informed that the wagon-road through Castle Gate had been washed away in a recent freshet. The only other way to get to our destination for that day—the town of Price—was to follow a devious course skirting the Uintah Indian Reservation and then to tack back to Price through Soldiers' Canyon, a piece of road which has a national reputation for roughness. It turned out to be the most difficult piece of ground, for an automobile, between San Francisco and New York. A crevasse to the left, and a dilapi-

"HERE OUR TRAVEL WAS AMPHIBIOUS"

"IN NEBRASKA STRETCHES OF EXCELLENT ROAD ALTERNATED WITH LAKES—

dated wall or slope of tumbled-down rocks of enormous size to the right, forced the car to proceed absolutely in the wagon-trail without deviation, and the ground between the ruts was obstructed by huge stones. These we could not straddle as do the high-built freighters' wagons that ply in astonishing numbers over this remarkable thoroughfare to the Fort and the mining regions farther north, but by piling smaller stones in the ruts we forced the wheels themselves to lift the car over the bigger stones in the middle. Two miles of this occupied us for three hours, but Price was reached at nightfall, to the utter astonishment of the inhabitants. The next day was set aside for rest.

Besides a repetition of all the difficulties already experienced, the route from Price, through Woodside, Green River, and Thompson Springs to the Colorado line presented also a few surprises. Quicksand in Price River at Woodside detained us for three hours. Driftsand piled in banks further delayed our arrival at Green River till half-past ten o'clock at night. No vegetation was visible the rest of the way to Thompson Springs, and the fifty additional miles of Utah were covered at night to avoid the heat of the day. The ground here abounded in ravines, or *arroyas*, of the most malignant description.

A change for the better came with our entrance into Colorado. The trail became a road—the beginning of a State highway which was continued thence to Denver; not a broad, macadamized avenue by any means, but a narrow strip of ground blasted out of rock for mile after mile, where necessary, and following the streams—first the Grand, then the Eagle, then the Homestake rivers—to the continental watershed at Tennessee Pass. The territory of unbridged ravines and washes was behind us; two ruts with unsubdued nature between them was no longer the only thoroughfare. Nevertheless, the first few miles of the Grand Canyon road did more damage to the pneumatic tires than all of the desert and plains. Sharp ledges on the stiff grades gouged chunks of rubber from the casings, and at Grand Junction it was considered best to put the new unused reserve tires on the rear wheels.

About six and one-half miles west of Rifle there is a shelf road, mostly clay, descending about 200 feet in one-third of a mile. Soaked

—AND MUDHOLES"

THE AUTOMOBILE HAS MANY ADVANTAGES OVER THE HORSE

by rains off and on during the day, and by a thunder-shower which overtook us just there, this grade called for chains around the tires to safeguard the descent. Even with this precaution against slipping we found it necessary to walk beside the car and push it sidewise when the wheels, floundering in the messy clay, showed signs of sliding too close to the outer edge. But it was a comfort that a comparatively small muscular effort was sufficient to direct the sprawlings toward safety. The car slid to the side almost as readily as forward.

Above Glenwood Springs the canyon of the Grand River narrows down to a gorge. The river, the railroad on the south side, and the wagon-road on the north side, fill all the space between the cliffs. Indeed, frequent blasting had been needed to make the canyon hold all three. Above is the "mesa," rough table-land devoted to stock-raising and some agriculture by irrigation. The road is so narrow and many of the bends are so sharp that speed above ten miles an hour is out of the question. Where the Eagle River flows into the Grand the road turns at right angles upon a bridge. Five minutes before our arrival at this point another automobile had come from Denver in the opposite direction, carrying its owner, Mr. G. W. Woods, and two other men, bound for Mr. Woods's ranch on the mesa north of Rifle. At this point they had been spilled. The men were congratulating themselves on their mir-

NEARING THE ATLANTIC—A 14 PER CENT. PENNSYLVANIA GRADE WHICH SEEMED EASY TO US

jeulous escape from injury when we reached the spot, and were surveying the wrecked car with more curiosity than discomfiture. The steering mechanism—after much previous fast driving—had forsaken them, with the result shown in the illustration.

Our own steering was not quite so reliable as it had been, for the breaking of a brace-rod for the front axle—in Utah—had caused the left front wheel to "toe out" a trifle. This was later remedied in Denver, but meanwhile it was giving us some apprehensions on the slimy roads by which we had to climb to the elevation of the Tennessee Pass, 10,418 feet,

Gasoline of low grade, not over 68° Baume, had so far been used throughout, as no other was obtainable, and the high altitude in conjunction with this fuel had somewhat reduced the power of the motor. The cooling water boiled and evaporated far below the ordinary boiling point, 212° Fahrenheit, and the rarefied atmosphere could neither carry away as much heat nor fill the cylinder with as complete a charge for combustion as lower down. But these drawbacks really proved of minor importance. They interfered hardly at all with the continuance of the trip from Leadville to Buena Vista,

THE AUTOMOBILE COULD DO EVERYTHING BUT JUMP

the following two days. The rain which pursued us reduced one day's journey to twenty miles—from Edwards Post-Office through Minturn and Gilman to Red Cliff. We had chains around the tires all the time, but they soon wore through at the most exposed links. They were pieced together with leather straps, and other links were exposed thereafter.

Just beyond Tennessee Pass, where water begins to run to the Atlantic Ocean, the car slipped into the Tennessee River by a false move. The stream's identity was not clear to us then, however, as it is there only a foot wide. A mile farther on the way to Leadville it carries a large volume of water from the snowtopped mountains which flank the pass at a distance.

then over the Park Range, through the South Park district, and through Ute Pass to Manitou and Colorado Springs, though the elevation over the largest part of this distance is between 8,000 and 10,000 feet.

When going on a cliff road along Arkansas River, however, the inner front wheel struck a stone which had tumbled down from above and the resilience of the tire caused the whole front portion of the car to bound to the right. An inch farther would have meant something serious for which not even the gorgeous aspect of the multi-colored cliff at that point could have compensated. The incident was the first of its kind, as we usually watched closely for stones in the track in localities where they might spell trouble.

MORE COMFORTABLE THAN THE UTAH DESERTS

East of Denver, where some repairs were found advisable—especially of worn bearings—travel in ruts was resumed for a while. Cattlemen had fenced in large blocks of land, without regard to the section-line roads, and the opening of gates became irritating, not only on account of their number, but particularly because they were nearly all fastened with barb-wire rings pulled very taut over the posts. These resulted in lacerated gloves and scratched hands. Grasshoppers were swarming, too, and the sharp sting when they struck one's face while the car went at some speed was annoying when repeated. The ruts made by narrow-tired vehicles were barely far enough apart for our wheel-gauge. They turned steering into an operation requiring continuous and conscious effort. Beyond Fort Morgan a network of irrigation ditches, all brimful of water, held us captive for an hour in vain attempts to find an exit one early morning. We were then trying the plan of starting before sunrise, about four o'clock in the morning. A farmer, just out of bed, finally showed us the way out of the labyrinth, but not till we had criss-crossed over a square mile of soggy meadows and taken the depth measure of several ditches. This was in the upper South Platte River valley, where so much water is drained from the river that the towns below, Julesburg and Ogallala, get none. At North Platte the supply is renewed not only in the river, but unfortunately also on the roads.

From this place to Columbus, Nebraska, our travel was amphibious. Stretches of excellent road alternated with temporary lakes and mudholes, in which the car was

BOWLING ALONG BESIDE LAKE ERIE TOWARD NEW YORK

swamped, the wheels spinning around in the sticky mud with no propulsive power. We had to use boards, fence-posts, brushwood, chains, the shovel, the jack, and strong pulls on the front wheels to get out of these predicaments. Only once—near Clark, Nebraska—was the motor disabled. The water had entered the carbureter, and we had to employ horses to drag the car out. Fast in the mire seven times in one day was the record for that disagreeable trip along the Platte River, but the mudholes which were successfully rushed or laboriously traversed on the low gear ran into the hundreds. The front wheels were very useful as feelers in those days. With the rear wheels on *terra firma* we drove the front wheels cautiously into the water or mudhole, in confidence that we could always back out so long as the rear wheels had a firm hold.

Our intimate acquaintance with diluted road material did not improve our appearance, and arriving mud-splashed at hotels we were not always welcome guests until the hotel people learned how far we had come.

The western portion of Iowa offered a repetition of these experiences, and the farmers were not always cordial. In two or three instances they responded with much rudeness to our greetings. Our relations to the population from now on were not so pleasant as in the far West, but the road conditions continued to improve. The traveling, as such, was devoid of all incident and interest from Wheatland, Iowa, far into New York State, where the tires began to give out, and where heavy rains had drenched the roads, especially through the Mohawk Valley. From Clinton, Iowa, to Chicago is an almost uninterrupted stretch of good macadam. Sandy or hilly roads in Indiana, Ohio, and Pennsylvania which had been looked upon as "bad" seemed very acceptable highways after the roadless sections in the West. The mud through which we arrived at Albany after a long day's drive, though ten inches deep in places, after all had a firm bottom.

When we attempted, however, to drive from Albany to Poughkeepsie the same night we undertook too much. The night was very dark and the post-road was very muddy and very crooked. The oil lamps were in bad order and went out periodically. At every cross-road there is a quadruple guide-board. These had to be examined by match-light. The slush, the darkness of all but the first ten feet in front of the car, lack of sleep, and nervous strain in general, produced a sense of insecurity that became quite intolerable on some of the steep hills. Part of the time it seemed impossible to determine whether we were in the road or beside it. Everything lay in a dull glare before us; and this condition of the overtaxed senses Mr. Fetch termed "road glare." When Hudson was reached, about two o'clock in the morning, we stopped, and the car did not get to Poughkeepsie till the next day at one o'clock, and thence proceeded immediately to New York under escort from Peekskill.

A wild night drive into the city, following close upon the heels of a leader and guided solely by his tailboard light, terminated the transcontinental trip in a cloud of dust, which is nearly always the penalty that the motorist pays for the civility of escort.

AN ESCORT WHICH PRECEDED US INTO URBAN SURROUNDINGS

CAN LABOR UNIONS BE DESTROYED?

EMPLOYERS' ASSOCIATIONS SPRINGING UP ALL OVER THE COUNTRY—WHAT SOME OF THEM HAVE DONE—"THE OPEN SHOP" NOW THE EMPLOYERS' WATCH-WORD—THEIR CAMPAIGN TO NON-UNIONIZE INDUSTRY

BY

WILLIAM ENGLISH WALLING

SOME day the unions and the business community will have to fight it out to see who owns Chicago." This statement was made by the head of one of the largest business houses in the United States. He was not speaking in argument or in the heat of a labor conflict. His house was at peace with the unions, and he had just returned from a friendly talk with his assembled employees.

"The property interests of this city," he continued, "are not going to sit calmly by while it is surrendered into the hands of the unions." This business man has had as much experience with the unions as any man in Chicago. He has served on arbitration boards, and talked peace, but he believes that a radical spirit is growing among the unions and that a contest is inevitable. He believes, too, that the sole hope for the industrial future of Chicago lies in the associations of employers.

So other men believe in other cities, and employers' associations have sprung up everywhere. The Omaha Business Men's Association boasts that there are only two written agreements left in Omaha—I was shown one of these in the Builders' Exchange. It contained a promise from the unions, but none from the employers. "The task of the employers' associations," said the President of the Manufacturers' Association recently, "is to pull up root and branch the un-American institution of organized labor as at present conducted."

I have talked with officers of the new associations from Boston to San Francisco. Everywhere I found the strongest business men in the community taking hold. Vigor and talent are applied to the labor problem.

The first principle of American business is, perhaps, to know the other side. Business rivals of Andrew Carnegie were at one time helpless to account for his ability to undersell them in whatever market they turned to. They sent experts quietly to look over his work and report. Mr. Carnegie, it is said, heard of their presence. He invited them to an inspection with himself as guide, and at last offered to show them the secret of his success. He took them into a room lined with books and reports, where a dozen clerks were at work on documents and figures. This room represented an expenditure of $80,000 a year.

"It is worth that," said Mr. Carnegie, "for a business man to know at any moment all the details of his business."

Similarly employers have now waked up to the importance of knowing what their union workmen are doing. In the industrial storm-centre, Chicago heads of leading business houses devote much time to fighting the unions. Mr. John G. Shedd and Mr. Harry G. Selfridge, managers of the wholesale and retail departments of Marshall Field & Company, have led in the organization of the Employers' Association, the teaming interests, and the Chicago Arbitration Board. No men in Chicago can place a higher value on their time. Mr. Robert Thorne, of Montgomery Ward & Company, devotes a large part of his time daily to the employers' organizations. There are few unions in his establishment or that of Marshall Field, but both firms realize that on their success in dealing with the unions depends the success of the whole business community. In Chicago the banks and even the railroads have joined the movement, and what is happening in Chicago is happening in nearly every important city from the Alleghanies to the Pacific.

Men like Mr. Shedd and Mr. Selfridge do not take up a new problem without concrete results. The machinery of organization has been extended from the old trade associations

to nearly every industry in the country, and from the large cities to the smaller manufacturing towns. From Dayton, where the first general employers' association in the country was organized in 1900, a score of similar organizations have been started. Chicago has assisted in the organization of a dozen associations in the surrounding territory. The new Citizens' Industrial Association, which federated the city associations last fall, has branches in St. Louis, Indianapolis, and Cincinnati, and will now place permanent organizers in the field. Every important trade not already made into a trust has been organized. Every city where the unions have acted in concert has now its Employers' or Manufacturers' Association or its Citizens' Alliance. The movement has been nationalized in the Manufacturers' Association, the Anti-Boycott Association, and the Citizens' Industrial Association of America.

The old organizations were friendly to the unions; the new ones are almost without exception hostile. The old trade associations such as the Stove Founders, the Newspaper Publishers, and local associations in the building trades were entirely defensive. Some of these were founded fifteen or twenty years ago. As soon as the older unions, like those of the printers, the iron molders, and the building trades, secured the control of a majority of the skilled men in their industries they forced employers to sign uniform scales. When the scales were once signed the labor business was at an end. The unions had the men, the men were necessary to the industry, and the consumer could in most cases be made to bear the cost. A fight in such circumstances was neither economic nor wise.

The Stove Founders' Defense Association, one of the oldest and most conservative of trade associations, is an example. It made its first union agreement in 1890, and has had no serious disturbance since. But the truce has given the union its opportunity. Under the existing agreement the industry had been quietly, steadily, and systematically unionized. There is no written contract to employ none but union men, but the secretary told me that there are now only four shops of the sixty-four in the association that are not completely union. In two of these the proportion of unionists is on the increase.

Here are some of the results: During the depression, beginning in 1893, wages were maintained as in scarcely another industry. Since then they have been twice raised. Last winter, manufacturers told me, though two-thirds of their men were laid off, and everything pointed to the necessity of a cheaper product, the union would not listen to the proposal of a reduction in wages.

"Wages are the only business of employers' associations," Wm. H. Pfahler, the former president of the Stove Founders' Association, told me. But the wage question, in spite of all efforts to avoid it, has become subordinate. When the union secured a wage-scale it practically secured a share in the employers' profits, but it means also to share in the control of the shops. The shops are union and the workmen have the upper hand. It is an unequal contest between hundreds of workmen, organized and controlled by the union, and a few foremen and the superintendent in the employer's service.

It is an unwritten union law that the first man on a new job in a foundry sets the pace. Ferdinand Schwedtman, secretary of the new Employers' Association in St. Louis, and also an influential member of the National Founders' and Metal Trades Associations, owns a foundry. He took a contract to cast some plates. The work was rough, and he expected the workman who did the job to turn out about fourteen a day. The foreman gave the work over to a man he had just taken on. When he came to look at it in the afternoon the man had finished only one plate, and had spoiled it. He was discharged as inefficient. The work was turned over to the best molder in the shop, and at about the same time the next day the foreman came around for inspection. The man was standing idle. He had finished a plate and a half. "The union rule," the man said, "is that the first man sets the pace." The foreman fought it out with the shop committee and convinced it that the first man was no molder. The next day the experienced workman finished fourteen plates. "A wage change of 5 or 10 per cent. amounts to little compared with the cost of tactics like these," Mr. Schwedtman explained. Wages in the metal trades have become a secondary issue.

There have been no wage cuts yet in the foundries. But business is slack, many men have been "laid off," laggards have been dis-

charged, and those that remain have been compelled to work to keep their jobs. As a result of the waning power of the union under these conditions, Mr. John A. Penton, formerly secretary of the National Founders' Association, estimates that the output has increased 10 to 20 per cent. per man.

Members of the Stove Founders' Defense Association are not all pleased at the growing power of the Molders' Union. "The one thing we need," its vice-president, Mr. J. W. Van Cleave, told me, "is the open shop." Mr. Van Cleave presided over the convention of employers' associations in Chicago last fall.

From the Stove Founders' Association grew the National Founders' Association, largely through the efforts of Mr. Pfahler and Mr. Penton. The Founders have been treating with the Molders' Union for the last five years. Last spring Mr. Penton reported 281 disputes settled in the course of the preceding year. But how were they settled? Here is a significant paragraph from the last annual report.

"An important strike at Cleveland of the iron molders was caused by the fact that a single man, not a member of the union, had been employed. The matter was adjusted, but not in a way that left the company any assurance of their being permanently able to follow their former policy of employing such men as they might desire."

In other words, the Cleveland molders have unionized that foundry. Year after year, tireless and experienced leaders of this union have been strengthening their grip on the shops in all parts of the country. Wages and hours have been improved. But the control of the shops is the real bone of contention. Here is the source of the union's power and of future success.

Union domination in the shops, employers say, means union men, union rules, and an increased cost of production. This is the ground on which employers like Mr. Pfahler, who believe in high wages, object to union control of industry.

"The unions define the workman's rights," he says, "but say nothing of his duties." That is, they leave his duties to be taken care of by the employer. They destroy shop discipline, and put nothing in its place.

Out of the Founders' Association sprang the closely related Metal Trades Association, composed of manufacturers of tools and machinery, who are often founders also. When organized four years ago, it set out to encourage trade agreements, but before it was a year old the machinists struck. From the time of this strike the association has had its real growth. The International Association of Machinists had hardly been half organized before. Now, by extending its membership to the less skilled it was often able to control. "It is now up to the machinists," said President O'Connell in his last annual address to the union, "to take complete charge of the machine shop." And union control of the shop, the employers say, means demoralization.

In a large building in Cincinnati's business district there is an office where the employment and discharge of all the employees of the Manufacturers' Association—10,000 workmen in the metal trades alone—are directed. Men out of a job are learning to go there for work, instead of tramping about the suburbs or waiting at the shop door. It was instituted three years ago to furnish workmen in time of strike. There are similar offices in Cleveland, Pittsburg, Detroit, Boston, Syracuse, Worcester. These bureaus are not employment agencies. They are means for centralizing in a single office the employment and discharge of all the workmen of a local industry. Every man employed by any of the members of the association is registered and his record kept by a card system. Employers agree to make daily reports on these cards of men employed and discharged, of applicants for help, and of help wanted. The secretary of the bureau assists to positions those men the association wishes to favor and discourages the rest. His duty is to keep a full record of their "character, performance, and ability." The rules say it is "not a black list." The unions say it is a black list. Some employers have used the term in conversation with me. The bureaus protect non-union workmen.

The card used by the Louisville Employers' Association has the following classifications:

KEY CARD

1. Excellent workman
2. Average workman
3. Poor workman
4. Interested in work; ambitious
5. Prompt; regular
6. Talks too much with other workmen

7. Drinks too much
8. Union man
9. Non-union man
10. Good disposition
11. Bad disposition
12. Trouble-maker

The Cleveland Employers' Association keeps a record of all men who leave the employment of members of the association. On one side of the card is the following:

NOTICE.—Fill out the blanks on reverse side of this card should any workman leave your employment. Be careful to give cause for discharge or his reason for quitting, if possible. Mail same to Thomas M. Roche, Secretary, 407 Superior Building, Cleveland, Ohio.

On the other side of the card are blank spaces for the name and address of the employee, and space for a statement as to whether he left, was discharged, or was laid off, and the cause. In this way a record is kept of every workman. I wanted to see how the system worked, so I went to the headquarters of the National Metal Trades in Cincinnati where it probably originated.

"The object of the Association," its secretary, Mr. Robert Wuest, explained to me, "is twofold: to prevent foolish agreements with the union and to restrain radical employers." Mr. Wuest tells a story of a man who came to him to complain that he had been refused a job everywhere in town.

"Look here," the man blurted out, "you've got a black list in this office."

Mr. Wuest sent for the card that held the man's record and handed it to him. The card showed drunkenness and trouble-making. Mr. Wuest asked if these statements were true. The man said they were. Mr. Wuest recommended that he sue the association if he thought this was a black list. The man was reasonable, and the association's secretary finally got him a job. The workman remained as he was, a stanch unionist. He reformed, worked hard, and earned considerable premiums at his work. When they amounted to $50 Mr. Wuest had them sent to the man's wife, and she finally made him accept them. At last he was "non-unionized." The next day he presented his employer with his union card. This case showed that the employment bureau may be more beneficial to the individual workman than it is to the union.

Everywhere employers' associations have adopted the open shop, and they are preparing to adopt the employment bureau.

Last fall the building contractors of New York agreed to employ none but union men. Recently Mr. Eidlitz, the president of the association, said that the whole structure on which the agreement is based is, in his opinion, wrong.

The open shop is a gauge of battle to the unions. At the American Federation of Labor convention in Boston I found only one opinion on the subject.

"The open shop," the leaders declared, "means an open fight against the unions."

Already employers are abandoning arbitration and the trade agreement. "Arbitration is a fraud of the rankest kind," the secretary of the Chicago Employers' Association said in a recent speech. It was stricken from the principles of the association after a three-months' trial."

When arbitration and the trade agreement are abandoned, but one step remains to the annihilation of the power of the unions. Mr. A. C. Marshall, the secretary of the Dayton Association, proposes the "non-unionizing of industry." At the Chicago convention of the Citizens' Industrial Association last fall no delegate was more applauded than the representative of an Indiana Citizens' Alliance.

"A year or so before the formation of the alliance," he said, "I had 297 union men. Now I have six. And before long I hope to have not an open shop, but a closed shop—closed against the union."

The Civic Federation called a convention in Chicago last fall to discuss the "open shop." It was a confessed failure. The proceedings were not published. Instead of the peace talk of the previous conferences, every employer favored the open shop, and every union man opposed it.

A year or two will show whether employers can conquer the unions alone or whether, to achieve that end, they must seek the assistance of the government and the great middle class. They propose first to try it alone, and they have decided not to give the politicians a chance. The next national convention is to be held in New York in November—immediately after the Presidential election.

THE AMERICANIZATION OF PORTO RICO

GOVERNOR HUNT ONE OF FOUR YALE GRADUATES ADMINISTERING AMERICAN DEPENDENCIES—HIS EFFICIENT SERVICE—HOW SCHOOLS HAVE BEEN ESTABLISHED, BENEFICENT LAWS MADE, AND INDUSTRIES GIVEN LIFE IN OUR WEST INDIAN COLONY—PORTO RICO AS IT IS TODAY

BY

JOHN BALL OSBORNE

JOINT SECRETARY OF THE RECIPROCITY COMMISSION

IT is an interesting coincidence that in the Class of 1878 at Yale were two bosom friends who have done more than any other persons to shape the political development and to advance the general welfare of Porto Rico and the Philippines. They are Governor William H. Hunt, who is still in office, and Governor William H. Taft, now Secretary of War. Each of these brilliant Americans has simultaneously, on opposite sides of the globe, accomplished for the United States a task calling for rare executive ability, integrity, energy, tact, and firmness. Each has won the respectful admiration of the native people and each merits the unstinted praise of his fellow-countrymen.

At a Washington banquet, recently given to Secretary Taft by the local Yale Alumni Association, the large and distinguished company sang with frenzied enthusiasm the following stanzas of a song, to the air of "Mister Dooley":

When Dewey's guns gave Uncle Sam the Filipino's lands,
We found we had a grouchy proposition on our hands;
A governor was needed there; the job was not a graft,
So a Yale man was selected and his name it is Bill Taft.

CHORUS:—Oh, Mister Eli! Oh, Mister Eli!
You've seen some famous people graduate,
But still the great class, the up-to-date class,
Is Seventy-eventy-eventy-eventy-eight!

Our "ex-es," too, have done a bit to put us to the front;
Montana's highest court has been adorned by Billy Hunt.
As "Governor" he's steering Porto Rico's ship of State,
We're sure he can't forget the days of Yale and Seventy-eight.

Chorus:—Oh, Mister Eli, etc.

When the banqueters were reminded that their alma mater had also supplied Alaska and Hawaii with governors, Brady and Carter, they felt a proprietary interest in the administration of all our outlying possessions.

Thanks to the patriotic wisdom of President McKinley and President Roosevelt in making colonial appointments, exclusively for fitness, and never merely for considerations of partisanship or personal friendship, Mr. Hunt was sent to Porto Rico as Secretary in June, 1900. He was installed as Governor September 15, 1901, and with a remarkable capacity for hard work he has devoted himself to promoting the welfare of the people and preparing the island for fuller self-government.

THE ISLAND AND ITS PEOPLE

Three-fourths as large as Connecticut, and with a population of a million, or about 273 to the square mile, blessed with a fertile soil, an equable climate, and a diversity of fairly well developed agricultural industries, Porto Rico is one of the most favored spots on the globe. It is about thirty-six miles wide and 100 miles long. But nature has put a premium upon indolence, for, as an American official has remarked, the native, while lying in his hammock, can pick a banana with one hand and at the same time dig a sweet potato with one foot. The natives are warm-hearted, law-abiding, and intelligent,

honest, and capable in business, public spirited, and appreciative, for the most part, of the blessings bestowed by their new government. Race prejudice and religious strife hardly exist. There is no alarming intemperance. There are no serious disputes between capital and labor, and there is no marked tendency toward socialism.

Two-fifths of the Porto Ricans are colored, either pure Negroes or mulattoes, a proportion which is a trifle larger than in Cuba (one-third), but much smaller than in the sugar-producing British West Indian Islands.

Excluding children under ten years of age, nearly one-half of the Porto Ricans are engaged in gainful occupations. More than one-fifth of the children between the ages of ten and fourteen, and one-half of those between fifteen and nineteen, are at work, for the masses have been very poor and the school facilities inadequate. About one woman in every ten is a breadwinner, and it is said that a woman's chances of marriage after becoming a worker are not as favorable as in the United States. Nearly four-fifths of all the male workers are simple laborers. The bulk of the people are engaged in agriculture. The manufacturing and mining industries of the island are insignificant.

Porto Rico is in no danger of race suicide. Families of seven to ten members are far commoner than in the United States or Cuba, and nearly one-third of the total population are children under ten years of age. In the towns there is crowding and extreme poverty. In San Juan, for instance, there are five families to every two dwellings. A high death rate from consumption, anæmia, and gastro-intestinal diseases is all that has prevented Porto Rico from ranking with the Flemish provinces of Belgium in density of population.

Wages are lower than in the United States. In the rural districts coffee-pickers receive from 20 to 60 cents per day, many children being employed; coffee-cleaners and sorters, 30 to 70 cents; tobacco workers, 60 cents to $1; laborers in general, 30 cents to $1.20. In the towns, bookbinders are paid 60 cents to $1 a day; carpenters, $1 to $1.80; cigar-makers, $1.20 to $1.80; printers, 60 cents to $1.80; seamstresses, 65 cents to $1.50 (often including meals); clerks, $1 to $2.40 (but government clerks often from $1,000 to $1,500 a year); cooks, $6 to $9 a month, including meals and lodging; other servants, $2.40 to $6 a month, with meals and lodging. Public school teachers receive $40 to $75 a month, according to grade. In most industries the working day consists of ten to twelve hours, but the productiveness of labor is naturally not as great as in the United States, nor are the Porto Rican artisans proficient according to our standards.

With low rent, light cotton clothing, charcoal for cooking, and no heating problem, abundance of cheap native fruits and vegetables, fresh fish on the coast, and the dried, salted fish in the interior, and with temperate habits, the Porto Rican laborer finds a bare subsistence easily assured unless he is handicapped with an unduly large and unproductive family. Fresh meats are too expensive for him, however; he relies for food on bananas, beans, and rice. In fact, fifty bananas or plantains are frequently accepted as the equivalent of a day's wages of about 30 cents.

This condition of the laboring class is far from satisfactory. Thousands are upon a level with the peons of Mexico. They are anæmic in appearance; they live in squalid and vermin-haunted huts, constructed of cane or boards, with front and rear doors, and a shutter window, and often with a dirt floor. They dress scantily in the cheapest cotton stuffs, while their children below the age of seven or eight years run naked. They use primitive household utensils, and cook with a simple charcoal outfit; and at night their only light is the tallow candle, though, being unable to read, they have little use for better. Such, then, are the masses of Porto Rico, whom the Americans have begun to uplift to a higher status.

But the submerged two or three-tenths of the population do not typify the people any more than the Negroes of Alabama and Mississippi are typical Southerners. The truly representative Porto Ricans are the more numerous whites, mostly of pure Spanish descent, a class well typified by Commissioner Degetau, the accomplished Insular delegate to Congress. In all the towns are numbers of finely educated and talented men and refined and attractive women, whose homes reflect culture and whose lives conform with honorable and rational standards.

The contending political factions are fierce and bloodthirsty on the stump and in the

press, but real blood is rarely spilled. During a recent campaign an enthusiast playfully fired a pistol in the air in honor of a candidate. Immediately the report that an election riot had occurred was circulated throughout the island and even telegraphed to this country. The Republican party has at all times coöperated enthusiastically with the Insular government, while Federals with pro-Spanish tendencies have sometimes adopted obstructionist measures. At the first general elections the Federals refused to go to the polls and were left without representation in the first Assembly. Before the next elections they came to their senses

The customs and excise duties (comprising about 75 per cent. of the total revenues), after the collection expenses are deducted, are paid into the Insular treasury, instead of being turned into the Federal treasury. The Federal internal revenue system has not been applied in its entirety, but many educated Porto Ricans believe the present form of government should be continued for some years.

Besides their delegates to the Legislative Assembly, the people elect biennially a resident commissioner to the United States. The Honorable Federico Degetau is serving his second term in this office, and a resolution

MAP OF PORTO RICO SHOWING THE RAILROADS

and participated. They were overwhelmingly defeated, but there is now a more healthy partisan rivalry.

The Act of Congress of April 12, 1900—commonly called the Foraker Act—provided for the appointment by the President of a governor, a secretary, an attorney-general, a treasurer, an auditor, a commissioner of the interior, and a commissioner of education, each to serve four years. The five departmental heads, together with five native Porto Ricans, likewise appointed by the President, constitute the Executive Council, which, besides acting as an advisory body to the Governor, forms the higher branch of the Legislative Assembly, while the House of Delegates, composed of thirty-five members elected biennially, is the lower branch.

was recently unanimously adopted by the House of Representatives giving him the powers and privileges possessed by Territorial Delegates.

During his service of nearly one year and a half, from May 1, 1900, the Honorable Charles H. Allen, First Civil Governor, made an excellent record for efficient administration. He was particularly fortunate in his associates.

The present departmental heads of the Insular Government are: Secretary, Charles Hartzell; Treasurer, William F. Willoughby; Auditor, Regis H. Post; Commissioner of the Interior, William H. Elliott; and Commissioner of Education, Samuel M. Lindsay.

The novel and still unpopular institution of trial by jury is provided for only in criminal

cases, where the charge is felony. For minor crimes and all civil causes the old system of trial by three judges is retained. At the first session laws were also enacted relating to jury procedure, the public schools, the system of taxation and revenue, foreign corporations, charitable and penal institutions, and the Insular police. At subsequent sessions laws were made for reforming the municipalities, for regulating civil marriages, establishing the right of habeas corpus, and the writ of mandamus in the Insular Courts, fixing the legal rate of interest at 6 per cent., defining homesteads and exempting them from forced sales, establishing the University of Porto Rico, and creating a board of medical examiners.

JUDICIAL

Excellent civil and criminal codes have been adopted, the courts have been reorganized, and vexatious formalities and delays have been abolished. The people are learning that they have at last an independent judiciary, and that the only remedy after one court experience is appeal to a higher court, and not to the executive branch, as formerly.

The act establishing civil government applied the tariff laws of the United States to imports into Porto Rico from foreign countries (with a few exceptions, coffee, for instance, imported into Porto Rico being made dutiable at five cents per pound), but fixed the duties on merchandise passing either way between Porto Rico and the United States proper at 15 per cent. of the regular rates. It provided at the same time for free trade between the island and the United States so soon as the legislative assembly should have adopted a system of local taxation to meet the necessities of the civil government. The Hollander Act, approved January 31, 1901, provided property, inheritance, and excise taxes, and six months later Porto Rico gained absolutely free-trade relations with the rest of the United States. The customs duties collected during the period then ended were refunded to Porto Rico for her own uses.

The island is today the scene of the most scientific and determined campaign ever waged in any land against illiteracy. Writing in 1898, a reliable American author asserted that 87 per cent. of the population were unable to read or write, and that Guatemala was the only country in America with a worse showing. Governor Allen himself stated, in 1901, that three-fourths of the population over ten years of age were unable to read the newspapers.

Since the organization of the civil government about one-third of the Insular revenues has been devoted to education: in the last fiscal year $817,814. A large number of comfortable school buildings have been erected and properly equipped. Competent teachers, both Americans and natives, have been engaged, and paid reasonable salaries, so that the reproachful old proverb, "As hungry as a schoolmaster," is no longer current on the island. In June, 1903, at the close of the school year, there were 1,087 public schools in operation, attended by 70,216 pupils, as compared with only 538 schools with an enrollment of 40,000 pupils at the end of the year 1897, in the Spanish regime.

The natives themselves desire that the Americanization of the island be as complete and rapid as possible, and special efforts for the general introduction of the English language are being made. The initiative was taken in 1898 by those who delighted to greet our soldiers with the exclamation, "I speak de Inglish," which became so common as to enrich our language with a new synonym for the Porto Rican native, namely, a "spigotty." Besides its use in official circles, English already predominates in business, while in the public schools 100 Americans are employed to teach it to the pupils of every grade as well as to the native teachers. One of the earliest acts of the Assembly was to make appropriation for the education in the schools and colleges of the United States of forty-five Porto Rican students, selected by competitive examination, who have agreed to return to the island at the expiration of their scholarships, and meanwhile are acquitting themselves very creditably, in some instances standing at the head of their classes. The people of Porto Rico are full of gratitude to the Americans who are striving so earnestly to remove from the island the greatest obstacle to its advancement.

Since the establishment of free-trade the commercial movement between Porto Rico and the United States has greatly increased. Foreign commerce is also expanding. The balance of trade in the last fiscal year was

THE RESIDENCE OF THE SECRETARY OF PORTO RICO—OVERLOOKING SAN JUAN HARBOR

in favor of the island for the first time since the loss of the Spanish preferential market, while wages in Porto Rico have noticeably increased since the extension to the island of our customs-tariff system.

The island presents many promising opportunities for investment. The people desire to borrow money for building operations and

THE PLAZA AT PONCE LAID OUT AS A PARK

other business enterprises, and are willing to give excellent security and a high rate of interest. American building associations and loan and trust companies should therefore find a profitable field there. The best opportunities for industrial investments are in connection with the agricultural resources of the island. Only one-fifth of the total area of the island is now under cultivation, and the average size of the 39,000 farms is about forty-five acres, of which average only twelve acres are cultivated. There is plenty of room for agricultural expansion under American auspices. There is profit in the cultivation of cane-sugar, coffee, tobacco, bananas, oranges, pineapples, limes, guavas, and some other fruits, ginger-root, indigo, the vanilla bean, the maguey and yucca plants, maize, yams, sweet potatoes, beans, onions, etc. Besides stock-raising and apiculture, there are several manufacturing enterprises that would seem to justify the favorable consideration of capitalists in the United States. These are new sugar "cen-

A TYPICAL CITY PLAZA

BOYS CLIMBING FOR COCOANUTS NEAR AGUADILLA

THE GOVERNOR'S PALACE AT SAN JUAN

trals," cigar factories, tanneries, chocolate factories, fruit and vegetable canneries, and factories for wicker furniture, hammocks, and basketry, and any other enterprises which would utilize and advance to marketable condition the natural products of the island.

Coffee is to Porto Rico what sugar is to Cuba—the backbone of her welfare. About 63 per cent. of her population are engaged in agriculture, and they also raise cane sugar, tobacco, and citrus fruits. The great hurricane of 1899 seriously reduced the area under cultivation, but the lost ground has been gradually regained, and the crop of 1902 amounted to about 40,000,000 pounds, nearly all of which was taken by France and Cuba. The high import duties imposed by France and Spain in recent years have restricted the exportation of this staple, and planters now look confidently to the United States for their future great market. The excellent quality of Porto Rico coffee will ensure it widespread popularity in this country as soon as it becomes better known. We have generously assisted Cuba through the reciprocity treaty, and now we can insure continued prosperity to Porto Rico by drinking Porto Rico coffee. In the last fiscal year we imported from foreign countries 915,000,000 pounds of coffee, of which 726,000,000 were furnished by Brazil alone.

Now that Porto Rico is rapidly becoming Americanized there are opportunities for the employment of skilled artisans and mechanics, as well as for a limited number of professional persons. The United States Department of Labor in 1901 called attention to a supposed demand for those engaged in a large list of pursuits, including physicians, dentists, lawyers, civil engineers, surveyors, teachers, mechanics, plumbers, printers, tin-

THE FIRST COMPANY OF PORTO RICANS ENLISTED IN THE UNITED STATES COLONIAL ARMY

AN AMERICAN PUBLIC SCHOOL AT CAGUAS

A STREET-SWEEPING SQUAD AT SAN JUAN

A SUBURBAN HOME NEAR MAYAGUEZ

ners, barbers, cooks, nurses, dressmakers, etc. In some of the listed occupations, however, the existing demand is far narrower than one would suppose, and while a few Americans might readily find employment and succeed, more might glut the market. The only safe course for intending emigrants is, first, to secure competent advice. The Insular Bureau in the War Department no longer concerns itself with Porto Rico, but Commissioner Degetau, who is thoroughly conversant with the true situation, cheerfully furnishes information to interested inquirers.

American tourists are only just beginning to appreciate the attractiveness of Porto Rico. One may make a sojourn of three or four weeks on the island, enjoying the best available accommodations, and return to New York, with a total outlay of only $200.

Everything to be expected of progressive health authorities is being done. A system of sewers, hitherto known, has been introduced in the towns, surface drainage has been given careful attention, and the water-supply adequately protected against contamination. The schools, jails, and asylums have been made sanitary and wholesome, the people are being vaccinated, and their food-supplies are inspected by an efficient Board of Health, to prevent adulteration or improper marking. That there has been a surprising improvement in public health is evidenced by the vital statistics, especially as regards gastro-intestinal and other preventable diseases.

A HOLIDAY JAUNT IN AN OX-CART

PRIMITIVE WASHING METHODS STILL IN VOGUE

Porto Rico, with its perpetual spring climate and picturesque features of life and landscape, has all the elements of a delightful winter-resort for Americans. Although within the torrid zone, the prevailing temperature is about 70° Fahrenheit. It seldom rises above 80° and almost never above 98°, and does not fall below 58°, which makes an extreme range of only 40°. The rainy season, which includes the hot months, begins in May or June and ends in September. The pleasantest season for a visit is from November to April, but even during the summer months the heat is never so oppressive as in Washington, for the atmosphere is constantly freshened by cool breezes from the sea. The only sultriness is experienced during a brief transition period between seasons. In the interior an irregular mountain range rises in one peak to an altitude above sea of no less than 3,609 feet, and along this range are many ideal situations—notably, Aibonito, with an elevation of about 2,000 feet—for the establishment of first-class hotels and sanatoria for weary or restless Americans.

The dispassionate friends of Porto Rico do not maintain that the island is now qualified for Statehood, nor even ripe for Territorial government—her manifest destiny; but they do insist that it is manifestly unfair to contrast the present condition of the natives, as some detractors do, with that of the citizens of Pennsylvania or California. The only logical comparison lies between the Porto Ricans of today and of 1898, and they have now, undoubtedly, a better understanding of the form and genius of their new institutions. Their patriotism has been stimulated by the Porto Rican Provisional Regiment, composed of two battalions of enlisted natives, officered by Americans; by the public celebration of our National anniversaries; by the wholesome influence of the public schools; and by the abundant evidences on every side of the wonderful progress achieved since the advent of the Americans.

A NATIVE HOUSE MADE OF BARK

PROFESSIONAL TRAINING FOR BUSINESS

WHAT COLLEGES AND UNIVERSITIES ARE DOING TO PUT SUCH TRAINING ON THE LEVEL OF STUDY FOR LAW AND MEDICINE AND OTHER PROFESSIONS—THE COURSES OFFERED—THE GROWING FAVOR IN WHICH BUSINESS MEN HOLD MEN OF COLLEGE TRAINING

BY

HARLOW STAFFORD PERSON, Ph. D.

ACTING SECRETARY OF THE AMOS TUCK SCHOOL OF ADMINISTRATION AND FINANCE, DARTMOUTH COLLEGE

THE higher institutions of learning in the United States are extending their teaching to the training of men for the world of affairs. Law, medicine, theology, engineering, and teaching have the rank of professions, and the necessity for expert training for these careers is no longer questioned. Business as such has until recently been allowed to shift for itself. Here was one field, so it was said, in which a university education could be of no practical value. This was no place for theory. Business must be learned in the thick of the struggle. The four years devoted to a college education could not be spared from the apprenticeship essential to business success.

A change of attitude is now taking place on the part of the colleges, and the business world has met the college half-way. Business has become vast and complex. For the large problems now confronting it large men are needed. The success of the great corporation today depends primarily upon the possibility of securing not capital, but brains. Weakness in management cannot be tolerated. The price of inefficiency is failure. The business community has been compelled in self-defense to turn for aid to the institutions which have served other professions so faithfully.

Not all the universities have accepted the new task willingly, and even in those which have are many men who look with concern upon this attempt to "commercialize" collegiate instruction and to divert it from scholarly and liberal pursuits. It is asserted that institutions of learning are now to be employed in teaching men to drive sharper bargains and to magnify the importance of mere money-getting. But this is to misinterpret the spirit of the movement. Its purpose, beyond the obvious one of providing a sound business training, is, by means of the disciplined mind and the matured judgment, to develop a greater sense of social responsibility, a more generous and sympathetic view of commercial welfare, a spirit of self-sacrifice at present so foreign to the world of affairs. If it is replied that there can be no such thing as sentiment in business and that each man must look out for himself, this answer must be regarded as a severe arraignment of the existing order and a most effective argument for sounder and broader business training. A system of business education has no defense that fails to raise the level of industrial negotiation.

The institutions that have undertaken this task insist that business can be taught. The multitude of details, varying with each industry and with the individuality of its director, must obviously be acquired in the industry itself, but the underlying principles that establish the relationship between an industry and the business world in general are proper subjects of instruction. Educational institutions can train for business so soon as businesses have evolved a body of principles capable of systematization and of scientific analysis. In this task of systematization, or even in the discovery of the principles themselves, very little of direct aid can be looked for from the business men who are unaccustomed to the consideration of their businesses from the pedagogical standpoint. This is the problem for the schools.

The pioneer in this movement was the

Wharton School, associated with the University of Pennsylvania, founded in 1881. It was nearly twenty years thereafter, however, before the desirability of such training was sufficiently recognized to lead to the organization of similar courses in other institutions. In 1898 the universities of Chicago, California, and Ohio announced work of the same general character. They have been followed by the universities of Vermont, Michigan, New York, Wisconsin, Dartmouth College, the University of Illinois, and the University of Iowa. The organization of the work differs somewhat in the different institutions, but these variations can all be included under two general plans:

First, courses of study offered as a part of the university curriculum, open as electives to students, with a certain degree of sequence and unity in the work, assured through faculty supervision; and.

Second, distinct schools in which definite requirements are made for the completion of an organized course, with or without recognition at the end by a specific degree other than the customary academic degree.

The form of organization is not necessarily of importance, yet the character of the work done will eventually be shaped largely thereby. A well-organized "school" gives compactness to the work, renders possible an arbitrariness in requirements often necessary to insure all-round training, permits heavier demands and a more rapid pace, allows of a discipline that banishes the irresponsibility of academic life, thereby facilitating entrance upon the rigors of business, and develops an *esprit de corps* among the students that is a spur to effort. On the other hand, courses of training for business offered as electives in the general curriculum, granting maturity of mind and power of selection, have the advantage of being capable of introduction into the general course without disturbing the university's organization or increasing its machinery. It follows that the "schools" will, as time goes on, become more narrowly technical and will train their students for specific careers, whereas the university course will attempt only to offer such training as will give a broad underlying foundation for business in general. The colleges and universities have yet, however, made no such sharp distinction. The work is in brief as follows:

The University of Ohio offers a four years' undergraduate course in commerce and administration, in which the first two years consist of general college work, the last two of non-technical studies along business lines. This leads to the degree of bachelor of philosophy.

Iowa's course in commerce and administration is similar in organization. The student may become a candidate for one of the three degrees of bachelor of arts, bachelor of philosophy, or bachelor of science.

California's College of Commerce bases its business courses upon two years of general culture work. The degree of bachelor of science is given, and graduate work is advised for those desiring more extensive specialization.

Michigan enrolls students in its courses in higher commercial education in the junior year, and offers two years' work leading to the degree of bachelor of arts. Work of a more highly specialized character is offered, for which the degree of master of arts is given.

Wisconsin's School of Commerce offers a four years' undergraduate course, which has a commercial tone from the beginning, although a considerable amount of general college work is introduced. A baccalaureate degree not yet decided upon is to be given.

The Wharton School at the University of Pennsylvania and the College of Commerce and Administration of the University of Chicago both offer undergraduate courses of four years, the first two years consisting largely of general college work.

Chicago announces during the last two years courses of training for specific careers. Pennsylvania's course leads to the degree of bachelor of science in economics, that of Chicago to bachelor of philosophy.

The courses of training for business in the University of Illinois are much more specialized than any yet mentioned. The first two years are rather general in their nature; the last two lead to specific businesses and offer courses of a highly technical character. The degree of bachelor of arts is given.

The Amos Tuck School of Administration and Finance connected with Dartmouth College offers a two years' course based upon three years of college work. The first year is specialized, but narrowly so. The second year is graduate and highly specialized and leads to the degree of master of commercial science.

The School of Commerce, Accounts, and Finance associated with New York University has laid emphasis thus far upon preparation for professional accountancy. A course in commerce and finance, intended likewise to be professional, has recently been added. These are both three-year courses, leading to the degree of bachelor of commercial science. The sessions are entirely in the evening.

The school meets the needs primarily of young men actively engaged in business, and is therefore fulfilling a different purpose from the schools already described.

All the schools except that of New York University require a certain amount of general college work as a prerequisite. This distinguishes them sharply from the so-called "commercial college," in which the instruction consists largely of clerical accomplishments, such as stenography, penmanship, and bookkeeping, and in which no preparation is necessary except in the most elementary branches. The Tuck School at Dartmouth is the most extreme, demanding a bachelor's degree for entrance upon the commercial work, making the concession, however, that the first year of its two-years' course may dovetail into the work of seniors in the college who have fulfilled the requirements. Most of the institutions expect two years of preliminary work, consisting of the usual college courses in mathematics, the sciences, languages, history, and economics. During this preliminary period the student is introduced, in some institutions, to the elementary phases of his later work. It is the general opinion, however, that this period of preparation should be undisturbed by the invasion of commercial work, for such work introduced thus early has a tendency to absorb a young man's attention before his mind has been disciplined to handle it to advantage, and deprives him of his only opportunity to secure anything that approaches a general education.

Coming now to the commercial courses themselves, certain work is regarded by most of the institutions as essential for all students, regardless of the business for which they are preparing themselves. This includes:

(1) Business law, which involves a brief consideration of contracts, sales, bills and notes, carriers, agency, and corporations, the object being not to train the student to be an expert in law, but to equip him for the better administration of his business; not to make it possible for him to dispense with the services of a lawyer, but rather to enable him to know when to seek legal advice.

(2) Corporation finance, including a knowledge of securities, their methods of handling, the financing of large enterprises, and the workings of the money market.

(3) Modern language—German, French, and Spanish—which is of growing importance, as there are very few businesses of any extent today that are not engaged in international negotiation.

(4) Domestic and foreign trade, including commercial geography or the distribution and handling of commercial products; the technique of industry, covering sources of raw material, processes of manufacture, and markets; transportation, both domestic and foreign, with the methods and facilities employed.

(5) Modern advanced accounting and auditing. In addition, the sciences, especially chemistry physics, and mineralogy, are prescribed for some businesses, particularly in the field of manufacturing, and in some schools elementary courses in engineering are offered.

With these courses as a basis, a number of institutions are offering training for specific careers. Thus far they have quite generally confined themselves to banking and private finance, transportation and insurance. Training for journalism is announced in one or two instances, but this has not become general, for it is recognized that the best preparation for this career is to be found in a thorough equipment in English, history, economics, and the problems of present-day industry rather than in instruction in the art of journalistic work.

It is interesting to observe the manner in which Yale and Harvard have met the demand for business courses. Yale, to quote the words of a member of its faculty, "makes no effort to offer such courses as are usually included in the schools of commerce. Our policy is rather to train the students—largely prospective business men—in the commercial and industrial history of the world and familiarize them with the principles involved in commercial transactions and instruments." In spite of this disavowal, Yale offers a number of courses practically identical with those found in the commercial work of other institutions. Instruction is offered, for example, in the financial and technical railroad problems, the money market, corporation securities, commercial documents, promotion, operation, and financing of trusts, and finally an extended course on fire and life insurance by the heads of prominent insurance companies, which is the equal of anything offered in any of the schools. Harvard offers a course on insurance, and under the general title, "Courses Preparing for a Business Career," announces, among others, a course on the principles of accounting.

From the standpoint of the business com-

munity today a degree is of no importance. From the student's standpoint it is a much-desired recognition of work done. If business is to become eventually a profession in the best sense, it is desirable that a degree should be created as significant as that now conferred upon engineers. The customary academic degrees are not adequate.

The attitude of the business community toward the college man trained for business is becoming constantly more favorable, as it is toward college men in general. Formerly the prejudice against them was strong, and it was in part justifiable. Many a young man just out of college, with exaggerated ideas of his attainments and capacity, was unwilling to gain his experience in humble positions. An unfortunate experience with one individual was often sufficient to prejudice a business man against the college graduates as a class. This prejudice seems to be disappearing before the more rational attitude of the college graduate and the greater appreciation of his real worth by his employer. It is becoming common for many large concerns, such as the electric companies and the life-insurance companies, to send representatives to the colleges every spring to select the most desirable men from the graduating classes. These companies frankly admit the superiority of the college-trained man. President Tuttle, of the Boston & Maine Railroad, perhaps expresses the view of the majority of broad-minded business men when he says: "In selecting help we should give preference to a college-educated man, all other things being equal, and we have no prejudice against them. As a general thing, we find college-bred men capable of reaching a higher standard in the service in shorter time than those who lack the mental training that goes with education, provided they are willing to take hold in a subordinate place and work as others are willing to work who have not had their advantages."

The superiority of the college-trained man in business once admitted, the demand for men specially trained for this work follows as a matter of course. Such objections as come from the business community come from what may be regarded as special sources. Men who have built up successful businesses through personal invention and skill resent the suggestion that any school can teach a young man their methods. The obvious reply is that no school would attempt to do so. For businesses of this character (and they are mainly manufacturing businesses) only the broad underlying principles affecting the industry would be the subject of instruction. Detailed study has confined itself thus far to those businesses which are either quasi-public in their nature or whose organization is a matter of such general knowledge that they have become affected with a public interest.

That the demand for especially trained men has already begun is shown by letters from the directors of some of the schools. One writes:

> "I could have placed a dozen graduates this year if I had had them. I have been asked to supply three or four graduates for administrative work in one of the great electric companies, and a similar request has come from at least one of the larger insurance companies. One or two railroad men have undertaken to provide places in auditing, accounting, and similar departments for students through the summer, in order to test them so that any man specially fitted for the work might find a permanent place with them. One of the largest auditing companies has asked me for men whom I could not supply. The point is that the business men are interested enough to give the students opportunities to get acquainted with the practical side and to try them."

The attitude of the students themselves toward this new form of education is not the least gratifying phase of the movement. Attracted by the opportunities opening everywhere for the exercise of power and responsibility, college men are inclining more and more toward business as a career. Statistics have frequently been compiled which show this tendency. Of this year's graduating class at Yale, for example, numbering 313, 112 will go into business, 85 into law, 24 into medicine, 25 into teaching, 9 into the ministry, and 26 will do special work, in many cases of a business character. It should be noted further that many who pursue law studies have business as their aim and should be classed with business men. It is through the legal profession that our business life is receiving many of its strongest recruits. There seems to be no good reason for doubting that business will in time follow law and medicine and rise to the dignity of a real profession.

OUR ENORMOUS PENSION ROLL

THE NEW SERVICE-PENSION ORDER—WHY IT DOES NOT SATISFY—COMMISSIONER WARE ON THE EVILS OF THE MEDICAL EXAMINATION SYSTEM—HUGE DISBURSEMENTS FOR PENSIONS—THE TOTAL AMOUNT ALREADY PAID GREATER THAN THE NATIONAL DEBT AT THE CLOSE OF THE CIVIL WAR

BY

ROBERT LINCOLN O'BRIEN

ONE million names are on the Federal pension roll. All the employees of all American railroads, from their presidents down to the track-walkers, number but few more. The annual pay-roll of the railroads is $676,000,000 a year; the pension payments are $137,000,000—fully one-fifth as much.

This was the situation into which Commissioner Ware's now famous service-pension order of March 17th fell. It opens a new and important chapter in our pension history, and one that can only be understood in the light of developments of the last fourteen years. It may be described as a service-pension system, liberal by comparison with all past standards, and still unsatisfying. Mr. Ware, in brief, has announced that the Pension Office will hereafter regard the fact that a veteran has reached the age of sixty-two as proof that he is half-incapacitated "from the performance of manual labor," and so pensionable under the Act of 1890 at its minimum rating of $6 a month. Veterans reaching seventy years of age are regarded as wholly incapacitated for earning a support by manual labor, and so entitled to the maximum rating, under that law, of $12. The other ages come in between; the sixty-five-year-old veterans will be entitled to $8, and the sixty-eight-year-old veterans to $10. But by what authority, it has been steadily asked, does the administration do this, for of course the Pension Commissioner does not act on his own responsibility alone in so radical a departure.

The Pension Office has heretofore held that any person who reaches the age of seventy-five is entitled to the maximum rating, under the act of 1890, of $12, for "senility," and any one who has reached sixty-five is entitled to $6, for "partial senility," even where there are no pensionable disabilities. Mr. Ware has simply changed these boundaries a little. The act of 1890, therefore, was on the way to become a service-pension by its own force, and he has simply hastened its progress in that direction. There was, to be sure, a provision that a sixty-five-year-old soldier could not have a pension on age alone if he appeared to have "unusual vigor and ability for the performance of manual labor in one of that age"—but this was a matter not easy for the government to prove and so has been for several years a dead letter.

This new arrangement is liberal by comparison with the terms and rates of service-pensions which have been authorized by Congress on the expiration of a certain period after each of our former wars. In 1818, thirty-five years after the close of the Revolution, the first general act was passed granting a pension for service only. But its beneficiaries were required to be indigent and in need of assistance, a condition which has no place in Mr. Ware's present scheme. But even this law was regarded as too liberal, and after it had been in operation two years Congress passed what was known as "the alarm act," which required all pensioners then on the roll to furnish a schedule of the amount of property then in their possession. Pensioners were dropped who owned even $150 worth of property. These laws from 1828 on were gradually liberalized as the number of survivors became fewer.

The first law granting a pension for service alone in the war of 1812 was passed fifty-six years after its close. Thirty-nine years after the close of the Mexican War a service-pension was granted to participants and their widows on the condition that the beneficiary must be sixty-two years old or disabled or dependent. In none of these cases did the original service-pension act ever provide more than $8 a month. So with our various Indian wars.

Service-pensions have been granted for all military service up to 1858, but never before for Civil War service.

But why does not Mr. Ware's order satisfy? Why do the organs of the pension interests announce straightway that they will keep up their fight for the passage of a regular service-pension bill such as that which has been introduced by Mr. Dolliver in the Senate and embodying substantially the recommendations of the Grand Army Committee assigned to study this subject? Because $6 is not the $12 demanded. A regular bill, too, would liberalize the law regarding widows' pensions which this order does not touch. But the difference is not merely one of dollars. A $12 rate would put a stop to the disgraceful haggling over disabilities which has characterized the administration of the act of 1890. A $6 rate will not. The man who can get $6 a month because he is sixty-two wants to know at once if he has not some infirmities which would bring his rating up to $10 or $12. The wholesome effects of cleaning the slate, by giving every applicant of ninety days' service a pension on an admitted fact of record, like age, have been lost. There will still be the same striving to convince the Pension Office of disabilities and infirmities up to the time the applicants reach seventy years, when such striving ceases to do them any good.

SOURCE OF DISABILITY

The great body of Civil War pensioners are of two classes—beneficiaries under the "general law," and the much more numerous body who came in under the Act of 1890. The old general law grants pensions only for disabilities incurred in the service. The act of 1890 grants a pension for disabilities, whatever their origin, so long as they do not result from the applicant's own vicious habits.

Most of the machinery of the Pension Office is utilized in measuring degrees of disability or in weighing human ailments. It is impossible to do this accurately, and the difficulty is increased by the close political relations that may exist between the examiner and the applicant. The medical problem of the Pension Bureau is difficult even under most favorable conditions. But we have no approximation to such conditions. A huge system of money payments, based on allegations of ill health, has an unfortunate tendency to focus public attention upon the diseases and infirmities of nearly a million people. A straight service-pension would sweep away this measuring of diseases and disabilities except in cases where the applicant asks for a higher rating than the act of 1890 gives, and that requires under the general law a rather substantial infirmity.

It has been estimated that a regular service-pension law would save $400,000 a year in the cost of medical examination, and that, after the first few years during which the adjudication of the new applications could be completed, the working force of the Pension Office, now numbering 1,714, might be reduced one-half. These are the incidental economies of a law which would add from $25,000,000 to $75,000,000 a year to the pension roll, whereas the present substitute for it will add only $5,000,000 or $6,000,000 a year at first. Its strength politically comes from the fact that its added cost will come very gradually, as the great body of now unpensioned veterans advance along the age line to sixty-two, and sixty-five, and sixty-eight, and seventy. This progressive increase will be offset by the deaths in the roll as a whole, so that there will never be any great visible increase in the cost of pensions as a result of the Ware order.

PUBLIC MORALS IMPAIRED

The most important consideration involved in the present pension system is its effect on public morals. For example, Congressman Gibson, of Tennessee, of the Knoxville district, a stanch friend of the veterans and long a member of one of the House pension committees, says that if there is in his district an honorably discharged veteran of the Union Army who is not now drawing a pension Gibson has yet to know it. He believes that practically all the old soldiers about Knoxville are already on the roll. How did they get there?

According to the statute, Mr. Gibson's veteran constituents who receive $12 a month must be "suffering from mental or physical disability of a permanent character, not the result of their own vicious habits, which so incapacitates them from the performance of manual labor as to render them unable to earn a support." Those who get the mini-

mum rating of $6 a month must be suffering from disabilities which "disable the claimant in a degree materially affecting his capacity for earning a support by manual labor." And the liberality of this latter provision is largely the outgrowth of Bureau rulings rather than any plain mandate of the original statute.

What do these words mean? Is it possible that every man residing in that district who served ninety days in the Union Army is in so bad a condition? If so, the fearful ravages of war have never been half described.

The number of veterans who, before Ware's order, could not get a pension under existing law—that is, if they are "willing to strain a point"—is extremely small. Public opinion everywhere is very tolerant of questionable methods of getting money out of the United States Government. A thoughtful resident of a small community in Vermont gives this picture of the pension system there.

"Every old soldier except one in this village has a pension, and it is a matter of general regret in the community that he is too honest to apply, since it is feared that he may yet require aid from the town. Public sentiment runs high against any man who will take the risk of subjecting his own neighbors to the expense of supporting him simply because he is too conscientious to conform to requirements for getting a pension.

"A few years ago there was another man who had made oft-repeated and Herculean efforts to get a pension, but was so confoundedly healthy that he failed. But by good fortune, a year or two ago, he finally began to feel pains in various portions of his anatomy, clearly rheumatism due to exposure in the Civil War, and so secured a good allowance. Our town therefore feels that with one exception we are getting what we ought out of the Pension Office. Some increases are, however, desired."

"Could I get a pension, provided I had a record of service, was willing to take oath to whatever seemed necessary, and was in friendly relations with my local board?" I asked one of the greatest living authorities on pension procedure. It may be noted that I was born since the war.

"You could, without the slightest doubt," said he.

The case is well authenticated of a man drawing a pension for deafness incurred in the service when his playmates remember that this infirmity was so pronounced in boyhood that he always sat in the front seat at school, and was even called by them "Deafie." Of course, no one can say that this infirmity may not have been greatly accentuated by war service.

The story of the man who applied for a pension for injuries received by "taking fright at a false alarm" has become classical. In the old Gulf States, where colored veterans and a few northern people are about the only Federal pensioners, the desire to get at the Federal Treasury is no less strong.

"I had a man come to me," relates an Alabaman, "to say that he wanted to get a general law pension for injuries really received from being thrown out of a buggy at Racine, Wisconsin, ten years after the war. He acknowledged that the procedure was not quite regular, but he justified his course by saying that it was only a question of time when every Union soldier would get a pension, and as he might not live to see that day himself, he wanted to take time by the forelock by getting his share now."

Every town has its jokes of that sort. This is one of the pronounced evils of a system of payments based on disabilities from which a straight service-pension system would give a welcome relief. At least, it should greatly reduce the evil. There is a true story of a man who drew a pension for total deafness on the certificate of an examining board and was discovered in charge of a telephone instrument. One man who was a pensioner on the score of total blindness was found reading newspapers and doing cabinet work; another man, officially certified blind by the United States Government, was encountered in a jewelry shop engaged in delicate mechanical tasks, with a magnifying glass stuck in his eye. A man drawing $72 a month because "he required the regular aid and attendance of another person" on account of his disabilities, was seen industriously painting the side of a four-story warehouse, having drawn himself up on a twenty-foot ladder, handling both the ropes without assistance. While these cases are, of course, exceptional, their existence even in rare instances is proof of defects in the medical examination system.

Every Pension Commissioner sees that our present system is dictated by popular sentiment, and that its chief defect is the possible use of political influence in passing upon the infirmities of an applicant.

Commissioner Ware, in his last annual report, significantly says:

"I recommend a different method of examining applicants. The present system is most uncertain, expensive, and unsatisfactory. The system is liable to outside control and political dictation, and generates an enormous amount of political friction.

"Those who are examined for disabilities desire to have the very best medical knowledge which is attainable. The pathological sequences of many diseases and disabilities are so obscure and remote that they can only be detected by careful examination conducted by those of learning and experience. The government needs protection as well."

INDIRECT PENSIONS

But direct payments from the Federal treasury fall far short of telling the whole pension story. Every one of the States which seceded has a pension system of its own, and nearly all of them provide Soldiers' Homes for Confederate veterans. The border States of Maryland, Kentucky, and Missouri, which did not formally leave the Union, have no regular pension system, but they either provide or contribute toward homes for Confederate soldiers.

Tennessee, in deference to the inhabitants of its eastern countries who were ruggedly loyal to the Union, makes veterans of either army who served in a Tennessee regiment eligible to a State pension. No veteran, however, can receive at the same time a pension from another State or from the Federal government. And since the law prescribes further conditions, which make it much harder to secure a pension at Nashville than at Washington, Union gratuity in Tennessee is a dead letter.

Northern States also have supplemental systems of veterans' aid, chiefly Soldiers' Homes, of which there are thirty-one State institutions in the North, besides the ten national homes. Massachusetts, which is most generous in her money payments, contributes more in State pensions, known as "State aid," to her own Union soldiers than any southern State except Georgia pays to its Confederate veterans.

Practically all the States, North and South, exempt veterans from certain taxes and license fees, which deprive the State of ordinary revenue and form an indirect tax in aid of the soldier. In employment by municipalities, by States and by the national government, veterans enjoy a preference, being thus relieved from the severest terms of competition, at cost to the taxpayer.

Random instances taken from the State legislation of the last twelve years show the nature of these exemptions. California, for example, exempts honorably discharged soldiers and sailors from the road poll-tax. Indiana exempts veterans from work on the roads. North Carolina gives maimed Confederate soldiers a free peddler's license, and by a later law grants the same privilege to all her disabled veterans. Vermont relieves Union veterans from the poll-tax. Florida makes generous land grants in support of Confederate Soldiers' Homes. Massachusetts exempts from execution property not exceeding $2,000 in value, belonging to veterans who received certain injuries during the Civil War, when the value of their whole property does not exceed $5,000.

In Maine, veterans who receive State pensions are excused from the poll-tax. In Kansas the real estate of a Grand Army Post, not exceeding half an acre of ground, with buildings thereon, is free of taxation. Georgia allows disabled Confederate veterans to conduct certain enterprises without the customary license. But with a tender regard for their moral welfare, the State excepts from this privilege certain forms of brokerage, such as dealing in futures. Formerly the sale of lightning-rods was excepted.

South Carolina attempts to give the veterans a monopoly of medicine-peddling. Iowa exempts from taxation $800 worth of property of Union veterans or their widows. These are only samples from the pages of recent statute books. In brief, veterans are a privileged class, both North and South.

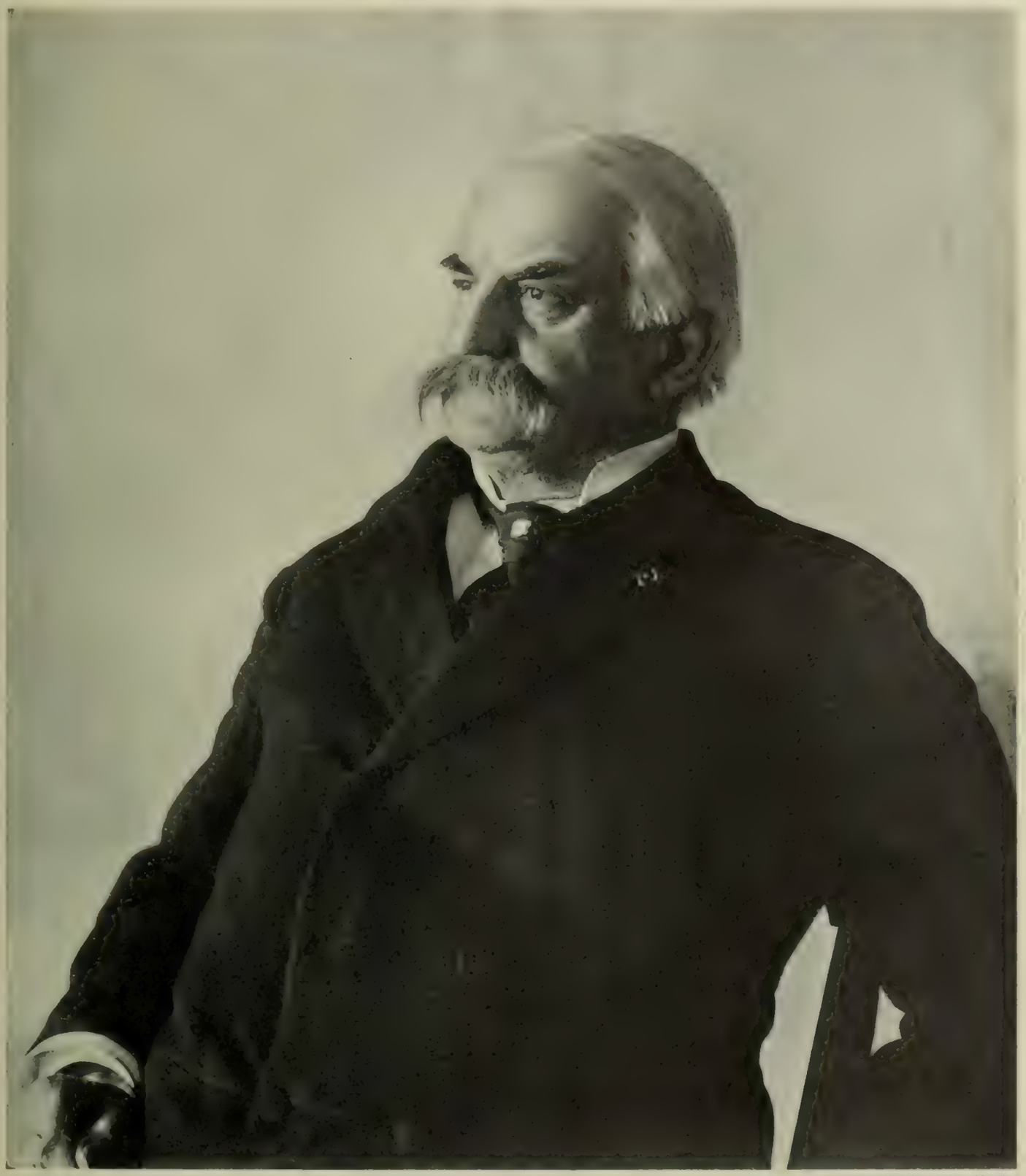
Besides the immediate beneficiaries of the pension system, the butchers and bakers from the Atlantic to the Pacific are directly interested in pensions. Pension day in many communities is almost as much of a signal for balancing accounts as the Chinese New Year. Every country store-keeper in the pension belt has valued patrons who buy on credit in each quarter up to the amount of their next pension check, which is regularly turned in on its arrival to square the account.

To take by law $140,000,000 from the pockets of all the people by taxing sugar, tobacco, distilled spirits and imported goods, and to turn this great stream of money into the pockets of pensioners, constitutes one

of the most notable transfers of money through operation of law of which there is any record. It is an open question, moreover, whether the Americans who pay this money in taxes are any richer than those who receive it in pensions.

HUGE PENSION DISBURSEMENTS

Here, in view of the tremendous expenditures now being made on pension account, it is well to sum up just what the pension disbursements really mean. On the theory that people enjoy best what comes to them



Photographed by Arthur Hewitt

PENSION COMMISSIONER EUGENE F. WARE

Who issued on March 17th the service-pension order giving pensions to all veterans sixty-two years old

most easily, it is probable that Uncle Sam's quarterly checks have acquired so firm a resting in popular affection that they seem as much to the public as the disbursements

The United States post-office, which Charles Emory Smith estimated as having on its rolls, in 1901, 200,000 persons, pays only $85,000,000 a year in salaries and wages for

Photographed by Arthur Hewitt

THE MAIN HALL OF THE PENSION BUILDING
This room is used for such ceremonial functions as inaugural balls

the railroads make in wages, though these are five times greater. But compared with other vast salary accounts, they actually do loom larger in annual totals, and the grand total reaches startling figures.

the entire service—less than two-thirds as much as the pension disbursement.

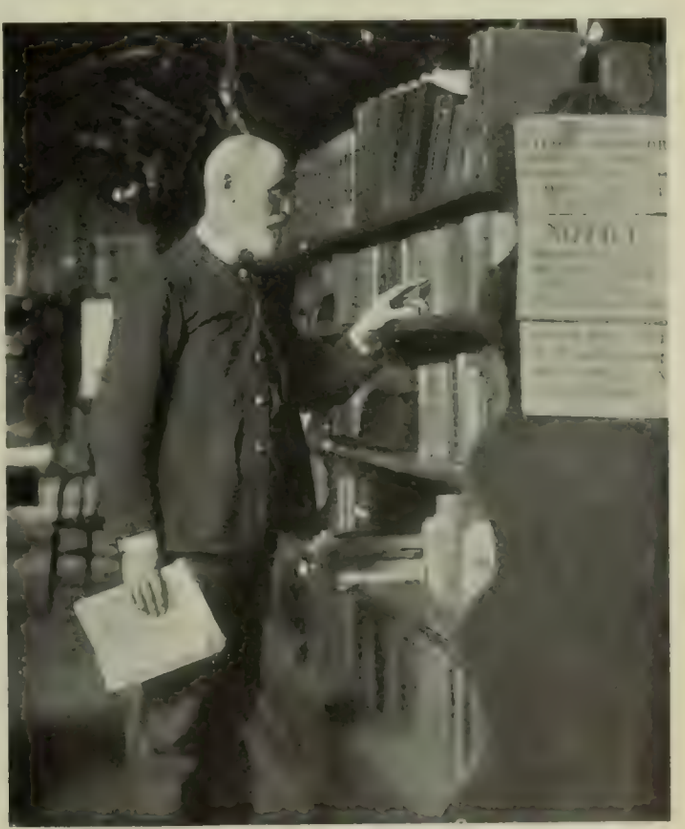
Corn is our greatest cereal crop, and Ohio is one of the great corn States; its annual harvest is worth $48,000,000. The Federal

A PENSIONER AT A SOLDIERS HOME READING THE LATEST WAR NEWS

STILL MILITANT IN DISPOSITION

pension-money paid into Ohio is $15,000,000, or almost one-third as much. Think of the long hours of toil on the Ohio farms that are necessary to mature the corn crop! Contrast its final yield with the clock-like appearance of the quarterly vouchers in

VETERAN COMPANIONS ENGAGED IN SHARPENING A RAZOR



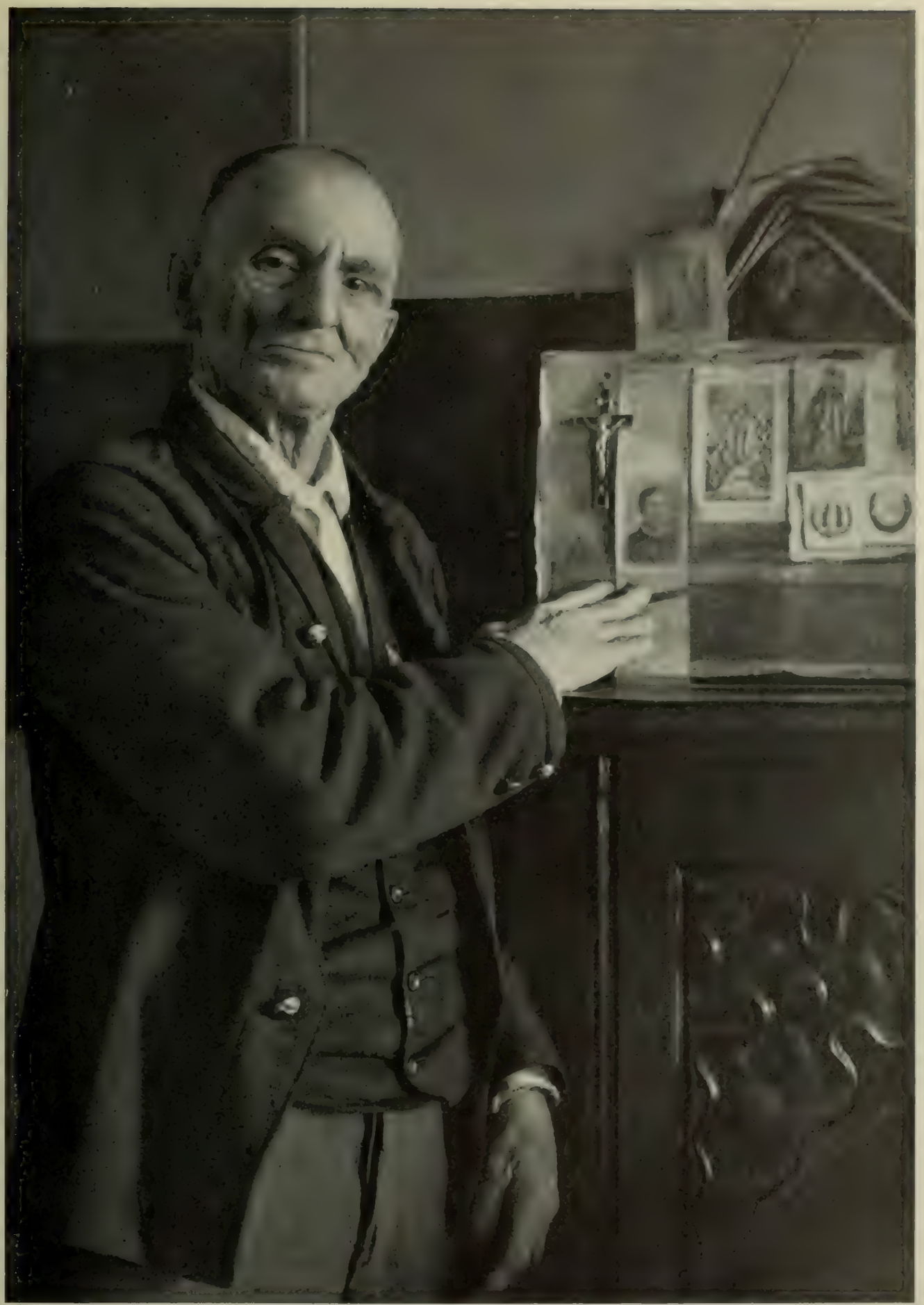
A VETERAN USING A SOLDIERS' HOME LIBRARY

A QUIET GAME IN THE DORMITORY

recognition of services performed a generation ago.

If there are five persons in the family of each pensioner or directly interested in his welfare, one-sixteenth of our population has a financial stake in the pension system. But the fraction becomes still larger in the North, which gets most of the money, and especially in the great States of the Mississippi Valley. Though there are pensioners

THE CLUB ROOM AT THE HOME



A GOOD CHURCHMAN, PROUD OF HIS RELIGIOUS RELICS

This veteran was severely wounded in the cheek

AN OLD SOLDIER'S TREASURE-BOX

A HARDY VETERAN "POLICING" THE HOME GROUNDS IN MIDWINTER

from other wars, about 95 per cent. of the total pension disbursement from the foundation of the government to the present time has been on Civil War account. The pensioners of all our other wars combined, including the Spanish and Philippine, could occupy

Photographed by Arthur Hewitt

A PENSION DEPARTMENT OFFICIAL

Photographed by Arthur Hewitt

EXAMINING PENSION RECORDS

Photographed by Arthur Hewitt

FRIEZE ON THE PENSION BUILDING AT WASHINGTON

a city of 32,000—like Bayonne, New Jersey. The Civil War pensioners today would make a city of 964,000. Our pension system is a monument to the tremendousness of the struggle over secession.

The pensions payments from July 1, 1865, to June 30th of last year have amounted to the enormous total of $2,924,178,145.93; the cost of administering the law for the same period has been $95,647,934.71, making the total expenditure thus far on pension account more than three billion and thirty-seven million dollars, or, expressed in figures, $3,037,826,080.64.

Of course, some of this money has gone to the pensioners of other wars than the Civil War, but so trifling a part in comparison that the grateful republic has paid out fully $3,000,000,000 in pensions since the last gun of the Rebellion was fired.

The national debt on January 1, 1866, had reached nearly $2,750,000,000, or about $250,000,000 less than has since been paid out on pension account. Much of this debt, too, was contracted on the paper basis, which represented various degrees of inflation, whereas the pension payments since 1873 have been on a gold basis. The huge debt which the government found piled up at the close of the war was destined to prove considerably less than the debt which had not been reduced to written form, either as notes, bonds, or paper obligations, but depended on the will of future Congresses. How the interest-bearing debt which the government still owes—borne on the Treasury records at $918,000,000—compares with the obligations which are to be met through the Pension Office in coming years cannot be accurately estimated.

ENTRANCE TO THE GROUNDS OF THE SOLDIERS' HOME AT HAMPTON, VIRGINIA

THE "BIG HOUSE" ON A COTTON PLANTATION

Photographed by J. L. Shaub, LaGrange, Ga.

MAKING COTTON PAY

THE STORY OF A PROGRESSIVE COTTON PLANTER—INDUCING SHIFTLESS NEGROES TO WORK EFFICIENTLY—GROWING SUBSIDIARY CROPS—RICH OPPORTUNITIES FOUND IN GROWING COTTON ACCORDING TO TWENTIETH-CENTURY METHODS

BY

ULRICH BONNELL PHILLIPS

COTTON has again become king. The cotton-fields of the world will not supply this year cotton enough to meet even last year's rate of consumption. And under pressure of the growing demand—and waked to effort by soaring prices—the South has roused itself to industrial activity unprecedented since the war.

Modern methods are supplanting the shiftless systems of agriculture that rose on the ruins of slavery. At first, planters rented thirty-acre "one-horse" farms to the Negroes. Merchants supplied rations of meal and pork, month by month, during the spring and summer, waiting until autumn for payment. Both landlord and merchant were obliged to inspect each debtor-tenant's crop to prevent neglect, and for their risk and trouble charged two or three prices for the land or groceries. The average Negro's unfitness for independent production made this system bad. With no working capital, with the most primitive implements and methods, and with no love of work, the Negro tenant-farmer has remained in debt from one year's end to another, and well-nigh hopeless.

Often the landlord has supplied not only the land and cabin, but also a mule, implements, seed, and fertilizer, and a little supervision as well, and received in return half the crop. In some cases the Negro supplies a part of the farm equipment and pays only one third of the crop. Administered by absentee landlords, this system is as bad as the other. A Negro of my acquaintance had agreed to pay a third of his cotton and corn crops to his landlord. When the season had passed and inquiry was made

HANDLING AN UNCOMPRESSED COTTON BALE

Photographed by Tressler, Montgomery, Ala.

THE CLUSTERED CABINS OF THE NEGRO LABORERS

why he had brought no corn for rent, he explained:

"Well, you see, boss," said he, "'twuz dis way. I tuk'n heaped all dat cawn crap on de groun', an' I wuz gwine tuh haul two loads to my crib an' den one load to yourn, an' two loads to my crib agin an' one to yourn. I hauled dem fust two loads all right, but dey wuzn't no third one fo' yo' rent." It required the services of the sheriff to collect from him.

Thousands of white farmers were also producing cotton; and as the population multiplied and the use of commercial fertilizers was extended the output of cotton was increased until during the nineties the market was over-supplied. The price of cotton fell to where it would no longer yield profit. There were hard times in the Cotton Belt. Race-friction increased, and crime was more than usually prevalent.

But the hard times brought their own cure. Labor was cheap. Accordingly, cotton mills and other factories were built and immense numbers of white families left the cotton-fields. The cotton output has been lessened in the last few years, and the price has so risen that the industry is now one of the most profitable in America. The prosperity has brought a demand for an improved system of production which is beginning to

THE LABOR PROBLEM IS TO INDUCE THE NEGROES TO DESIRE A BETTER STANDARD OF LIVING

A PLOW-GANG BREAKING OUT THE COTTON FIELD IN THE SPRING

THESE ARE THE LABORERS AND THE COTION-PICKERS AT HOME

be met. For men of initiative and ability are "going into cotton."

The story of Mr. J. W. Young, who lives near Prattville, Alabama, is perhaps the best example to be found of this twentieth-century movement.

Five years ago Mr. Young, deciding that selling ginnery outfits could no longer be the career of a typical Southerner, bought a select piece of land, contracted with satisfactory laborers, and on a small scale began cotton-planting. His farmer neighbors thought he was buying his land too dear, and that he was too liberal in his labor contracts and too reckless in his investments in patent plows and harrows, fancy cottonseed,

Photographed by Tresslar, Montgomery, Ala.

A MAMMY AT WORK BREAKING UP THE CLODS FOR PLANTING

SMALL CHILDREN PICKING COTTON

high-priced mules, and new Negro houses. The average man, indeed, by following Mr. Young's plan of large preliminary outlay, might speedily have come to grief in that conservative region. But Walton Young was the exceptional man.

He had not only vim and courage, but knowledge, and tact, and common sense. From thorough observation he had learned the things which should be known about the Negro, the mule, the land, and the staple. He won the confidence and admiration of his laborers. He indulged them in small things and always saw to their comfort, but made them work from earliest dawn to evening twilight, always under his own alert, intelligent, and kindly direction. A considerate employer, he was their master none the less. He saw personally to the feeding and housing of his mules, watched carefully the special qualities of his soil, and made judicious experiments in the treatment of his cotton plants. His very first crop was a "bumper." It opened the eyes of his neighbors to what they also might be doing.

Cotton was low, but Mr. Young sold his crop at the current rate, and bought more land, on credit, at still higher prices. The second year he sold another large crop at a rather low price, and bought more land and mules, built more Negro cabins, and contracted with more laborers. In the third year the crop was heavier than ever, but the price still low. In the fourth year the seasons were bad, and the crop only half its usual size, but the prices much improved. Finally, in 1903, the crop was not far below the average size,

Photographed by George Stark

EVEN THREE-YEAR-OLD PICKANINNIES DO THEIR SHARE AT THE PICKING SEASON

Photographed by George Stark

AN OLD MAMMY WHO HAS JUST BEEN PAID FOR HER WEEK'S PICKING

Photographed by George Stark

"WEIGHING UP" AT SUNDOWN

Each picker receives 30 or 40 cents for each 100 pounds

Photographed by George Stark

AS SOON AS A BALE IS GINNED IT IS WEIGHED, NUMBERED, AND MARKED WITH THE OWNER'S INITIALS

Photographed by George Stark

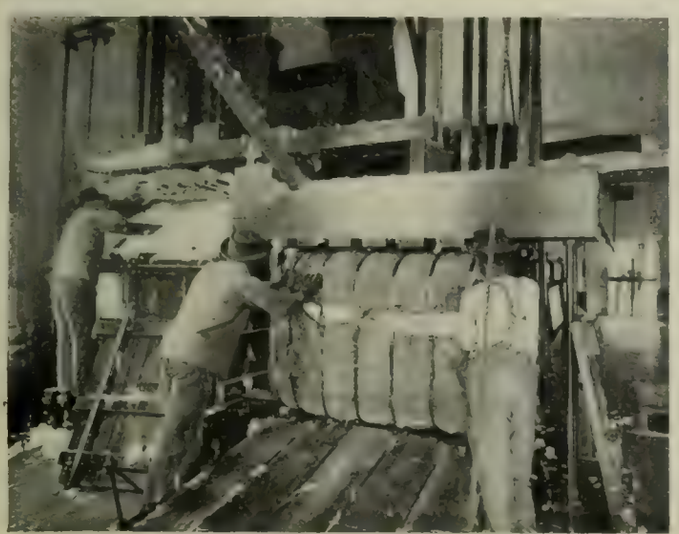
UNLOADING BALES AT THE COMPRESS

while the prices ranged between the very high figures of nine and sixteen cents a pound. This, of course, meant a very comfortable profit.

Mr. Young was producing crops of two or three times the value of the land on which they were grown. By 1901 the land adjacent to his estate was run up to a prohibitive price. A tract which had been valued at $2.50 an acre in 1890 and at $7.50 in 1898 was now held for $30 and $35. Mr. Young declined to buy at those prices, but for the past two years has been renting a tract at $2.00 and $2.50 an acre.

His plantation now embraces 450 acres of fine plateau land, of which all but a small pasture of twelve acres is under cultivation. He has no woodland and no waste land. In 1903 there were 334 acres devoted to cotton, producing, in spite of bad seasons, 215 pounds to the acre. At an average price of 12 cents per pound the crop was sold at $8,600. As a by-product, 62½ tons of cottonseed were sold for $859, which will pay for two-thirds of the fertilizer for next year's crop and still leave enough seed on hand for the new season's planting. His net cash profit, aside from the interest on the capital employed was about $2,500 a year from the cotton crop alone. This, in addition to all the table supplies, meat, eggs, meal, fruit, melons, and vegetables, is no contemptible income, especially in a region where for forty years the people have barely been able to keep body and soul together

The lands of this plantation, lying high and dry, are not well suited for corn. Accordingly, Mr. Young devotes a relatively small acreage to it and buys his grain from the West. But he has a plan to annex a district



Photographed by George Stark

BALING AND PRESSING THE COTTON

Photographed by George Stark

A VIEW OF THE COMPRESS

in the "creek bottoms" a mile away where with proper attention 50 or 75 bushels of corn may be produced to the acre. A few score acres of that land in corn will render him independent of the West except for a portion of his pork supply.

The 100 acres of upland corn last year yielded less than 2,000 bushels, the oat crop from 40 acres was 1,000 bushels; the wheat

Photographed by George Stark

AN OLD FIELD-HAND

was spoiled by rust; and a large acreage in peas (planted where other crops had already been made earlier in the season), was a failure because of a long drought in the summer. The two acres of peanuts gave a good yield of hay, and much additional hay was cut from the terrace-balks and the pea-fields. The peach-orchard of 1,200 trees, covering 10 acres, is still too young to bear fruit plentifully. A good crop of peas is usually

Photographed by George Stark

BALES READY FOR SHIPMENT TO MEMPHIS BY RIVER STEAMER

grown between the peach-tree rows. Watermelons and cantaloups are raised only for home supply, but sweet potatoes are sold in considerable quantities.

Most of the modern planters like Mr. Young grow subsidiary crops like this to absorb labor which would otherwise be idle at certain seasons or to utilize land otherwise valueless. One raises "razorback" hogs in a great river swamp where he cuts and hauls out timber in the winter. Another keeps a herd of blooded milch and beef cattle. A third has a water-power grist-mill, and uses part of his stream in summer to irrigate a market garden. A fourth devotes his spare time to strawberries, and a fifth has developed an extensive scuppernong vineyard which furnishes great quantities of white wine and vinegar. In recent years thousands have

Photographed by George Stark

COTTON-BUYERS DOING BUSINESS

The cotton here is being drawn from the wagon by suction

planted peach orchards, intending to supply fruit to the northern market, or in some instances to convert the peaches into canned goods or brandy. Mr. Young last year made an experiment with snap-beans and green peas. From six acres devoted to these crops he cleared $150, in spite of bad weather. Cotton was planted between the rows before the peas and peans were gathered, and yielded an unusual fruitage there because of the heavy fertilization which had already been more than paid for by the fancy crops. Next season he intends to plant ten acres in each of these crops, and expects to clear above $500 net profit from them.

Mr. Young has worked out his own system of handling labor. Of the plows upon his "fifteen-horse plantation," six are operated by hands working for wages and nine by "croppers" who work on shares. These croppers are practically hired laborers in a profit-sharing system. The planter furnishes the land, house, implements, and blacksmithing, the mule and its feed, and half the seed and fertilizer for the crop. He receives half the crop and pays half the marketing expenses. The cropper furnishes all the labor and pays for half the seed and fertilizer required for the thirty acres allotted to him. He is authorized to draw rations each month, which are charged to him at fair prices, with the planter standing security for the debt. Should his crop need extra labor, it is hired at his expense. The accounts are very carefully kept, and at the end of the farming year half the proceeds of the crop from his land, less the amount already drawn in advance, is paid in cash to each cropper.

To each of his hired plowmen Mr. Young gives a cabin upon the place and wages of $8 to $10 a month, according to contract. Women are hired by the day at 40 cents. All the laborers buy their own rations. These laborers cultivate 180 of the 450 acres, nearly always working in squads. In the winter and early spring the whole plowing force of the plantation works in one squad until all the land is broken up and the cotton crop planted. First a heavy, three-horse disc turn-plow cuts a broad, deep furrow, rolling the soil off to one side. Just behind follows a one-horse subsoil plow, with a long, narrow tongue, breaking the earth deep below the surface and preventing any "hard-pan" from forming that year. Then follows a second turn-plow, cutting another furrow, from which it throws the soil into the furrow of the first two plows, leaving a broad trough for the subsoiler behind—and so on.

Seed and fertilizer are placed by squads of laborers. As soon as the crop is planted the croppers withdraw to their several allotments and begin cultivating, while the hired hands continue to work in a plow-squad and a hoe-squad, each with a foreman who receives an extra wage for setting a lively pace and keeping the working-chant from dragging too slowly. As soon as the cotton plants appear above ground they must be chopped and plowed, and plowed and hoed and plowed again. From March to the first or the middle of July there is little time for rest in fair weather on the plantation. Six one-horse shallow-going plows are moving in a group in the middle of the plantation, with a dozen women and boys chopping and singing near by. Two or three children "tote" water from the spring. Every one is busy, though no one is in haste save the planter, who is now explaining the management of a balky mule, now directing the "thinning out" of a few more cotton stalks, and now trudging away across the shimmering fields to visit in turn each of the croppers and the hoe-hands.

At length the crop is "laid by," and the laborers flock from the farms to celebrate the Fourth of July and to get religion anew at the church revivals and camp-meetings. Now watermelons and peaches are ripe, and chickens just at frying size. With no more odd jobs till fodder-pulling and cotton-picking time, the darkies have their season of joy.

With the middle of August in ordinary years the cotton-bolls begin to open, and the fields must be picked again and again until the crop is gathered. The plantation force is never sufficient for the cotton-picking. Outside labor is usually to be had at the rate of 30 or 40 cents per hundred-weight picked, a rate which yields expert pickers from $1.00 to $1.60 a day. The hired hands are put upon a stint in cotton-picking season, and besides their wages receive the prevailing rate for all cotton picked beyond their stint of, say, 150 pounds per day. When working in this way the Negroes are so industrious that the planter may safely take a vacation every day, being careful only to be on hand when the baskets of cotton are weighed.

At Christmas-tide the fields are brown and bare, but the labor of breaking up the soil has already begun for the next year's crop. The darkies cannot remember that in February the ground is always water-soaked, and thus they cannot see the use of this heavy work so long before planting. The planter, therefore, finds in this season his chief labor difficulty, for the Negroes dislike to work in cold weather, and the mules sympathize with the Negroes.

In winter most of the Negroes show their shortcomings. Negro laborers are good, bad, and indifferent—mostly indifferent. Under Mr. Young's direction and inspiration the indifferent ones do good work, but they will not keep at it longer than they have to. At the end of each year there is a migration of croppers. Those who have earned a surplus are disposed to move to town and live in idleness till the surplus is gone, and those who are in debt to the planter decamp by night with their few possessions, or find some other planter needing laborers who will pay the debt for them and charge it to next year's account. The removal of many is prompted by pure shiftlessness. "Giving notice" is almost unknown.

One day last summer, meeting upon the road a former tenant, Mr. Young inquired of him why he had left the plantation.

"Well, you see, boss," the darky replied, "you rings dat bell o' yourn whut sez 'go to wuk' too soon in de mawnin'; an' de mule whut leads yo' plow-gang steps too lively fuh dis yeh nigger to keep up wid him. I jes' 'cided dat I cud git cawn-bred 'n' side-meat 'nuf to do me widout wukkin' so ha'd.

"Yas, suh," he continued, "yo' crappers sho' do come out ahaid at de een' o' de yeah, but dat wouldn't do me nó good, kase whut a nigger lak me don' need fuh bred 'n' meat he sho' is gwi' spen' fuh likker an' dat sawt o' foolishness. You sho' is de right sawt o' boss fuh dese yeh vig'rous niggers, but I ain't dat kin'."

Yet the planter who enjoys a reputation for success, if he can use some tact, is rarely short-handed. There are nearly always many families who are seeking a chance to better their livelihood by working under a capable manager. The chief trouble is in the necessity of educating a new set of laborers each year in the use of modern implements and in the practice of steady habits.

Not one man, but scores—perhaps many hundreds—in the South are using the methods which Mr. Young is following. And these men are educating the Negroes into habits of industry and reliability—slowly but surely.

At the end of January, 1903, long before planting time, Mr. Young sold most of his anticipated crop for delivery in October at 13 cents a pound. Cotton producers on a small scale are excluded from such opportunities to take advantage of future markets.

The numberless opportunities for enterprise which the progressive planters may develop for their own and their neighbors' advantage throughout the Cotton Belt are typified by a piece of road-making between Prattville and the Young plantation. That road runs up hill and down and then crosses a broad plain. The hills are of clay, the plain a sand-bed. In wet seasons the road across the hills was formerly the deepest mud; in dry weather the sand-bed was a severe strain upon heavy-laden teams. Mr. Young explored and found a bed of pure clay and another of coarse gravel. He set his plantation force paving a short stretch of roadway with a mixture from the two beds, and invited the town and county authorities to test it. Some came in dry weather and found no dust, others in rain and found no mud. They tested it with wheels and with hoofs, and even with plows, and found it good. "But," said they, "we have no public funds for road-building."

Nothing daunted, Mr. Young circulated a subscription list, with himself as the leading subscriber, and brought the town to agree to assume half the expense. The planters and farmers who were to benefit from the road arranged to carry the other half by furnishing teams and laborers. The road, as now completed, is among the best rural highways in the Cotton Belt, a region notorious for its bad roads. The trip from the plantation to town now requires from a third to a half of the time formerly needed. The weight of the loads drawn can be made much greater, and the damage to running-gear is many times less.

Every progressive planter, by setting an attractive example and by doing a sort of social settlement work in molding the Negroes into a greater fitness for membership in a complex civilization, is doing his part to build up a prosperous South. It is cotton that provides the incentive.

COTTON AGAIN KING

COTTON is the "maker of our foreign exchange," for it is exported cotton that rolls up for the United States tremendous credits in Europe. Cotton, grown in but one-fourth of our area, stands second in value among all our agricultural crops. Only corn has a higher total. And it is cotton that furnishes work and wealth to the South to such an extent that the South may be said to live by cotton. Last year the South raised 10,500,000 bales—the rest of the world only one-third as much—and Europe alone paid the South $1,000,000 for every day in the year for the 7,000,000 bales exported.

During the war the South produced but one bale to every fifteen produced before the war. The decline stimulated cotton-growing abroad. Yet in thirteen years the South regained its supremacy. This year a wildly speculative market brought the price of cotton up as high as 17 cents a pound—the highest price in fifty years; and again the desire to compete was waked abroad. Now the Southern planters are endeavoring to produce this year a crop of 12,000,000 bales. Cotton from India does not reach Europe. Egyptian cotton is used only for high-priced goods. Our southern States produce the many quantities and qualities used throughout the world, and British, German, and French efforts to raise cotton in Africa and the West Indies have had but indifferent success. We shall keep our preëminence for many years to come, if not forever.

Cotton has entered into the very essence of southern life. Small trading has made cotton the equivalent of currency, a bale being as good as its value in money anywhere. Warehouse storage receipts pass from hand to hand in payment of obligations as readily as greenbacks.

The Negro problem has been a cotton problem. The South's preëminence in cotton was first based on the labor of Negro slaves. Negroes still do the work of growing the crops. They have become specialists in the labor of the cotton-field, and they are now indispensable, for the establishment of southern cotton manufactories is throwing the work of raising the cotton more and more on the blacks.

The United States in 1902 had more than 1,500 cotton mills, consuming nearly half the crop, and about half of this manufacture was in the southern States.

In north Georgia and South Carolina the poorer people in the country (the poorer whites) have not handled much money, and often in the days of "five-cent cotton" they were in debt year after year, but they lived a life of careless independence. Now they work in cotton mills—even the children. Wherever a mill is established the surrounding country is drawn on for labor. Negroes as a rule are not employed on the machines, but many small tenant-farmers succumb to the temptation of handling a stated sum of money each week (beggarly sums, often) and give up their homes to live in factory dwellings. Yet the mills offer the young men chances for advancement they might otherwise have never had, as machinists, foremen, and so on, foreigners in many cases taking the places of natives on the farms.

The number of spindles in use throughout the country increased from 15,550,000 in 1892 to 22,000,000 in 1903. The great part of the new construction was in the southern States. And from $13,789,810 in 1895 the exports went to $16,837,396 in 1896, and at an astounding ratio of increase up to $32,216,304 last year.

The gravest menace to the cotton planter in this country just now is the boll weevil, which has invaded 28 per cent. of the cotton acreage of the United States, and this season cost the Texas planters alone $25,000,000. The total havoc wrought is about 50 per cent. of the crop. A Department of Agriculture report says: "It is wholly beyond possibility that the weevil will ever be exterminated." Early planting, however, and thorough cultivation will enable a farmer to grow cotton in infested districts, though with greatly diminished production. Congress has appropriated only $50,000 to fight the pest.

The three great cotton markets of the

world are New Orleans, Liverpool, and New York. Five years ago, at 4¾ cents a pound, the South lost money on every bale of cotton marketed. But prices kept on increasing. A bale of cotton is now worth one-third more than a year ago. Three speculative campaigns led to the present high prices. Theodore H. Price was the first "bull leader." He pushed cotton up to 8½ cents and retired from the market. Then Daniel J. Sully appeared. He had served for fourteen years in a Providence, Rhode Island, cotton house. Later, in the South, he had seen the cottonseed-oil mills springing up on every hand until this by-product was yielding nearly $100,000,000 annually. An inferior quality of seed was being saved for the next year's planting. Mr. Sully thought that poor seed would mean a smaller future yield. Indeed, in 1902, with 3,000,000 more acres cultivated, the production fell off. Sully forced cotton to 9 cents, and then came into the open as a buyer. He had strong backing. In May he had raised the price to 11 cents and added $130,000,000 to the value of the crop.

Then Sully stopped, whereupon W. P. Brown, of New Orleans, came to New York with a record of having made $2,000,000 in a "squeeze" in the New Orleans market. He at once drove 11-cent cotton upward until he had contracted for 200,000 bales of the July delivery, and was ready with the cash when settling time came. Then one day he bid 13 cents for 1,000 bales of August cotton, and not a bale was offered. He had it all. He had bought four times as much cotton as was in the country. Then in September Sully returned to the market. His estimate of the government crop report was within 24,000 bales of the official figures, and prices went skyward. Finally cotton dropped and Sully failed.

The high prices strongly affected the social life of the South. There were ten southern girls in New York last winter to hear "Parsifal" and visit the theatres where one would have been had not cotton fetched a good price.

Here is a paragraph from a letter written two months ago:

"If Sully and Brown keep on boosting prices [cotton understood], some of us fellows are going to build them a Hall of Fame. Mrs. —— and the girls have been pestering me for a long time to take them out to the Mediterranean, and I suppose this is the accepted time. We'll be in New York about two weeks to give them a chance to do some shopping, so look out for us."

Southern merchants buy their stocks of goods, housekeepers provide their tables and furnish their houses, men and women take their pleasures according to the cotton market. Except in the cities, the fiscal year in the South dates from the time of marketing one cotton crop to the next. Every financial obligation is made dependent upon the outcome of the crop.

Moreover, 3,000,000 people in Great Britain depend directly upon cotton manufactures. This season the high price of the staple has closed some mills and caused others to cut down the number of employees. The cut to forty hours a week in the Lancashire mills was followed by the stopping of 85 per cent. of the cotton spindles of Normandy for one day a week, to continue until the end of March. In New England 100,000 operatives in the cotton mills have suffered a 10 per cent. cut in wages.

Cotton goods that sold a year ago at $7.50 a dozen, with cotton at 9 cents, are now quoted at $8.50 to $9.50. It is in indirect ways like this that cotton enters into the daily expenditures of men who would not know the plant if they saw it.

But the high prices help the South. The estimated values of the last eight commercial cotton crops were: 1896–97, $321,924,834; 1897–98, $320,552,606; 1898–99, $282,722,987; 1899–1900, $363,784,820; 1900–01, $494,567,549; 1901–02, $438,014,687; 1902–03, $450,000,000 to $500,000,000; 1903–04, $600,000,000 to $650,000,000. In 1902, the world's gold output was estimated at $304,589,862.

The future must be left to decide many questions: Does the enormous present crop movement from plantation to shipper mean that the spinners are scrambling for the staple, fearing even higher prices, or does it mean that the crop is larger than the Government and other bullish estimates? Will the high prices restrict our manufactured exports, especially to China? Will the same prices restrict American consumption, especially that of the poorer people? Will high prices successfully stimulate competition at home and abroad? These and many other questions are warmly debated, each side having its strenuous partisans.

FROM COUNTRY SCHOOL TO UNIVERSITY

HOW THE MIDDLE WESTERN SYSTEM OF PUBLIC EDUCATION FROM KINDERGARTEN TO PROFESSIONAL SCHOOL WORKS IN INDIANA—THE WORST SCHOOLS NOT BAD, THE BEST ONES EXCELLENT—PRACTICAL WORK AT THE STATE AGRICULTURAL SCHOOL—PHYSICAL EDUCATION NEGLECTED—PROGRESSIVE TEACHERS

BY

ADELE MARIE SHAW

(THE FIFTH OF A SERIES OF FIRST-HAND INVESTIGATIONS OF AMERICAN SCHOOLS)

INDIANA'S got a State system of education that beats anything in the country," said the storekeeper at Lafayette. "It's great."

Every man in the Middle West seems equally sure of the superiority of his own State's system, maintaining that it best fulfils the American ideal of free education from the kindergarten through the university.

To attempt to discover how far public education in Indiana makes good the assertion of the storekeeper, I began a study of the system with the rural district schools.

As I went on from school to school I learned that the work given is everywhere the same. If the pupils make salt-boxes and read *The Children's Hour* in a school on the southern mountains, salt-boxes and *The Children's Hour* are occupying the schools of the northern plains, and every scholar must pass the same tests sent from the Central Office in Indianapolis. This gives a general level of excellence.

Children of foreign parentage were many. Christensen and Grossgaber, Bilger and Cavallo, Kotlewski, Karadowian, Cronin, Smith, and Taylor, they were all there, even in the country schools of Indiana, all reading American legends, studying American plants, "figuring" in American dollars, singing, with staid enthusiasm, American songs.

For them and for the community it was the teacher that made the school. More than once I came upon a village where ready money was a rarity, but where year after year enough had been subscribed to keep school open beyond the legal six months, because people liked the teacher. "Why," said a village subscriber, "she had her children drawin' and studyin' things, and plantin' 'em long before any one told her to. What those young ones know *they know*."

The average Indiana rural school is far above the visitor's expectation. These schools are better than those of many other States because the teachers are better.

And why are the teachers better? Partly because not one is neglected. Each month a personal (even if printed) letter is sent by the State Superintendent, Mr. Fassett A. Cotton, to every teacher. Here is the beginning of the January letter:

"You have now been at work for some months in your present position. Doubtless by this time you are thoroughly acquainted with your school district. You know its bounds; you know its hills and valleys and streams; you know its soil, its trees, its vegetation, its riches in stone, coal, clay, gas, or oil. Doubtless you have used all this knowledge to advantage in awakening your boys and girls to life's truth and beauty and in giving them correct notions of simple earth facts. I trust that in trying to use God's out-of-doors in your teaching you have not been hampered by narrow public opinion. A student told me recently that in his boyhood he dwelt upon the banks of the Ohio River, and that there, in sight of splendid hills and streams and inlands, he studied geography from a book and got poor, starved, inadequate notions of things which nature had placed at his very door.

"What do you know of the social life of your district? How many homes are there? How many parents? How many children of school age? In what kinds of houses do the families dwell? What has been done to beautify these dwellings without and within? What is the spirit which dwells within each home? Doubtless you know the conditions of industry. You know what phases of agriculture and stock-raising are prosperous and profitable.

[illegible] orders that may exist for improvement and amusement. You know about the post-office, the rural routes, and offices of any kind that may exist. You are, of course, acquainted and identified with the churches and Sunday-schools and their work.

"I have taken it for granted that you know all these things in your community. Now, what have you done about it? You are there to make the conditions of life better."

These letters are distributed by the county superintendents and the township trustees—men who are part of a school organization that is alive. State superintendent, county superintendent, township trustees, State boards, county boards, and teachers are its main elements outside the large cities. All the State machinery is brought directly to bear upon the improvement of the teaching force. County and township officers reading these open letters get a certain standard for judging work. Frequent meetings of the educational forces add a further impulse. Twice a year, for example, the State superintendent meets the county superintendent of each of the thirteen districts. Topics are assigned for discussion, and attendance and utterance are both expected.

Rural teachers in Indiana cannot receive less than $38.50 a month, scarcely the wages of "skilled labor," but more than the $25 which is the minimum in more than one eastern State. The better pay accounts in a measure for the "better teachers." An attempt is made, too, to base the salary upon the actual work of the teacher. No appointments are made unless the candidate for a position has passed an examination that is made uniform throughout the State.

A uniform course of study, uniform requirements for teacher and children are the more mechanical parts of the force brought to bear upon the school, but "the teacher *is* the school," says Indiana; "Make better teachers and you have better schools. That's what our system does."

After visiting many rural schools I turned my attention to the higher schools. The fifty-five girls and boys of the high school at Broad Ripple, assembled in the large study room, were living evidence of success. Except for the elaborate State system of education in Indiana, only one or two of the whole number would have had more than a district school education. Broad Ripple is a very small place. Either a high school would not have been accessible or the parents would have been obliged to pay for transportation to a neighboring city and for the child's tuition in the city school. The success lies not in this fact. But every child in the State is by law entitled to a free high school course, and every school officer must "provide high school facilities at home or transfer eligible pupils to corporations maintaining them"; and these country high schools are patronized. There are a thousand of them in the State, ten or eleven for every county. Three hundred have but one teacher each. These high schools send thousands yearly to Indiana colleges.

The principal of the high school at Broad Ripple is a senior of the University of Indiana, and will return there to finish his course. Many of the pupils come from a distance. In the stalls of an unfloored barn in the schoolyard were hitched twenty-five horses; and vehicles of many sorts packed the space behind them. The shelter had been built by the boys of the school.

In the upper grades of the township schools, as at Broad Ripple, pupils' faces impress you strongly; they bear already a certain stamp of responsibility. But here, especially in the high schools, the lack of physical training begins to show, bad air to reveal its effect. The boys look hardier than the girls. "Chores" give to farmers' sons fresh air, though they may not prevent stiffness and round shoulders. The girls are many of them beautiful in a fragile, weak-chested way, but their look suggests exercise too entirely confined to the house. Here, too, there seems a deficiency in instruction. But the average year's salary of a teacher in a commissioned high school is less than $400. The State gets all it pays for.

The deficiencies of the Indiana schools exist in most other schools. Their excellences are more peculiarly their own. Their strength shows best in the momentum, acquired in the lower grades, that sends pupils in remarkable numbers to upper schools. Many high school graduates are swallowed by the sectarian colleges of the State. Chicago and the East get many, but there are 3,000 in the State University. The Terre Haute Training-School has half as many more, but it acts as a combination normal and high

school, and sends the majority of its graduates into the University. The State University, of Indiana, is really in two parts, the Agricultural, Technical, and Engineering colleges being included in Purdue University at Lafayette, and the academic course in Indiana University at Bloomington.

At Purdue Agricultural College there is a ten-weeks' course for farmers' boys and girls, a ten-days' course in butter-making for the farmers' wives, a creamery plant, and a farm where the students learn practical lessons. One boy who had always hated the farm took the "short course" and persuaded his father to allow him to raise hogs. The father had never succeeded in hog-raising and was inclined to scoff. The boy persevered, and recently has taken the prize for the best Berkshire sow exhibited at a National Stock show. "I should never have noticed that pig at all, nor taken any pains with it," he said, "if it hadn't been for the points I learned at Purdue." It was at Purdue also that I stood before a railway engine going thirty miles an hour, though stationary, in the official locomotive-testing works, established at the University, where the locomotive, going at full speed, upon revolving wheels, is tested by the students. What could Purdue not do for Indiana if every one of the ninety-two counties had a "shorter course" under Purdue's guidance!

The State University at Bloomington, founded a hundred years ago, built up slowly in an atmosphere of freedom and wise conservatism, is one of the strongest State universities in the West. David Starr Jordan raised its standard of scholarship. The present president, W. L. Bryan, is raising it still higher. Clean vigor and genuine college atmosphere exist at Bloomington. Most of the students are not rich, but living is not expensive, and if a student need luxury there will soon be the Students' Building, planned first for girls, but finally opened to all, where shower-baths and lounging-rooms, reading-rooms and reception-halls will be provided. There is nothing in the way of expense to keep any boy or girl in Indiana from its higher institutions. Tuition is free.

Examination of these higher institutions deepened the impression left by the study of the lower schools, that the most powerful instrument in the hands of the State today is the personality of the teaching force—teachers and teachers of teachers—and that Indiana recognizes this and acts on it.

Here, then, is a sketch of the Indiana system from the rural school to the university. There remains the city school, a part of the State system, but furnishing a problem of its own.

East Chicago contains spots that look as if they might discourage an archangel. It lies along the flat margin of Lake Michigan, and consists of a thriving central city, with a trail of manufacturing settlements. At Indiana Harbor I began my East Chicago visits. In one comparatively small class, containing forty-two children, twenty-six had each been already in eight different schools. The parents, chiefly foreigners, attracted to Indiana Harbor by the manufacturing plants, have lived here, there, and everywhere. One good school for the children of these nomads does not solve the problem they present, though the Principal, Mr. Holway, does what he can.

In the Berry Lake School (still in East Chicago) a young girl was busy preparing her afternoon work for the pupils. While she and I discussed their work some of the little girls, most of them German, vanished and, returning, displayed hats they could wear, braided in school by themselves.

"It rests them; it gets their parents interested; they do their other work better for it," said Miss Gosch.

In Whiting, another East Chicago settlement, many of whose dwellers are employed in the forty-million-dollar Standard Oil plant, I saw children whose stories were nightmares of home neglect. The little Irish girl who took me to my car had, earlier in the season, frozen her feet—bare on a winter day. The parents of the school children are worse children than their offspring. Men drink, women lie late in bed, and "get off" their half-dressed children long after the school day is begun. Where gambling, drink, and sloth do not consume everything, pay-day brings often a riot of cheap candy, lavish pocket money for sticky-handed children, brutal indigestion, and a banquet to allay the pangs. Shoes, clothes, common necessities wait the more convenient season.

"Think," said Mr. Smith, "what it would mean to this place to have that Menomonie gymnasium or even a room where there is something for the children to do evenings."

In the two years of his work in East Chicago Mr. Smith has seen manual training (a gift from business companies of the city), drawing, music, and some physical training put into the school course. In the high-school building in the prosperous and attractive centre of the city the young people are trying to start a reading-room.

Indianapolis is a contrast to East Chicago. The Indianapolis schools have a wide reputation for excellence. This excellence they owe chiefly to the teachers and supervisors.

One class in the Benjamin Harrison School were discussing the essential constitutional history of the Civil War. Ease and simplicity of utterance, genuine comprehension and sympathy and the power to think characterized in varying degrees every child in the room. Not one was groping. Every one was trained to independence.

Drawing and English contain most of the nature study; every subject reinforces every other. The use of the drawing to interest children in the out-of-door world, for the sake of preserving beauty and showing thought for things dumb and helpless, is part of Miss Seegmiller's method of making her department strengthen character. Many an Indianapolis schoolroom shelters a wounded bird or a strayed pet without any interruption to the lesson hour. The atmosphere of these classrooms is the atmosphere of a cultivated home.

The vigilant, devoted attention of this body of teachers and supervisors is, so far as I know, unmatched. "Who," asked an Englishman once, "are these ladies that stand upon the street-corners at dawn waiting for a car?" "They are," answered his friend, "the teachers of the common schools, who go to write upon the board." They do begin their day long before the required hour and concentrate on the task in hand. The Indianapolis taxpayer, being somewhat heavily burdened, has shifted a good deal of his own load to the teacher's shoulders. The decorations of the schools are often paid for by entertainments, where the parents willingly contribute a ten-cent entrance fee, and acquire an interest in the place they help to adorn. But the classroom pictures are furnished by teachers.

In a city of 200,000 people only one school has fire-proof stairways. Salaries are pitifully small, the hours those of old-fashioned rural schools. But the amazing thing to one who has heard much of Indianapolis is the disregard of the right of growing children to trained bodies. Teachers and supervisors do their best. Material for out-of-door games and apparatus for indoor work are often provided by those who cannot afford the time or money, but a drop in the bucket is an ample comparison for the actual and the needed.

The magnificent Manual Training High School and the Shortridge High School are soon to have gymnasiums. But after all it is the common school child whose need is greatest. Perhaps it was because I had come freshly from Menomonie, where ten years of freedom in gymnasium and swimming-pool had made an extraordinary transformation in the school children, that I was so painfully impressed here, as in the country, by the physical delicacy and weakness of the average Indiana girl.

The Indianapolis superintendent, Mr. Kendall, has the insight and the working power to win results. Miss Nicholson, at the head of the training-school, has given something of her own reserve power to the Indianapolis teacher. The graduates of the Indianapolis Normal School have directness, quiet force, and logic. The best-trained teachers I have ever seen are these Indianapolis normal girls.

Miss Cropsey, the primary supervisor, whose control is the central unifying influence, gives to Indianapolis schools her whole soul, mind, and strength. It was of Miss Cropsey that a famous college president once said to me, "She is one of a half dozen great men I know." Week after week she gathers the teachers into meetings that tingle with her own personal force, and study and discussion go on in fields too often reserved for the high schools and the colleges.

Every day spent in Indiana made clearer these two things:

(1.) The American ideal—free education from kindergarten through college—depends for its realization upon the emphasis placed upon the personality of the teacher. Indiana proves this. Its schools are better than those of many other States.

(2.) Even an educational system said to "beat anything in the country" is miserably inadequate for the country's needs. Indiana proves this. Its schools are not good enough and physical training is negected.

TWO BACK YARDS WHICH RECEIVED FIRST PRIZES

A FLOWER GARDEN FOR EVERY CHILD

THE WORK OF THE HOME GARDENING ASSOCIATION OF CLEVELAND—SIXTY-FIVE THOUSAND CHILDREN ACTIVELY ENGAGED IN GROWING FLOWERS IN HOMES AND SCHOOLS—THE ART OF MAKING UNSIGHTLY PLACES ATTRACTIVE AND HEALTHFUL

BY

J. M. BOWLES

ALL over the country individuals, firms, and societies are improving the surroundings of factories, special blocks in tenement districts, and sections of towns and cities. The city of Cleveland, Ohio, however, has a Home Gardening Association which is attempting to beautify an entire city, and is meanwhile actually supporting itself.

The object of the association is primarily "to plant flowers, vines, and shrubs in unsightly places." There is an article in the by-laws which calls for the clearing of streets and alleys of rubbish, the cleaning up of back yards by "removing garbage, ash-heaps, old cans, etc.," and the general improvement of sanitary conditions. But the association secures its largest measure of success by encouraging the planting of flowers. A flower garden about a squalid home is usually succeeded by honest attempts at cleanliness and order, both indoors and out.

The association comes into direct contact with 65,000 children. It furnishes seeds which are planted in 25,000 homes. Every child in the public schools of Cleveland is now enabled to have a garden in the summer; and in the winter months every room in the schools is brightened by the thousands of flowering bulbs. To many of the children these flowers are rare and wonderful.

In 1900—the first year of the association—49,000 packages of seeds were sold at one cent each. The receipts covered all expenses. In 1903 the sale of more than 132,000 packages, at a cent apiece, resulted in profit enough to pay for twenty-four stereopticon lectures and to provide prizes for flower shows in the schools. Thousands of yards have been cleaned up and flowers and vines planted, and to some of the worst parts of the city beauty and health have come hand in hand. In the crowded manufacturing districts, where smoke, soot, and bad air are hindrances to the growth of plants, beds of bright flowers are seen on all sides. There is no locality where some degree of success is not attainable, and in many cases the little garden is the one bright spot about the home. Some of the best school-yards and prize gardens are in grimy downtown sections, and it has been proved that any one who loves flowers can have them. Often they are grown in soap-boxes in tenement windows. To find out what kinds of flowers could be raised in the tenement district a "test" garden was

A NEGLECTED BACK YARD

started in 1902. The children of the neighborhood are always eager to visit this garden, as they are allowed to pick the blossoms which are often covered with soot and which leave the fingers in much the same condition as handling coal.

To stimulate friendly competition, flower shows are held in the schools, in which children are the only exhibitors. Every pupil attends the "private views," and the school giving the best show receives a prize from the association. The money is used in improving the grounds of that school. One principal said: "The response to the invitation to bring flowers for the show was most generous. Hundreds of children came trooping in, some with a single flower, but most of them with large, well-arranged bouquets. After a thousand pupils had enjoyed the display, the flowers were distributed. Each of the 600 primary children received a bunch to take home, and several large basketfuls were sent to the hospitals in the neighborhood."

ANOTHER FIRST-PRIZE YARD

Circulars signed by the association now ask teachers to take up various nature studies with their pupils, to instruct them in planting seeds and cultivating flowers. The time of starting happened to be auspicious for the introduction of the work, because the teachers brought into the language lessons the study of trees and plants. The pupils have shown ever since a much greater interest in the lessons.

The annual fee of ten cents gives a child membership in the association and also ten packages of seeds. The school work is done

THE SAME BACKYARD AFTER IMPROVEMENT

in a few minutes before and after school hours.

A crippled boy of twelve bought ten cents' worth of seeds from his school and started a garden twenty by forty feet in size. To plant and weed it he had to crawl about on his hands and knees much of the time, but so successful was his labor that the plot was a mass of flowers. A little girl of the tenements, with no yard and no place for a window-box, fixed up an old shoe-box in an alley, where the sun shone only a few hours each day. Many children voluntarily gather the seeds from their own plants to use in making a garden on a more extensive scale the following season. One child reported that the chickens had scratched up his seed, but that next year he should sow them in boxes high enough to be safe from such vandalism.

That the gardeners are not easily discouraged is shown by the following letter:

"I had some flowers. They came up very nice. I watered them steady every morning, but after a while a cat tore them up. I planted other ones. I watered steady. They came up very nice, better than the others. Nothing happened. But after a while something did happen. There were a vacant house next door. A wild boy moved in the house and we moved. I was going to take them along but I forgot it. The boy took them and dumped them out, and took the dirt and planted flowers for himself. And that's what happened. I had some good luck and some bad luck."

The many small gardens springing up all over the city are a proof of the success of the movement. The Cleveland *Leader*, a year or two ago, offered prizes for the best gardens and window-boxes grown that summer. The

GREENERY REPLACING BARE GROUND

EXPERIMENTAL SCHOOL GARDEN NEAR THE PUBLIC SQUARE—BEFORE PLANTING

THE SAME LOT PLANTED

competition was open to all amateurs, whether the seeds were purchased from the Home Gardening Association or not, but a committee from the society was appointed to award the prizes in what proved to be a very successful contest. More than 200 persons entered the lists, and the standard of the gardening was high.

At the suggestion of the association, 40,000 tulip bulbs are now planted in Monumental Park every fall, producing their blooms during April, brightening a city square at a time when it was formerly bare and unsightly. The Park Commission has planned to extend this decoration greatly. Fewer flowers are stolen from the parks than formerly. Children who have gardens of their own respect the results of the labor of others.

The association constantly urges the planting of school grounds with shrubs and flowers. This has been done at the Rockwell Street School. It was necessary to secure a playground equal in size to the space to be planted, and some lots immediately adjoining the school were obtained for a nominal rental of $110 a year, contributed by citizens. A prominent landscape gardener gave his time and experience in preparing the grounds and in superintending the work of planting, with a result so satisfactory that the school board has now agreed to pay the rental of the playground and to keep the garden in order, while friends of the work have contributed 4,000 bulbs to be set out every autumn.

In the spring of 1902, when it was decided to make a downtown block a model for others in the neighborhood, the coöperation of twenty-one out of the twenty-three owners of houses in it was secured. Window-boxes, seeds, and plants were given to every one who would agree to care for them. Prizes were offered, but a decision was difficult because so many of the gardens were equally attractive.

Cities all over the United States are seeking information about Cleveland methods, and thousands of packages of seeds have been sold to improvement associations in Brooklyn, New York; Princeton, New Jersey; Joliet, Illinois; Eaton, Ohio, and social settlement-houses elsewhere.

THE LAST RACE RALLY OF INDIANS

THE ST. LOUIS FAIR WILL SEE THEIR FINAL SPECTACULAR APPEARANCE AS A SEPARATE PEOPLE—THE CARVING UP OF THE "INDIAN COUNTRY"—THE INDIANS NOW CITIZENS—THEIR CONTINUALLY NARROWING AREA OF RESIDENCE

BY

CHARLES M. HARVEY

AT the St. Louis Fair the American Indian will make a last spectacular rally as a distinct race. Since the landing of Columbus the Indian has profoundly affected the evolution of American society. The United States has had a far harder task than any other country in handling an inferior race, and has treated the aborigines with greater generosity. The results are at hand. On March 4, 1906, the 85,000 red men in the Indian Territory give up tribal rule and adopt American citizenship. This action will affect the outside reservations. For years the "Indian country" has been but a tradition; now the Indian himself becomes a citizen.

Most modern ethnographers hold that the Indian's progenitors, many centuries before the days of the Northmen, drifted across Bering Straits to Alaska or northern Canada (some, however, hold that they came from Europe by way of Greenland), and in the lapse of ages gradually spread themselves all over North and South America, the various tribes changing their characteristics according to their mode of living.

Major J. W. Powell a few years ago published a map based on varieties of language, showing fifty-eight different families or stocks among the Indians north of Mexico. More than 100 stocks are believed to have dwelt between the Straits of Magellan and the

Arctic Ocean. In some of these groups there were from ten to forty languages, and among most of those languages there were many dialects.

The estimates of the aboriginal population made by early explorers, ranging from 10,000,000 to 25,000,000 or more for North America, were exaggerations. The first explorers, missionaries, and traders journeyed by way of the seacoast, the rivers, and the lakes, along which the Indians were most numerous. In traveling through the wilderness the whites attracted Indians for miles around through curiosity. The whites thought the Indians were equally numerous elsewhere, but vast stretches of forest and prairie were absolutely untenanted, except for short times each year when visited by hunting parties. War and hunting often took the same bands of Indians to several points in the course of a year, the whites thinking they were different bands. Many tribes were known by different names to the Spaniards, the French, and the English, and among some tribes the names varied at different places and times. These causes account for the exaggerated notions.

The actual number of Indians in the territory now comprised in the United States was probably not more than 800,000 or 1,000,000 at the time of Columbus.

They withstood the whites so long because the whites themselves in the early days were few; and the cupidity of the white traders, and warfare between Spaniards, French, and English, in which each bid for the red man's support, quickly placed the white man's weapons in his hands. Soon becoming expert, he turned his weapons against the whites. Moreover, the Iroquois, Shawnees, Sioux, Comanches, Apaches, and other Indians were more formidable warriors than the British, French, Germans, or Russians have encountered in Asia or Africa. For more than two centuries the Apaches, Comanches, and other tribes in the southwest held their own against the Spaniards. More than once they expelled the Spaniards. For more than a century the Iroquois battled successfully with the French on the St. Lawrence and the Great Lakes.

Many tribes had a primitive kind of government. The Iroquois, or Five Nations (the Mohawks, Oneidas, Onandagas, Cayugas, and Senecas), stretching across the present State of New York, from Lake Champlain to Lake Erie and beyond, to which were joined the Tuscaroras from North Carolina in 1715, after which they became known as the Six Nations, had a confederacy from which Jefferson said the founders of the American Republic could have gained some useful hints. A looser league existed among the Creeks, Cherokees, Choctaws, Chickasaws, and other tribes in the present Gulf States for a time. Red Jacket, the Seneca, Logan, the Mingo, and others, were orators of great eloquence. Sequoyah was a Cherokee Cadmus.

Indian trails through the forests and over the mountains blazed the pathways for the pioneers, and in some cases marked out the course which the railroads of a later day followed. Indians acted as guides for explorers and missionaries.

The World's Fair at St. Louis in 1904, and the Lewis and Clark Exposition at Portland, Oregon, in 1905, will have a monument to the heroic Shoshone girl who guided Lewis and Clark across the Rockies to the Pacific and back again in 1805–6.

The courage of the Indians and their tactics made them the hardest fighters whom the white race ever met. There is a long roll of able chiefs from King Philip, Crazy Horse, Sitting Bull, and the rest of the Sioux who participated in the demonstration of 1876, who conducted their campaigns with a daring and a skill which won strong enconiums from their white foes. All this had vast educative consequences for the whites. Champlain in 1609 helped the Algonquins and Hurons. This made the Iroquois the allies of every white people hostile to the French. They thus protected English settlements.

Through Indian conflict, too, was evolved a race of empire-builders—Boone, Robertson, Harrod, George Rogers Clark, Nathaniel J. Wyeth, Fremont, and others, who carried civilization across the continent. The lessons that the Boers taught the British in open formation and in the individual initiative style of fighting in the Transvaal were taught by red warriors in America many decades earlier.

But the things that the red man did (in many cases unconsciously; in most cases unintentionally) for the white have been much more than offset by what the white man has done for the red.

The American Government has tried to

THE DIFFERENT INDIAN TRIBES IN NORTH AMERICA WHEN COLUMBUS CAME

The divisions are based on languages spoken

protect the Indian from encroachment by unscrupulous whites, to prevent the invasion of his rights by other Indians, to save him from the consequences of his own ignorance and shiftlessness, to elevate him physically and morally (particularly since 1877, when appropriations for his education began to be made, and since 1887, when the granting of lands in severalty to him became the avowed and fixed policy of the government), and to prepare him for citizenship.

To gratify the vanity of the Indians the government treated them as separate nations

THE INDIAN COUNTRY
OUR WESTERN BORDER IN 1834

("domestic, dependent nations"), and made treaties with them with all the formality used in dealing with the Powers. It conceded their right to the soil, which in the case of most tribes had been based upon force employed against other Indians. The government bought these lands from the Indians, and then sold them, as needed, to the whites.

But through immigration and domestic migration, and through the evil effects of having a "government within a government," which revealed itself when the Cherokees in Georgia, and other tribes in other places, refused to recognize State authority, obey laws, or pay taxes, a crisis came. This led to the removal of many of the tribes to the west side of the Mississippi.

By an act of Congress signed by Jackson in 1834, the territory indicated on the accompanying map was "taken and deemed to be the Indian country." Many tribes were scattered through that territory at the time, and had been for ages. Definite reservations were set aside and under treaties with the Cherokees, Chickasaws, Choctaws, Creeks, Seminoles, and others, these tribes were transferred to that region.

But 143,000 immigrants came here in the decade 1821–30; 600,000 in 1831–40; 1,700,000 in 1841–50; 2,579,000 in 1851–60; 2,282,000 in 1861–70, when the Civil War checked immigration, and 2,812,000 in 1871–80, when the Free Homes act began to exert its influence, and when western railway-building began to be especially active. The inflow has been greater in each of the decades since then. Many of these immigrants crossed the Mississippi. A still larger native migration reinforced a movement which has been immeasurably greater in volume than were the incursions that overturned the Roman empire in the fifth century.

The tide pressed against the barriers of the Indian country. The new settlers incited wars with the Indians and forced the government to buy out the claims of the Indians and remove them to narrower quarters. Thus the big domain of 1834–54 has shrunk to its present little measure in the Indian Territory, with its five "civilized tribes"—the Cherokees, Chickasaws, Creeks, Choctaws, and Seminoles—and remnants of other tribes. And all of these in the aggregate—52,500 in 1900—were outnumbered several times by the white residents of the territory—302,680 in that year. In addition, there were 36,853 Negroes there, most of whom were ex-slaves, officially classed as Indians. The Indian population of the Indian Territory in 1903, including the ex-slaves, was about 84,500.

The first division of the big Indian tract of 1834, Douglas's act which organized Kansas and Nebraska territories, caused a convulsion, in which the Indians, however, had no hand. By repealing the Missouri slavery exclusion compromise of 1820, it started a contest between the North and South for the control of Kansas that killed the Whig party, created the Republican party, split the Democracy in the Charleston convention of 1860, and gave Lincoln and the Republicans the victory in that year. This precipitated secession and civil war, overthrew slavery, generated the Negro issue which is with us still, and, incidentally, by relieving the South of the moral and physical quarantine that slavery had erected against it, has enabled that section to make greater material advancement in the past quarter of a century than it could have made in two centuries if slavery remained. Though not in Creasy's list, the contest of 1854, which

split up the big Indian empire of 1834, was one of the world's decisive battles.

But the reservation system, with its recognition of the Indians as great nations, and its concession to them of the regulation of their own domestic affairs, subject to the Federal Constitution, quickly showed its weakness. So in 1862 Congress passed an act to protect every Indian in the enjoyment of his property who should abandon his tribe and desire to live a civilized life. In 1871 the practice of nearly a century of dealing with the Indians as independent nations, and of entering into treaties with them, was brought to an end, and all intercourse thereafter with them was placed under the direct control of Congress. The 370 treaties made prior to 1871 remained valid. Dealings with the Indians from 1871 onward have been called agreements. Seventy-four of these have been sanctioned by Congress and have gone into effect. In 1875 a further inducement was offered to the Indian to adopt civilization by guaranteeing to him his share of his tribe's property if he would give up tribal relations and settle on a free homestead under the law which went into operation in 1863, and cultivate the land.

Further steps were taken in 1877, when the government began making appropriations to educate Indians for citizenship. In 1887 Congress enacted that citizenship would be granted to all of them who had voluntarily separated from their tribes, accepted land in severalty, and adopted civilized life. In 1901 this act was extended to the Indians in the Indian Territory. Thus it covered all the red men in the United States.

Under these statutes more progress has been made toward preparing the Indian for bearing his own burdens than had been accomplished in the previous hundred years. By the act of 1887 citizenship was conferred immediately on a little more than 10,000 Indians, and up to the beginning of 1904 about 9,000,000 acres of allotments had been acquired by 75,000 Indians.

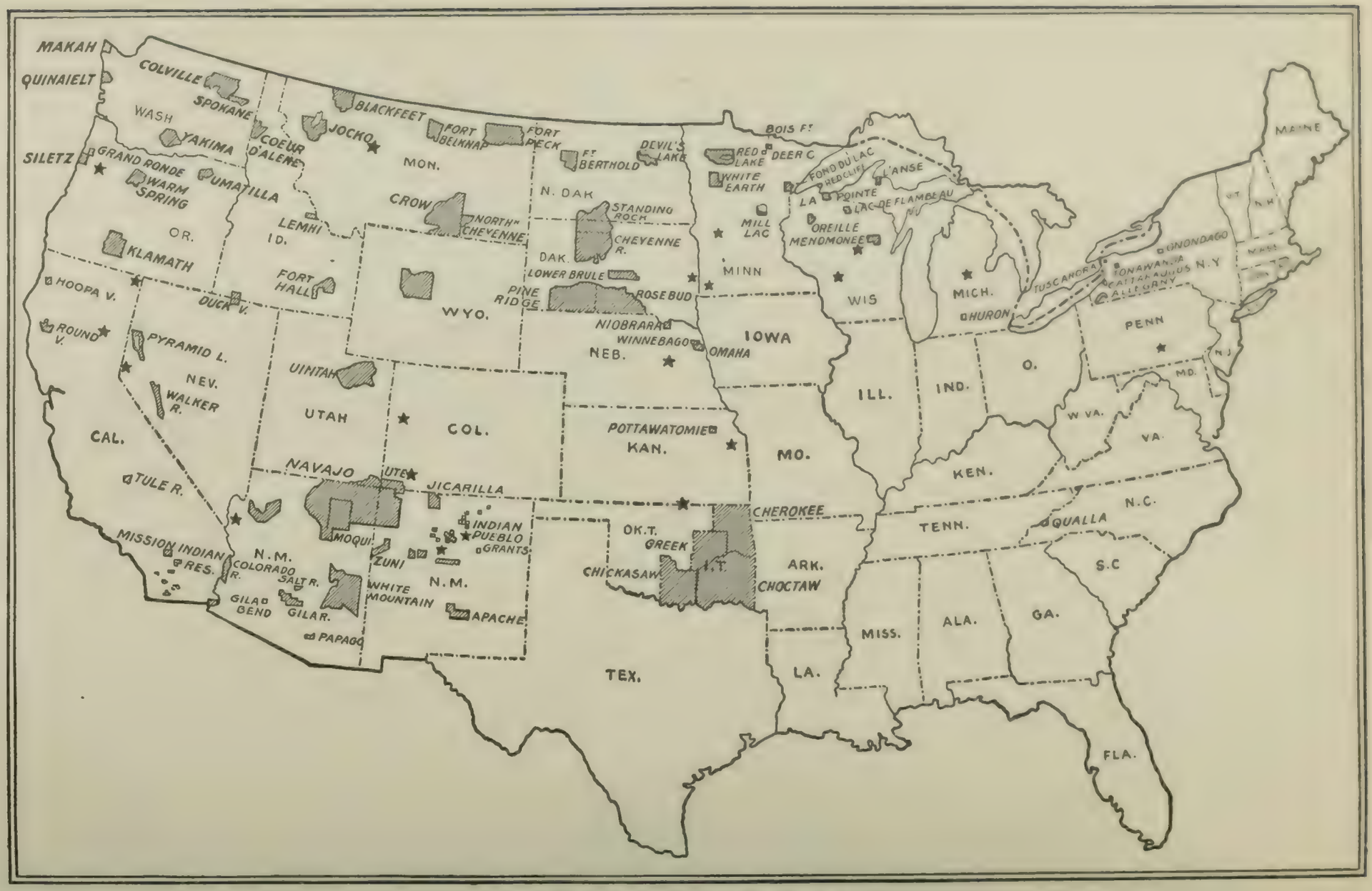
In 1903 the national government expended $13,000,000 for the Indians. It had expended $402,000,000 in the Indian service from 1789 to the end of 1903. Of the $13,000,000 disbursed in 1903 $3,161,000 was for the support of schools. There were 257 Indian schools in operation in 1903, representing an investment of $6,000,000. Of these 91 were reservation boarding-schools, 26 were boarding-schools situated outside of the reservations and near the centres of civilization, and 140 were day-schools, located close to the camps of the parents of the pupils. The oldest and largest of the non-reservation boarding-schools is that at Carlisle, Pennsylvania, established in 1879, which had an enrolment of 1,074 pupils in 1903, and an average attendance of 963. In the 257 schools in the aggregate the enrollment in 1903 was 24,357 pupils and the average attendance was 20,876. To teach and care for

THE HEMMING-IN OF THE INDIAN COUNTRY
The United States in 1853 after the Gadsden Purchase

these pupils 2,282 persons were employed, 111 being superintendents. Forty-four boarding and four day schools for Indians were conducted during the year by religious bodies, a large majority by Catholics. These, with the 101 pupils in the Hampton Institute, and 164 in white public schools under contract with the Indian Bureau, represented, in combination with the government's 257 schools, an enrolment of 28,411 Indian pupils for 1903, and an average attendance of 24,382, a gain of 262 in attendance over 1902. The Indian schools in New York are controlled by the State, and are not included in those figures.

Half of the time in the schools is devoted to the ordinary common school studies and the other half to useful industries—carpentry, shoemaking, farming, wagon-making, blacksmithing, tailoring, dairying, gardening, masonry, plastering, and harness-making for the boys, and sewing, baking, household work, laundering, dairying, cooking, and other activities for the girls. At several of the larger schools specialized training is given to the boys in farming and stock-raising.

Indolence, shiftlessness, and inherited tendencies toward holding land in common made



THE INDIAN COUNTRY OF TODAY

The dark patches show the Indian reservations

the Indian for many years averse to accepting it in separate holdings, yet 75,000 of them have acquired individual ownership under the act of 1887. In 1902, the latest year for which detailed figures are obtainable, the Indians raised 913,203 bushels of wheat, 742,869 bushels of oats, rye, and barley, 594,571 bushels of corn, 444,577 bushels of vegetables, 70,652 bushels of flax, 288,391 tons of hay, made 134,781 pounds of butter, sawed 6,512,000 feet of lumber, marketed 76,820,000 feet of timber, and had 1,493,451 acres of land under fence.

In 1892 the Indians gave 9,309 days to road-making. In 1902 they devoted 35,964 days to this work. In 1890 the Indians owned 443,244 ponies and burros, which formerly were the measure of riches and social standing. In 1902 these had shrunk to 341,646. In the same ten years the cattle owned by Indians increased from 179,419 head to 288,884. In 1889 the value of the products of Indian labor sold to the government was $71,260. In 1902 it had increased to $461,173. The Indian products sold to others than the government were $499,333 in 1889 and $1,552,624 in 1902.

About 58,000 Indians outside the Indian Territory in 1886 wore citizens' clothes; in 1902 about 102,000. In 1887 25,000 of them could talk English; in 1902, 62,000. Nineteen thousand could read in 1887, 47,000 in 1902. Something more than 28,000 Indian children are attending government or mission schools. The figures for schools are exclusive of New York, whose 5,200 Indians are looked after by the State. The Indian Territory, under the government of the five civilized tribes, has a school system of its own.

Between the Black Hawk war of 1831–32 and the Sitting Bull Sioux uprising in 1890–91, the United States Government spent $111,000 in fighting Indians, in which fifteen whites were killed to every one Indian. No serious trouble has taken place since 1891. The Indians of the Carlisle School today play football with many of the white colleges, and often win. The girls of the Fort Shaw Indian School in Montana have defeated the white girls of some of the Western colleges in basketball. All these things reveal striking advances toward citizenship and equality.

What has become of the Indian empire of 1834–54? All of it save the Indian Territory has been organized into thriving political communities, comprising all of Kansas, except the southwest corner; all of Nebraska, half of South Dakota, more than a third of North Dakota, almost all of Montana, Wyoming, and Colorado; and all of Oklahoma Territory; while Oklahoma, with the Indian Territory, will soon be admitted as a State. The tribal relations of the Cherokees, Chickasaws, Choctaws, Creeks, and Seminoles will by act of Congress be dissolved by March 4, 1906, and then the vast Indian range (except the scattered reservations) will all be brought under civilized sway. The old "Indian country" now contains many great cities—Omaha, Denver, Kansas City, Topeka, Cheyenne, and others—and contains in 1904 5,000,000 progressive and prosperous people.

Outside of Alaska the Indian population of the United States is about 270,000. The five civilized tribes, covering practically all of the Indian Territory, and New York's 5,200, comprising remnants of the Onondagas, Senecas, Cayugas, Oneidas, and Tuscaroras, number about 90,000. The New York Indians are on eight little reservations of about 88,000 acres in the northwestern part of the State, and are well advanced in civilization. The other 180,000 Indians are on 156 reservations, containing 55,000,000 acres, an area about the size of Minnesota, scattered through eighteen States and three territories, nearly all west of the Mississippi, and most of them west of the Missouri.

The Indians are increasing in numbers. Many are increasing also in wealth. The property of the Choctaws and Chickasaws, which is about to be divided among them, will amount to $1,500 or more for each man, woman, and child in those tribes, while the holdings of some of the other Indians are even greater. The average per capita wealth of the rest of the United States is only about $1,200. Thus every one of these Indians will be richer than the average citizen.

The Indian as an Indian is doomed by the law of the survival of the fittest. The Indian is being evolved into a civilized man. Under our eyes is being performed a mighty drama in the transformation of a race.

THE STABILITY OF OUR POLITICAL PARTIES

A VARIATION OF ONLY A SMALL PERCENTAGE IN THE POPULAR VOTES ELECTION AFTER ELECTION—THE MOST CONSERVATIVE PEOPLE IN THE WORLD IN POLITICS

BY

FRANK BASIL TRACY

THE one certain political characteristic of the American people is conservatism. When one considers the various forms of political lunacy which have afflicted the United States during the past half-century such a statement may seem absurd. But, in spite of the dozen of odd political notions which have formed themselves into parties in our own time, not one of them assumed serious proportions. Since the Republican party was formed in 1856, the vast majority of the people have voted as Republicans or as Democrats. We have had a great civil war, we have gone through all the horrors of reconstruction, and we have embarked upon a new policy of expansion, and yet no new parties have been formed really worth consideration. Not only have the voters kept on casting their ballots for the parties of Andrew Jackson and Abraham Lincoln, but the proportion of the votes cast for each of these parties has not radically varied. Because of our electoral system and our national propensity to indulge in large phrases, we speak of an "overwhelming victory," a "landslide," a "ground-swell," at certain presidential elections; yet nothing of that sort has really occurred. We often speak of Lincoln's second election and Grant's second election as "overwhelming indorsements," yet they were hardly in any sense "overwhelming."

On account of our State and electoral system, a popular majority of a few hundred votes in a big State may carry the Presidency by a large majority in the electoral college, but it does not show the real sentiment and verdict of the nation. Lincoln, in 1860, got a tremendous majority in the electoral college, yet he was far from being the choice of a majority of the people; for he had less than 40 per cent. of the popular vote, the smallest percentage that ever elected any man President. Taking the popular vote as a basis, let us study the records of parties since the Civil War.

The figures for Lincoln's elections are valueless for our purpose. At his first election the opposition was divided and he received a minority of the popular vote. At his second election he received 53 per cent. of the total vote; but eleven States, all opposed to him, took no part in the election. Let us, then, begin with Grant's first election and trace the history of the two parties since that time. Here is a table of the popular vote:

YEAR	PERCENTAGE OF TOTAL VOTE	
	Republicans	*Democrats*
1868	Grant.....53—	Seymour.....47
1872	Grant.....53+	Greeley.....44—
1876	Hayes.....48+	Tilden.....50
1880	Garfield.....48+	Hancock.....48+
1884	Blaine.....48+	Cleveland.....48+
1888	Harrison.....47+	Cleveland.....48+
1892	Harrison.....42+	Cleveland.....46+
1896	McKinley....51—	Bryan.....46+
1900	McKinley....51+	Bryan.....45+

The most superficial glance at this table will show three periods: (1) Grant's two elections; (2) McKinley's two elections; and (3) the elections that intervened. For, at the close of Grant's terms, the Republican percentage dropped abruptly from 53 per cent. to 48 per cent., while the Democratic rose from 44 per cent. to 50 per cent. After Hayes's election both parties remained at less than 50 per cent. Mr. Cleveland, at his second election, which has often been described as a most signal and overwhelming triumph of the people, receiving but 46 per cent. of the total vote. But at the next election, in 1896, a sudden change took place, Bryan, defeated, receiving the same percentage as that by which Cleveland won four years

before; but McKinley pushed the Republican percentage from 42+ per cent. to 51− per cent. He increased it still further in 1900, while the Democrats dropped from 46 per cent. to 45 per cent.

Now, the Grant period is merely a continuation of the Lincoln period, when the Republicans were clearly in the ascendency. Judging by the figures, Grant was a much more popular candidate than Lincoln. Certainly the tide toward Republicanism which began with the Fremont campaign in 1856 reached its flood at Grant's second election. It is true that the Southern States were under carpet-bag, military governments, and their part in swelling the majorities of Grant should be ignored. But Grant was a popular man, the Democracy had made a frightful blunder in naming Greeley, and the Republicans won great majorities in the North—137,000 in Pennsylvania, 55,000 in Illinois, 74,000 in Massachusetts, 60,000 in Michigan, and in Greeley's own State, New York, 53,000.

With the election of 1876, a new period was ushered in. The bad times, the administration scandals, and the boredom of the southern question, and a reaction against the radical anti-Confederate sentiment of the war period and its aftermath—these influences created a sort of revolution in public sentiment. The Democrats carried the House by a large majority in 1874, and, but for the superb strategy—or bold-faced stealing—of the Republican leaders, would have won the Presidency in 1876, Tilden getting 50 per cent. of the total and Hayes only with 48 per cent.—and the Presidency. The Republican tidal wave was receding.

The next twenty years was a low-flat period of political energy. The parties see-sawed in control of the House and of the Presidency. After Garfield's victory in 1880, both parties steadily declined in their percentages of the popular vote—an unparalleled experience in American politics. Both reached the low point in the election of 1892. This meant that the minor parties grew in strength. The People's Party polled more than one million votes, thus becoming the most powerful minor party in our history—since we cannot regard either one of the Democratic parties of 1860 as a third or minor party in the common use of the term. Had Gresham taken the Populist nomination in 1892, the break would have been much larger. Or had the Populists stood by their guns and rejected fusion in that and succeeding campaigns, this party might have become powerful. But fusion crippled it, and alienated men of high principles who had hoped to find in it a new party of distinctive great purposes.

What meant the immense, sudden change in 1896? The Republican vote leaped 8 per cent. and the Democratic was unchanged. The minor parties, which had 11 per cent. of the total vote in 1892, now shrunk to 3 per cent. What had happened? Bryan killed the Populists as a party by getting their indorsement. McKinley aroused all the old enthusiasm of his party, and attracted to himself thousands of Democrats whom Bryan repelled. The vote leaped from 12,000,000 to more than 13,500,000, and McKinley became the only president who had received a popular majority since Grant, thirty-four years before.

Four years later, in 1900, the same men met again, and McKinley slightly increased his percentage and Bryan lost 1 per cent.

All the anti-imperialistic thunder of 1898 and 1900, and all the high prices of these latter years, could not prevail against the impression that the party of protection means prosperity. Mr. Champ Clark, the brilliant Missouri Democratic congressman, said after the campaign of 1900 that he knew why his party was defeated—an old Missouri Democrat at one of his own meetings gave him the key. As Mr. Clark was expatiating on the downfall of the constitution and the perils of the republic involved in the Philippine policy, this old farmer turned to a friend and observed, "Oh, well, I guess we can stand it as long as cattle is $4 on the hoof!"

The Republicans have made Prosperity their rallying cry, and it has won. Shrewder campaign maxims were never made than Mr. Hanna's "Let well enough alone" and "Stand pat." The voter has no knowledge of tariff schedules. You can convince him that this schedule ought to be lowered and that one changed, but he is not going to trust the Democratic party to do it.

And what is the outlook for the coming campaign? The third parties do not promise to disturb the normal strength of the two main parties; and "cattle is still $4 on the hoof."

THE DAY'S WORK OF THE MAYOR OF NEW YORK

AN OFFICIAL NEXT TO THE PRESIDENT IN AUTOCRATIC POWER—HOW MR. McCLELLAN'S ADMINISTRATION FILLS THE OFFICE—ITS RELATIONS WITH TAMMANY HALL

BY

FRANKLIN MATTHEWS

THE Mayor of New York is the busiest public official in the United States except the President. And no other official has so much purely arbitrary power, for he can interfere with the work of more persons than any one else in the country. His day's work is one of heavy responsibility.

At half-past nine every week-day there steps into the City Hall a well-built, boyish-looking man of medium size, inconspicuously dressed, who swings down the corridors at a lively gait, leaving a trail of cigar smoke behind him, and nodding a cheery good-morning here and there. At the western end of the main corridor he turns, strides down a short hallway, enters a plainly furnished office-room, seats himself at a great flat-topped desk, and with a quick motion pushes a call-button. He is George B. McClellan, Mayor of New York, ready for a hard day's work.

In answer to his call, his secretary and his clerks appear with papers and documents for his immediate consideration. The Mayor at once examines the engagement book, noting the appointments for the day; and then he goes over, one by one, numerous slips of paper—memoranda of things that must be attended to before he goes home at night.

Then comes the consideration of the gleanings of the morning's mail—letters that the Mayor himself must see and answer. He lights a fresh cigar, something that he is doing at regular intervals all day long, glances rapidly at each letter, dictates replies at a rapid rate, and soon gets his desk clear. As soon as this is finished, another clerk appears with documents, which the Mayor signs in a perfunctory way, scarcely looking at them. He has to sign his name about 200 times a day—often to certain bonds and stocks, of which he must sign about 40,000 a year. He must also sign personally every all-night license to sell liquor, many of which are renewed every day.

Meantime, callers have been gathering in the corridor outside the office and in the large reception room adjoining, where many of Mr. McClellan's predecessors had their office. The Mayor has had telephone messages sent to many of these callers, reminding them that he expects to see them. A dozen cards are now lying on his desk. He runs his eye over the memoranda for the day, and summons one of the callers. This first visitor is probably a commissioner of some department. A long consultation follows, regarding the commissioner's policy of management. The commissioner is then dismissed, and, one by one, two or three other commissioners secure an audience.

More callers are arriving and the outer corridor is filled. The Mayor runs over the names of the visitors, glances at his watch, notes an engagement of importance in, say, half an hour, and then, adopting a method which President Roosevelt often uses, he leaves his desk and appears in the public reception room, where he quickly goes the rounds of the visitors, dismissing each one quickly with a few words. Those who "Simply call to pay my respects, Mr. Mayor," he welcomes as though they had real business with his office; but they do not stay long. The old soldiers who served under his distinguished father are always greeted with especial kindness. Receiving them, however, is something of a burden, although assumed cheerfully, for it would seem that almost every living man who fought in the Civil War was one of General McClellan's "boys." Where they all come from is a mystery to the officials in the Mayor's office.

More documents, meanwhile, are piling up on the Mayor's desk. He rushes through them on his return to his office, and then holds more important conferences, some of them with men who have had appointments days ahead. Almost before he is aware of it, the luncheon hour has come. The Mayor puts on his hat and coat, grasps a handful of papers, walks quickly across the western side of City Hall Park to Broadway, and enters an office building for a hasty luncheon at the Hardware Club.

While eating, he runs his eye over papers, and makes up his mind what to do about them. He is usually back in half an hour, and has a few minutes only to see more callers before some important board meeting, which he must attend, begins at two o'clock. This meeting will probably occupy him until four o'clock. The casual caller must see him before he goes to it.

It is at this time of day, between the lunch hour and the meeting, that he is most accessible, "just for a moment." He tries to see every one who has any legitimate business with the Mayor's office. The visitor finds him genial and showing in every move and utterance unmistakable signs of the polish which has come to him through education and distinguished ancestry. He has no air of superiority, but the caller feels at once that he is in the presence of a gentleman. The Mayor's voice is mellow, and of a tenor quality. His eye is quick with a suggestion of suspicious inquiry in its movements. He is essentially a silent man, but he rises to a challenge quickly, often with a merry remark, and he has that most necessary quality in a public officer of dismissing his callers gently but firmly, and hurrying them away with a pleased expression on their faces. If you ask him what he thinks of the routine through which he has to go, he will tell you, with a sly chuckle, that it is "pretty strenuous."

When the noonday callers have been dismissed, there come the board meetings. In the various boards of which he is member by law the Mayor is easily the most conspicuous figure. The most important of these boards is the Board of Estimate and Apportionment—virtually the upper house of the city legislature. In the New York City Government, the appropriation of money does not originate in the Board of Aldermen, but here. In this board the Mayor has three votes; the City Comptroller, three; the President of the Board of Aldermen, three; the Presidents of the Boroughs of Manhattan and Brooklyn, two each; the Presidents of the Boroughs of the Bronx, Queens, and Richmond, one each. If the Mayor is a strong man, his three votes amount in influence to much more than their numerical strength. It is seldom that he is overruled when he suggests municipal appropriations.

At the meetings the Mayor is the presiding officer. In this capacity, Mr. McClellan has already made a reputation for his remarkably quick despatch of public business. He goes to the heart of things at once, shuts off useless debate, and says, "Let's do so and so," and that usually settles the matter. Among the other boards of which he is a member are the Armory Board, the Rapid Transit Board, and the Board of *City Record*, which is the board that publishes the official newspaper of the city and looks after the municipal supplies of stationery and the city printing. There is scarcely a day in the week that the Mayor does not attend some board meeting. He hurries through the work, and then he is back at his desk, signing more papers, receiving more callers, and making more engagements.

If the State Legislature is in session, the Mayor from time to time gives public hearings on city bills that he must approve before they can become laws, or that cannot become laws if he disapproves of them, unless they are repassed over his veto. These hearings sometimes occupy several hours. The Mayor hurries them as much as possible, but he is bound to give a fair hearing to all who have a right to speak upon the measures. It is usually five o'clock in the afternoon before the office is free from callers, and then there comes a half-hour of lively work before the desks are cleared and the Mayor is at liberty to begin his walk home, which, with his walk to his office in the morning, is about the only exercise he has time to take. He has had, indeed, a "pretty strenuous" day.

But he is not yet through with his work. There are numerous social obligations resting upon him. He must appear at public gatherings—notably dinners. He must review the various military organizations of the city. He must attend many semi-public meetings. He frequently holds political conferences at his home in the evening. He holds to the

view that his time at the City Hall belongs to the transaction of public business, and he relegates politics to the evening at his home or elsewhere. Charles F. Murphy, the leader of Tammany Hall, and the man who made Mr. McClellan Mayor, has not set foot in the City Hall since his protegé assumed office. Indeed, he has not met Mayor McClellan half a dozen times since January 1.

The present administration in New York is a business administration. Heretofore, the office, especially under Tammany rule, has been administered largely for political purposes. Sometimes the Mayor has been a mere dummy. Sometimes an alliance with corruption and crime for plunder has existed in the City Hall, the Mayor apparently complacent to it, but just now the office is managed upon the theory that it is possible to have a strictly partisan government that is clean, honest, and efficient. In reality this theory never before had an actual trial in New York. The chief glory of the present administration is that it has "kept the lid on"—in brief, has kept vicious resorts closed.

The city budget of New York amounts to $106,000,000 a year. The entire cost of maintaining the Federal government for the year 1903–04 was only $464,000,000. But the City of New York spends vastly more than $106,000,000 a year. With its many issues of public bonds for improvements, its expenditures run up to $150,000,000 or more. This is fully one-third as much money as is needed to maintain the Federal Government for a year. In directing how this money shall be spent, the Mayor has the chief responsibility. It is a prodigal outlay. An expert student of municipal affairs declared recently that in public service the City of New York does not realize twenty-five cents on the dollar.

This city budget of New York is greater than the combined budgets of any five other cities in the country. New York pays salaries to more than 46,000 persons, amounting to about $55,000,000 a year. No other city in the world pays its employees such high wages. No corporation or private business could afford such a drain upon its resources. The municipal expert quoted above has said, too, that such an undue outlay for services would wreck the United States Steel Corporation in six months. Thousands of men on the pay-roll of the city could not earn in private labor one-half as much as the city pays them, and many could not earn one-quarter.

This waste of money tells a marvelous tale of municipal prosperity. Nothing has been done to stop it. Mr. Low, when Mayor, made no serious effort to cut down the unwarranted expenditure for salaries. Mr. McClellan is making none. The salary grip of politicians upon the American cities remains absolutely tight, and no strong man has yet arisen to break it.

Yet, under the present charter of New York City, supplemented by numerous ordinances, some of which are plainly subversive of citizens' rights and would be declared illegal if carried to the higher courts, the Mayor can make himself almost an autocrat. There was a grave question recently, when Mr. McClellan arbitrarily closed up certain theatres as unsafe, whether he did not exceed his powers. But no theatrical manager dared to carry the legal point involved to a higher court, for public opinion was behind the Mayor.

Visitors to the City Hall at the present time find little change from the condition of affairs when Mr. Low was Mayor. The routine of the office goes on just as it did before. The grade of callers seems to be nearly the same. The spoils politician, the "bone-hunter," is absent. Probably one reason for this is that, under the present civil-service laws, Mayor McClellan had only 578 offices in the entire city government that he could bestow upon applicants.

Mayor McClellan occupies the unusual position of a Tammany Mayor who is the real Mayor. He is the one who is keeping New York decent. It is an onerous task, when one considers the Tammany of the past, and recalls that among the disreputable element were many of his most enthusiastic supporters for the office. He is fast earning their enmity, but he seems to know exactly where he is going, and to realize the pitfalls that beset him. The Mayor has already shown his independence by vetoing a Tammany Hall railroad grab. He has also displayed such strength that there is serious question, not whether the real Mayor of New York is Charles F. Murphy, leader of Tammany Hall, but whether the real leader of Tammany Hall is not George B. McClellan, Mayor of New York.

OUR PROBLEM IN SANTO DOMINGO

A COUNTRY OF REVOLUTIONS—ATTACKS MADE ON AMERICAN INTERESTS—THE STRATEGIC IMPORTANCE OF THE REPUBLIC—POSSIBILITIES OF INTERVENTION

BY

WILLIAM THORP

WHEN I first visited Santo Domingo, the steamship was boarded, before she dropped anchor, by an officer from a Dominican gunboat lying in the harbor. He was a ridiculous figure of fun, who might have stepped straight from the stage, with a cocked hat and plumes, a uniform of white, blue, red, yellow, silver, and gold, patent leather Hessian boots, and silver-plated spurs. He suggested a country exhibiting only a parody of civilization.

And ashore I met on the streets three women to every man, most of them dressed in mourning. "It is the war—the war that never ends, and kills off all the men," said a native, of whom I asked the reason for this uniform black. Everywhere there were signs of poverty, misery, and degradation. Beneath the quaint absurdities of mulatto government, beneath the bright, happy-go-lucky street life of a tropical city, there was always the undertone of tragedy.

The United States is faced with a grave responsibility toward Santo Domingo. The misgovernment of the last hundred years has produced a state of affairs even worse than that in Cuba under Weyler's rule, and the need for intervention is at least as great as it was in Cuba. The inhabitants have been reduced to acute misery and practical savagery by a long series of civil wars, arising through their inability to govern themselves properly, and they have plundered and shot Americans and other foreigners, violated the sanctity of Consulates, and committed many other grave international crimes by which the United States has suffered. Moreover, Santo Domingo occupies an important strategical position on the ocean highway to the Panama Canal, and there is danger that if America does not dominate the country some European Power, probably Germany, may.

Santo Domingo, theoretically a republic, covers two-thirds of the largest and richest island in the West Indies, except Cuba. Its population can only be guessed at, for the official figures are untrustworthy. There are probably 500,000 negroes and mulattoes scattered over 18,000 square miles. They are often half-starved, and always living from hand to mouth, for there is little incentive to honest industry when a party of soldiers may come along at any moment and eat up the fruit of a man's labor. The country could easily support 5,000,000 people in prosperity and comfort. But it has been at war, with hardly any considerable intermission, for about a hundred years. There is no other country in the world, not even Venezuela, with such a record.

After a long struggle, the Dominicans won their independence from Spain in 1822, and joined the republic of Hayti. They disliked Haytian rule, many revolutions followed, and in 1844 they proclaimed themselves an independent republic. Hayti fought for twenty-three years to bring them back, and the war was savage and bloody beyond description. While it was going on, in 1861, the Dominicans asked Spain to rule them again. Spain agreed, but within three years the Dominicans revolted, and fought the Spaniards as well as the Haytians, compelling the former, by ferocious and successful guerrilla warfare, to evacuate the island in 1865.

When the Spaniards had gone, the country was nothing but a thinly peopled desert. What was left of the population had practically reverted to African savagery, and most of the evidences of Spanish civilization had been swept away.

Then, instead of trying to build up the country in peace, the Dominicans indulged in a long series of civil wars. Warfare had bred a crew of soldiers of fortune and of ambitious politicians eager to carve their way to the best places by the sword. Revolution followed revolution, and often there were

several revolutions in full blast at the same time, just as there are today.

Education, industry, commerce, were neglected. The peasantry were preyed upon by all parties in turn. The concern of the ephemeral governments was to buy rifles and cartridges by means of which they could keep in power long enough to make personal fortunes. Some of the things done in Dominican warfare might shock a Kurd or an Albanian. A well-known Dominican general was once pointed out to me as the man who had tortured four little girls to death because they could not tell him where their father was hidden. Similar stories are told of many of the leading politicians and fighting men.

The disparity in numbers between women and men is even greater in the country villages than in the cities, for the men are apt to flock to the towns, or to be marched off to fight by one of the numerous guerrilla bands. Polygamy results in the country districts. A peasant usually has four or five wives, who live in common and work for him and the children. Yet the population does not increase. That is the most striking testimony to the condition of the country. The men are steadily thinned down by the wars, and three-fourths of the children die in infancy, owing to the ignorance of their mothers and the lack of medical care. I have seen babies a few months old given raw plantain to eat when they cried. I have known babies, too, to be killed by government soldiers before the eyes of their mothers, because their fathers were fighting in the ranks of the revolutionists. Fifteen women and children were slain in cold blood in the town of San Pedro de Macoris, an important seaport, in 1900, with the deliberate purpose of deterring the men from joining the revolutionists.

But this is not all. There is probably no foreign country in the world in which Americans have a larger share of the national commerce and industry, and none in which American interests suffer more.

The other day I met in New York a West Indian friend whom I had last known as the overseer of a large sugar plantation, owned by an American capitalist, at Macoris. When I asked him what he was doing in town, he replied:

"We had to shut down. Everything's gone to glory through the revolution."

"Which revolution?" I asked.

"I am sure I don't know—there were so many of them. As soon as one ragged band of bandits had left us, taking our mules, another would come along and capture all our laborers and take them along to join the army. We were plundered of one thing after another, and we couldn't get our crops exported because of the blockades that were imposed and enforced at some ports in defiance of the American war-ships. We stood it as long as we could, but at last we had to shut down and hope for better times."

This plantation is the largest in Santo Domingo, and $1,200,000 of American money is invested in it. The five Dominican sugar estates next in importance are also owned by Americans. The aggregate capital invested in them is $2,850,000. As long ago as 1897, not one of these six estates was working at a profit, and their condition has grown steadily worse since then. The depression in the West Indian sugar industry was sufficient to render them unprofitable, without able management and luck, but when, in addition, they were oppressed by militant political parties, their case became hopeless.

This is only one example out of many which show how American interests have suffered. Half of the sugar plantations are American, and all obtain their supplies from the United States. The Santo Domingo Improvement Company, an American corporation, controls the commerce and industry of the country. It collects the revenues for the government and manages the national bank. It also manages one of the two Dominican railways, which runs between Puerto Plata and Santiago, and was built by American contractors and American engineers. Another small line is operated by Scottish capital. Many agricultural enterprises were started by Americans along both railways, and they have all suffered severely. Other American enterprises, such as a telephone company, operating in several of the larger towns, and extensive banana plantations, have also suffered.

All the sugar exported goes to New York, and so does the bulk of the logwood, mahogany, honey, wax, hides, and bananas, besides a considerable portion of the coffee, cacao, and tobacco. The remainder goes to Germany, France, Belgium, and England; and, on the whole, German interests in Santo Domingo rank next to ours.

But it is not merely a question of trade. The strategic position of Santo Domingo is vitally important in relation to the Panama Canal. The Gulf of Samana, with its deep and sheltered waters, its fine holding-ground, and its central position, is one of the best sites for a coaling station in the West Indies. The River Yuna, navigable fifty-two miles from its mouth, empties into this gulf, which is indented by the bays of Santo Barbara, San Lorenzo, and Escondido, all of them large and secure harbors. Altogether, Samana is a great prize. Germany has displayed considerable interest in its advantages as a coaling station, and has had it carefully surveyed several times within the past two or three years by her war-ships, especially by the cruiser *Vineta*. Germans and Englishmen, moreover, have been grossly maltreated in Santo Domingo, as well as Americans. It has been stated, on semi-official authority, that Germany and England intimated to Washington that unless the United States took steps to put an end to the present "intolerable condition of affairs," they would be obliged to do so.

When President Grant wanted to annex Santo Domingo at the invitation of President Baez, in 1870, he told the United States Senate that he had information, "which I believe reliable, that a European Power stands ready now to offer $2,000,000 for the possession of Samana Bay, if refused by us." Since then there have been many rumors that Germany was about to acquire a foothold in Hayti or Santo Domingo, and certainly she has done all in her power to increase her influence over those republics. Germans are more respected and more feared in both countries than any other foreigners.

There is a strong sentiment of independence among the people, and I have often been told by prominent Dominicans that any attempt at annexation would be met by bitter guerrilla warfare, like that directed against the Spaniards in the middle of the last century. The Haytians would probably join in such a war, for they believe in independence more firmly even than the Dominicans.

When America intervenes, tact will be necessary in order to prevent a repetition of Spain's sad story. The natives must be handled wisely, their jealous, suspicious mulatto nature studied, and their prejudices conciliated. They must be convinced that America is actuated by high motives, not by a selfish desire to acquire territory; and then there will be no trouble except that which may be caused by the professional revolutionists who find their occupation gone.

Under American domination, the marvelous resources of the country would be rapidly developed and the evils created by a century of warfare, misgovernment, and ignorant superstition would be gradually remedied. Actually, Santo Domingo is probably one of the poorest countries of its size on earth; potentially, it is one of the richest. It furnishes unlimited opportunities for development.

A CAREER OF ROMANTIC ACHIEVEMENT

THE STORY OF W. R. GRACE, WHO, BORN IN IRELAND, BECAME A GREAT MERCHANT IN THE SOUTH AMERICAN TRADE AND MAYOR OF NEW YORK

BY

JOHN THOMPSON

THE late Mr. William R. Grace was a merchant-adventurer of the Elizabethan type, who was born in Ireland in 1833 of good family, ran away to sea as a boy, later engaged in the South American trade, at one time had what was virtually a mortgage on Peru, and ultimately became a reform mayor of New York.

He was noted as a boy for his adventurous disposition. He wanted to enter the English

Navy, but, since his father would not consent, ran away to sea as a cook's scullion on a clipper ship sailing for America. More than two years later his father got tidings of him from New York, where he had been just managing to scrape an existence. His father induced him to return home, and bought him an interest in a ship chandlery business in Liverpool, so that before the boy was of age he was a well-established business man.

But the spirit of the Elizabethan adventurer was in him, and, tiring of placid business life, he seized an opportunity to go to Peru, where, aided by his father, he secured a place at Callao with Bryce & Co., ship chandlers and furnishers. Here his duty was to go out in a small boat to vessels entering the harbor and solicit orders. He was soon so well liked by the ship captains with whom he dealt that he had to be taken into the firm, which became Bryce, Grace & Co. While in Callao, he married Miss Gilchrist, the daughter of a Maine sea captain.

Peru was rapidly developing. The national revenues from the guano deposits were so great that the government was undertaking important enterprises. Mr. Grace was able by his skill and by his foreign connections to make himself useful to the government, and, incidentally, to become rich.

But about 1869 he fell suddenly ill and went home to Ireland. There he fell under the influence of a religious sister, from whom he acquired a deeply religious feeling that was marked in all his later life. After about a year spent in aimless traveling he settled in New York.

Here he established the house of W. R. Grace & Co., to act as the American correspondents for Bryce, Grace & Co., of Callao, Peru, who still hold their influential position, and were able to throw the whole business of buying the supplies needed for the Meiggs railroads and other great public enterprises into his hands. In addition to this he became one of the confidential financial advisers of the Peruvian Government. W. R. Grace & Co. soon became the leading South American exporting house in the United States.

Between 1875 and 1880 he armed and equipped the Peruvian army and sold to Peru many of the ships in her navy. During the war between Chile and Peru in 1879–80 he extemporized an additional Peruvian navy and kept both army and navy supplied with munitions of war.

His interests in Peru continued to increase until, in 1890, with his brother, Mr. Michael P. Grace, he succeeded in putting through the so-called Grace-Donoughmore contract, by which Peru, having fallen into very bad financial troubles, handed over to the Peruvian Corporation, an English company, the control of the roads and drainage canals and some other important sources of national revenue in consideration of the company's assuming the national debt. In other words, for the time being Peru made an assignment of its resources to a private company in favor of its creditors.

Meanwhile, Mr. Grace had built up in New York a reputation as a good citizen and a leading export merchant. He was popular among the dominant Irish element for his advocacy of Parnell and for the leading position he had taken in sending aid to famine-stricken Ireland.

In 1880 an attempt was made to effect a union for campaign purposes between Irving and Tammany Halls, the two Democratic organizations in the city. After much trouble it was agreed that Irving Hall should submit a list of ten names to Tammany Hall, from which Tammany was to select a union candidate for Mayor. Mr. Grace was tenth on this list, for his name was put there more as a compliment than because any one really thought that he might be selected, as he had had no previous political experience, was unknown to a great majority of the voters, and was a Roman Catholic. But he was chosen and elected by a few hundred votes, becoming the first Roman Catholic mayor of New York.

He almost immediately fell out with John Kelly, the Tammany leader, about patronage; and thereafter Tammany became his bitterest enemy. Moreover, the city government was bi-partisan and in the hands of professional politicians who had no liking for clean government, so that Mr. Grace found himself almost alone, having quarreled with the party that had elected him and being intensely disliked and distrusted by his political opponents.

His first administration was one long fight against organized vice. On his retirement he was cordially hated by every political organization in New York, yet he had suc-

ceeded in effecting more radical reforms in city administration than any other mayor. He reformed the Police Department, and took away from it the cleaning of the streets, creating a special department for that purpose. He organized a counter-police in the mayor's office that kept a strict outlook over all that both departments did, with the result that for the first time in history the streets were cleaned, and dives of all kinds, swindling, and open vice became more nearly unknown than they had ever been before in recent years.

The way in which he outwitted the Louisiana Lottery, the strongest and most highly organized and protected of all the vicious things in New York, was typical of all that he did. He got a warrant, and finally secured entry to the offices of the Lottery. No one was found to arrest, and no incriminating evidence of any kind was obtained. But the safe was still there, though it was securely locked. Mr. Grace had it brought to the City Hall. So much did the Lottery fear the revelations that would follow its opening, that they undertook to leave New York and never return if it should be returned unopened. Mr. Grace promptly handed it over, and the Lottery disappeared completely from the city. All this was a result quietly obtained that would otherwise have cost many reputations, much time, and more money, and that would have raised enmities on all sides.

Not only did Mayor Grace do all this, but he, at the same time, gave New York the lowest tax rate and the most efficient expenditure of appropriations that it had ever known. Needless to say, at the end of his term he was not reëlected.

In 1884 political conditions in New York were such that Mr. Cleveland's election to the presidency was in serious jeopardy. Mr. Grace was asked by Mr. Cleveland's friends if he would run for mayor and take the chances of defeat at Tammany's hands, but he refused. He expressed his willingness, however, to lead an independent party, and, if nominated by it, to run and accept the endorsement of any other parties. The other candidates were Grant and Gibbs. Mr. Grace won by about 10,000. It is probable that his campaign determined the National election of 1884, but he never secured for himself or his friends any National patronage from Mr. Cleveland.

His second administration was like his first, a wholesale cleaning up of the city offices. He made but one great mistake—opposing the proposed tremendous extension of the Park system, not thinking that the city would grow up to it rapidly enough to justify the enormous expense.

Again on leaving office he was without a party, but he had this time a great independent personal following.

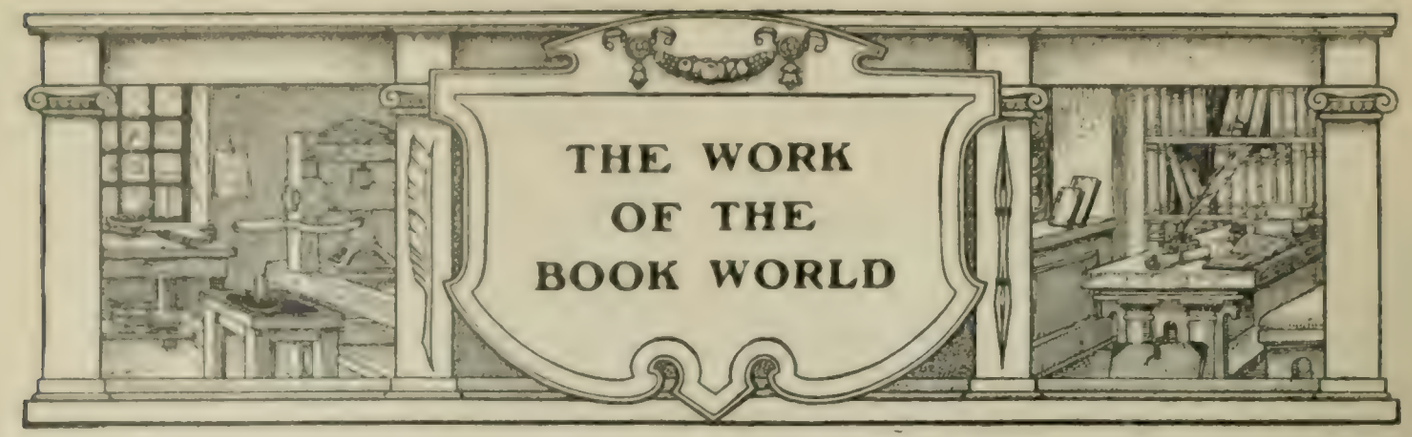
After Mr. Hewitt's term as mayor expired, Tammany offered the nomination to Mr. Grace, but he refused it, saying that a Tammany nomination would be impossible to accept. And down to the time of his death he was always in opposition to Tammany.

Mr. Grace continued his interest in Peru, and was largely instrumental in the completion of its railroad system and the development of the great Cerro de Pasco Mines. He had been one of the organizers of the line of vessels plying between New York and the west coast of South America, an organizer of the Lincoln National Bank, of the Lincoln Safe Deposit Company, and of the great Terminal Warehouse Company. He was a director in the New York Life Insurance Co. He controlled the Ingersoll-Sargent Rock Drill Co., and made of it a prosperous concern. And he was the leading spirit in the last effort to build a Nicaragua canal by private enterprise.

Mr. Grace was deeply interested in religious matters, and was one of the most steady supports of the Catholic Church in this country, though he was not in favor of any religious influence in the public schools. He was very charitable, and endowed several religious institutions.

Strong will and belief in his own capacity, and a cautious calculating willingness to take any risk, were the chief elements in a character that achieved marked success in all that it undertook, and that will be remembered as one of the most capable and honest that have ever had a commanding position in New York politics. The spirit of the Elizabethan adventurer, however, was always alive in W. R. Grace, as it was in his brothers.

When Mr. Grace was Mayor of New York, his brother, Michael P., was the greatest power in Peruvian politics, and another brother, Dr. Morgan Grace, was a leader in one of the New Zealand cabinets.



SOME OF THE BEST BOOKS ABOUT THE FAR EAST

THE SUBJECT IN GENERAL

THE Awakening of the East, Siberia —Japan—China, by Pierre Leroy-Beaulieu (McClure, Phillips & Co. $1.50), is a carefully written account of the awakening of northern and eastern Asia in the last fifty, and more particularly during the last ten, years. There is no better introduction to the study of the conflicting political and industrial interests that have just led to war between Russia and Japan.

Problems of the Far East, Japan—Korea—China, by Lord Curzon, of Kedleston (Longmans, Green & Co., $2.50), is in some respects out of date; but it is still of importance because of its impartial and masterly examination, in a comparative light, of the political, social, and economic conditions of the Far East, and because it represents the official English view with regard to China. The chapters on Korea still have great value.

American Diplomacy in the Orient, by John W. Foster, ex-Secretary of State (Houghton, Mifflin & Co., $3 net), is an able history of the relations of the United States with the countries of the Far East. It begins with the founding of the Republic, and, coming down to the present day, gives a clear idea of the interest of the United States in the political, commercial, and race questions in the Orient.

Captain Mahan's "Problem of Asia" (Little, Brown & Co., $2) is a suggestive and illuminating study, from an American point of view, of the main features of the general world situation involved in the question of the Far East. American interests in eastern Asia are here clearly defined by a master of international politics, and the book is now most timely.

RUSSIA

M. Anatole Leroy-Beaulieu's "Empire of the Tsars and the Russians" (G. P. Putnam's Sons, 3 vols., $9), is the most important and complete account of Russia and her peoples accessible in English. It is the result of long and able research, and consists of a series of brilliant pictures of the operations of government, of the moral and physical habits of the people, and of their institutions and religions. It is a mine of authentic and detailed information, but order, clearness, and interest are never lacking. It is written in thorough sympathy with the Russian people, and yet with such marked impartiality and truth that its circulation in Russia has been peremptorily forbidden.

A History of Russia from the Birth of Peter the Great to Nicholas II., by W. R. Morfill (James Pott & Co., $1.75 net), is a concise and readable account of the chief events in the history of modern Russia. Due attention has been paid to the social and literary development of the country, as well as to its recent expansion, and the whole story is enlivened with anecdotes taken from unpublished memoirs and diaries.

The Expansion of Russia, 1815–1900, by F. H. Skrine (Macmillan & Co., $1.50 net), is a clear and carefully written narrative of the political history of Russia from 1815 to 1900. There is no better summary of the main events that have marked the growth of Russia during the last century. A valuable bibliography is included as an appendix.

All the Russias—Travels and Studies in Contemporary European Russia, Finland, Siberia, the Caucasus, and Central Asia, by Henry Norman (Charles Scribner's Sons, $4 net), is, above all, an important study of the recent

remarkable industrial and commercial development of Russia, with its profound significance to the outside world. The chapters which deal with the expansion of Russia in Asia and the relations of Russia with the Continental nations of Europe are of especial value.

The Russian Advance, by Hon. Albert J. Beveridge (Harper & Bros., $2.50 net), is the graphic relation of a keen-sighted traveler. Russia's policy of expansion and the reasons for antagonism between Russia and Japan are clearly stated. The appendix contains a number of famous documents that are not readily found elsewhere. Among them are the Treaty of Shimonoseki, The Russo-Manchurian Railway Agreement, The Anglo-Russian Agreement with regard to spheres of influence, and the Anglo-Japanese Treaty.

Overland to China, by A. R. Colquhoun (Harper & Bros., $3), is a study of the physical and political changes which the Trans-Siberian Railway must in the end bring about. It deals with the New Siberia and the intense and increasing energy of expanding Russia.

Sir D. Mackenzie Wallace's "Russia" (Henry Holt & Co., $2), has for many years held the place of the most reliable and satisfactory description of Russian life, politics, and character that is available in a single volume. It is only surpassed by Leroy-Beaulieu's greater work.

Russia in Asia, by Alexis Krausse (Henry Holt & Co., $4 net), is an authoritative history of Russian progress in Asia. The final chapters on the political and diplomatic policy of Russia in the East have especial weight and value.

Siberia and Central Asia, by John W. Bookwalter (F. A. Stokes & Co., $4), is a profusely illustrated and entertaining book of travel. Its value lies in the shrewd observations made by the writer, an American business man, on the possibilities of Siberian development.

M. Rambaud's "Expansion of Russia" (Scott-Thaw Co., $1), gives, within 100 pages, a condensed and authoritative statement of the territorial growth of Russia from the ninth century. It is the most important summary of events and short description of Russian diplomacy yet presented.

Mr. Palmer's "Russian Life in Town and Country" (Putnam's, $1.20), is informative brightly written, and filled with illustrative stories. Due attention is here at last properly paid to the Russian peasants, their manner of life, their religion, their superstitions, their coöperative societies, and their relations with the Jews.

Prof. Brandes' "Impressions of Russia" (T. Y. Crowell & Co., $1.25), consists in part of a series of clever sketches of the country and its people; but more than half of the book is devoted to Russian literature. Herein lies its greatest value, for, in an interesting way, it gives the general reader all the chief facts about the great writers of Russia.

FICTION

Indeed, the best books for vivid and intimate description of the national spirit and character of the Russians are the works of her three greatest novelists:

Turgenieff was a melancholy and pessimistic dreamer; something of an aristocrat—very much of an artist. He represented well a Russian type of character: lazy, good-humored, and despotic. He was fond of describing those who strive greatly, fail, and are resigned to their fate. His masterpiece is "Virgin Soil" (Macmillan, 2 vols., $2.50).

Dostoyevski was also a melancholy dreamer, but a sombre optimist. He was filled with sympathy for the poor and ignorant. He was passionately patriotic, unconsciously democratic, and his interest as a novelist lay in unfolding the characters of those who exhibit self-sacrifice and are despised. His greatest work is "Crime and Punishment" (Laird & Lee, 25c).

Tolstoi, the Realist, now become preacher and dreamer, with his Slav piety, mystic Christian democracy, and faith in the peasants, is known to all. His earlier work is represented by "War and Peace" (Peck, $1): his later work by "The Dominion of Darkness." (Sergel, 25c).

JAPAN

Things Japanese, by B. H. Chamberlain (Charles Scribner's Sons, $4 net), is indispensable as a book of reference to all who have the slightest interest in Japan. It is an encyclopedia in little, but it is so well written, it contains so much of human interest and so many items of curious information, that it is a delightful book to read from beginning to end.

The Heart of Japan, by C. L. Brownell (McClure, Phillips & Co., $1.50 net), is an unusually entertaining account of Japanese life, pleasantly humorous, and full of quaint and peculiarly good, little first-hand stories. There is no more entertaining sketch of the Japanese, and much information is given indirectly.

The Mikado's Empire, by William E. Griffis (Harper & Bros., $4), is the best book on Japan for the general reader. It gives an excellent outline history of the country, and neglects no side of Japanese national life. It is an interesting and straightforward narrative, written with sympathy by one who has played an important part in the development of Japan.

Glimpses of Unfamiliar Japan ($4). Out of the East—Reveries and Studies in New Japan ($1.25). Kokoro, Hints and Echoes of Japanese Inner Life ($1.25), all by Lafcadio Hearn (Houghton, Mifflin), are intimate studies of things Japanese.

No one has described Japan with more knowledge and sympathetic insight than Mr. Hearn. The inner life of the common people, their customs and daily habits, the thoughts and feelings of students, farmers, geishas, politicians, and nuns, are among the subjects that make up these four delightful volumes. Kokoro contains the remarkable Essay on Japanese Civilization.

Mr. Gulick's "Evolution of the Japanese" (F. H. Revell & Co., $2), is a scientific study of the emotional, aesthetic, intellectual, moral, and religious characteristics of the people; and its purpose is to prove that the unity of the Orient lies in a common civilization and social order.

Japanese Girls and Women, by Miss A. M. Bacon (Houghton, Mifflin, $4; cheaper edition, $1.25). In modestly attempting to set down something of the thoughts and daily lives of Japanese women, Miss Bacon has really furnished a remarkably intimate description of Japanese family life.

The Ideals of the East, by Kakasu Okakura (E. P. Dutton & Co., $1.50 net), might bear as its sub-title "The Heart and Soul of Japan." It is an eloquent interpretation of the history and philosophy of the Japanese through their art. It is written in the spirit of fervent patriotism that is distinctly Japanese.

CHINA

China—Her History, Diplomacy, and Commerce from the Earliest Times to the Present Day, by E. H. Parker (Dutton, $2.50 net), is less a detailed history and account of the diplomacy and commerce of China than an attempt to explain what is of importance and interest to-day in its history, its trade, and its relations with foreign nations. There are important chapters treating of the population, the army, the religion, and the characteristics of the Chinese.

John Chinaman, and a Few Others, by E. H. Parker (Dutton, $2.50 net), is a racy description of Chinese characteristics and Chinese types. Mr. Parker writes from intimate knowledge, and is almost alone in finding in the Chinaman a human nature which is much like our own.

China in Transformation, by A. R. Colquhoun (Harper, $3), is devoted to a clear statement of the international problem of China. There is an able marshalling of all facts that have bearing upon the larger political questions. There are important chapters on Foreign Relations, Communications, Commercial Development, Government and Administration, and Chinese Democracy.

Dr. Smith's "Village Life in China" (Revell, $2), is an intimate study of family life in the interior of China, with the institutions, usages and public characters of villages, which make up the great bulk of the empire. It contains much out-of-the-way information.

China, The Long-Lived Empire, by Eliza R. Scidmore (Century Company, $2.50). Miss Scidmore's book is an entertaining description of wanderings in China, chiefly among the Treaty Ports, by a remarkably well-informed and observant traveler.

KOREA

Corea, The Hermit Nation, by William E. Griffis (Scribner, $2.50), is a sketch of the history of Korea from the earliest times—an account of the country and the people with their national customs, of their folk-lore and religion, of their political and social life. The appendix contains chapters on the language and literature, and a valuable bibliography.

Chosön, The Land of the Morning Calm, a sketch of Korea, by Percival Lowell (Houghton, Mifflin, $3), is neither a history nor a complete and satisfactory book of travel, but no other writer has so thoroughly mastered the secret of the national life and spirit of Korea. Mr. Lowell has given so brilliant and accurate a description of the country and its people that his book is one of the most important on the subject.

Korea, by Angus Hamilton (Scribner, $4; cheaper edition, $1.50 net), is quite new, but no other book can compare with this for detail and completeness of information in regard to the Korea of to-day. It presents a vivid picture of the country and its inhabitants. A particularly interesting and useful chapter compares the military and naval forces and the resources of Russia and Japan.

THE CONTINUOUS STEEL MILL AN INDUSTRIAL TRIUMPH

WHEN Mr. Wilson, the inventor at the Carnegie Homestead Steel Works, asked Mr. Charles M. Schwab to back him in marketing a non-nicotine, "continuous" dry, cold-smoke smoking-pipe, Mr. Schwab laughed and jocularly remarked:

"Invent a 'continuous mill,' Wilson; I'll back you on that."

Wilson shook his head. The idea, however, stayed with Mr. Schwab.

In steel mills, the course of the material as it goes through the process of manufacture is normally zig-zag. The ore, the molten metal, and the billets are carried by machinery or on cars here and there and back and forth for treatment. The "continuous mill" would be one in which the material would follow an approximately straight line from process to process—the acme of economical handling. It would comprehend a complete chain of mills under one roof, beginning with the furnace in which the crude steel is smelted from the ores, and ending with the bins from which the finished product is loaded into cars for shipment—a mill operated entirely by machinery.

When Mr. Schwab became president of the Carnegie Company, he discussed the possibilities of his "continuous mill" with Mr. Carnegie. About this time the company planned to compete in Europe with European manufacturers in the sale of steel bars. Then the bar prices fell, and the company was about to abandon its foreign project as unprofitable, when Mr. Carnegie said:

"No, let us build Schwab's continuous mill. If it operates successfully, it will lessen the cost of production almost half. We can then compete anywhere. Never mind the expense of several million dollars. We may be about to revolutionize steel manufacture."

That is how the continuous "merchant-bar" mill came to be erected at the Carnegie Steel Company's plant at Duquesne, Pennsylvania. For it was built. If all the steel plants in the United States today were "continuous," in this sense, the steel industry would not be crippled as it is by over-production. Much steel is manufactured at the manufacturer's risk. "Stock steel" it is called. At the Duquesne mill no floor-space is left for stocking. Every bar when cold is dropped from the bins into cars which, when full, are shipped to their ultimate destinations. Thus production is limited to the capacities of the transportation companies.

The mill is a marvel in every sense. Built along the shore of the Monongahela River, its main shed is more than a mile long. At the south end is located a furnace. Here is received the ore, dolomite, pig-iron, and other material, which is emptied into the furnace by huge electric charging-machines. One charging-machine is apportioned to from six to twelve furnace-pits, operated by a single man Each furnace is operated by a force of three, while half a dozen Italian laborers complete the entire force of the department. In this furnace the steel is prepared for pouring in liquid form into large ingot molds which are transported, when full, into another department on trains of "buggies," or little flat-cars.

These molds are placed in cooling-pits. To make place for them, other molds, which have stood there some time, are now removed and transported to the first set of rollers, where the crude ingots are now subjected to their first rolling. These ingots weigh tons each, yet so perfect is the automatic arrangement that but one man is necessary to operate the levers which throw the steel, now considerably reduced in size, across other rollers, and still others, to the final "shaping" machinery.

In less than fifteen minutes after leaving the cooling-pits, the ingot has been compressed into what is technically known as "a shape." This shape now passes through its very last set of rolls, and is cut into sections of exactly the same length, size, and weight. Each of these sections is known as a bar.

This bar is red-hot. In this condition, it is marked by steel stamps, and thus identified for shipment.

The bars, as many as fifty being cut every minute, must now be cooled and loaded. They, therefore, pass up a ladder-like inclined plane to an elevation of about twenty-five feet. At this point the cooling-bins are reached, into which they fall in great confusion. These bins resemble those of a great granary except that they are built of steel and are perforated. Gallons of water are sprinkled over them continuously. The water and atmosphere quickly cool the newly made bars. The gates of the bins are now thrown open, and the whole lot is dumped into steel cars that have been placed directly below. The process of manufacture is now complete.

That this process is economical is obvious, occupying hardly more than an hour after the pouring of the steel from the pits of the furnace. Rush orders have often been received in the Carnegie Company's office at Pittsburg at six o'clock in the evening, and by six the next morning the proper number of bars have been manufactured, loaded, and shipped to their destination.

There is a saving, too, in labor. Fewer men are employed in this continuous mill than in any single department of any other Carnegie mill. In transportation, also, there is saving. Whereas, at Homestead, for example, the hot ingots must be carried by means of steam locomotives, often a half-mile through the yard, here they proceed to the rollers direct and within a few minutes.

This mill is, indeed, a near approach to the solution of the grave problem of limited operating space that confronts steel manufacturers everywhere today. It is a triumph of industrial management.

COLLEGE MEN IN INDUSTRY

AN officer of a pumping-engine company was recently asked whether college men or men trained by practice are better equipped for industrial work. He replied:

"Everything being equal, the practical man is likely to know more than the technical man about actual shop work, but he is also likely to stop knowing when he should go on knowing."

This feeling is general. The old-time apprentice, who developed into an all-round mechanic, is being rapidly ousted by the modern technical graduate who is a specialist. Even the modern foreman is no longer the product of apprenticeship. The trade-school creates him.

A SLEEPLESS GUARDIAN OF RAILROAD SAFETY AND COMFORT

AMERICAN railroad development has reached the point where a man can sit comfortably in a private car and see recorded on paper before him every imperfection of the rails over which he is riding. Twenty years ago, a track-walker with a hammer tramped the cross-ties to find out this same thing. The track-walker's work and much more is now done by the dynograph, a mechanism which not only records the deviations the rails make from a straight and level line, but automatically computes these deviations in feet and inches.

Four or five times a year what appears to be an ordinary private car stands in the New York Central yards in New York city. Above the windows are the words Dynograph and Track Indicator, and under the windows, instead of the name of the car, is the name P. H. Dudley. One-half of this car is fitted up as a workroom, and in the centre of this space is an iron machine forty-two inches high with a roll of paper twenty inches wide at one end. It looks like a hand printing-press, but it is, in reality, the dynograph, one of the most useful of railroad inventions.

The dynograph tests rails. It makes records on the roll of paper attached to the machine, made through power gained from the rolling of the wheels of the car over the track. The paper is unrolled by a shaft attached to the axle of the car. The paper is thus moved slowly as the car travels. Suspended over the paper are a number of glass tubes, each containing red ink. They are really glass needles that make a continuous mark on the paper. There is one needle for each track, one for the gage of the rails, another to measure the distance the car is traveling. These needles are all connected, first, by shafts attached to the axle, and then by delicate mechanism attached to each shaft. If the car is traveling over a perfectly level track, these glass needles make a straight line. If there is an undulation in the track of a fraction of an inch, the sensitive mechanism wavers and the line becomes broken. Since no track is perfectly level, the record for the best road-bed in America is wavering.

When the undulation or break in the level of the track is one-eighth of an inch or more, the mechanism opens a hose attached to a can of blue paint on the trucks. The paint is splashed on the rail, and the defect is thus plainly marked for the section-gangs. Every time the paint is thrown on the track a mark is made by the glass needle, giving a record by which to check the work of the track repairers.

When the trip of this car is ended, there is also recorded on the paper the sum total of the amount of undulation. This is done by a very delicate apparatus attached to the dynograph. One inch on the paper means fifty feet of track. On a recent trip of the dynograph car, the four-hundred-and-thirty-sixth mile on the run between New New York and Buffalo showed the total undulations of one rail to be two feet and four inches, and of the other two feet six inches. This means that in one mile of track the spaces between rails, imperfections in the rails, and deviations from straightness amounted to two feet four inches for one rail and two feet six inches for the other. No two parallel rails ever have the same record for a given distance. The heavier the rail, the fewer the undulations. The smallest total of undulations recorded is one foot and six inches, made on one-hundred-pound steel rails. These are the heaviest now in service.

The man whose name appears on the dynograph car, Dr. P. H. Dudley, is the inventor of the mechanism and a recognized authority on rails. He has two assistants in operating the invention. One of these keeps the glass needles filled with red ink, and the other makes a record of the stations, mile-posts, bridges, and water-tanks. Thus a complete record of the road-bed is obtained. Dr. Dudley watches the paper as it passes under the needles. The private car always goes out as a special, and travels at the rate of thirty miles an hour.

At the end of a test trip, a permanent record of the roll is made and copies printed for the various mechanical departments of the road. By this record the company is apprised of the actual condition of its road-bed.

Dr. Dudley owns the dynograph car, and has made it his home and workshop for fifteen years. His wife accompanies him on all his trips Dr. Dudley is a consulting track engineer, and is in the employ of many railroads.

WHAT CAN THE AUTOMOBILE DO?

AS a result of the transcontinental automobile tours of last summer, several cars will be sent out in June to prove that the journey can be made in less than two months—the best time thus far made. One builder contemplates a continuous tour day and night, the same car to go on without intermission, the drivers to work in relays. A transcontinental race also is projected. It is proposed that some of the racers start from San Francisco and some from New York. These plans show that the tendency in automobiling is to find out just what the machines can do.

Long-distance automobile runs have showed the necessity of a national boulevard from New York to San Francisco, and plans for this highway are being made. Already there is rivalry between States for the route west of Chicago. Colorado is bidding against Wyoming, and eventually Missouri, Kansas, and Utah will be arrayed against Iowa, Nebraska, and Idaho.

The Automobile Club, of New York, will hold a contest of "business vehicles" in May. Last year a contest for this class was held over a prescribed course between the Battery, in New York, and Spuyten Duyvil. Only steam and gasolene vehicles took part. This year the club will have vehicles employed for one week doing some merchant's regular routine of cartage work, accompanied by a technical observer who will note points of interest. The two most important details, namely, deterioration and cost of repairs, will, however, necessarily escape consideration. The awards will be given according to the observers' notes. The Society of Automobile Engineers, recently formed in New York, will hold meetings regularly for the discussion of practical automobile building.

In every city auto trucks and delivery wagons show the practical use of the automobile. In New York, Fire Chief Croker uses an automobile to go to fires. In one morning he visited six fires—two of them ten miles apart. This would not have been possible had he used a horse. Physicians, inspectors, and trade solicitors find the automobile a great time-saver.

The American Automobile Association, a federation of the leading automobile clubs, has assumed control of racing, on the plan that those who race at meets not sanctioned by it are outlawed and cannot race at sanctioned meets. This body has also taken in hand the organization of a gigantic excursion of motorists to the Louisiana Purchase Exposition in St. Louis. Under the auspices of the local clubs in the leading cities motorists are to start out in their vehicles from all points of the compass with the object of meeting in a huge camp on the infield of a St. Louis race-track, their arrival to be timed as closely as possible for August 10th. Certain routes have been laid out where the association will provide facilities for supplies and hotel or camping accommodations. It is the idea to mass the automobiles in such numbers on the roads as to make the demonstration impressive before St. Louis is reached. This is to be the main automobile event of the year, and it is now expected that one thousand

motor cars will be seen in line. It is to take the place of former contests or endurance runs.

THE VAST TERRITORIES INVOLVED IN THE RUSSO-JAPANESE WAR

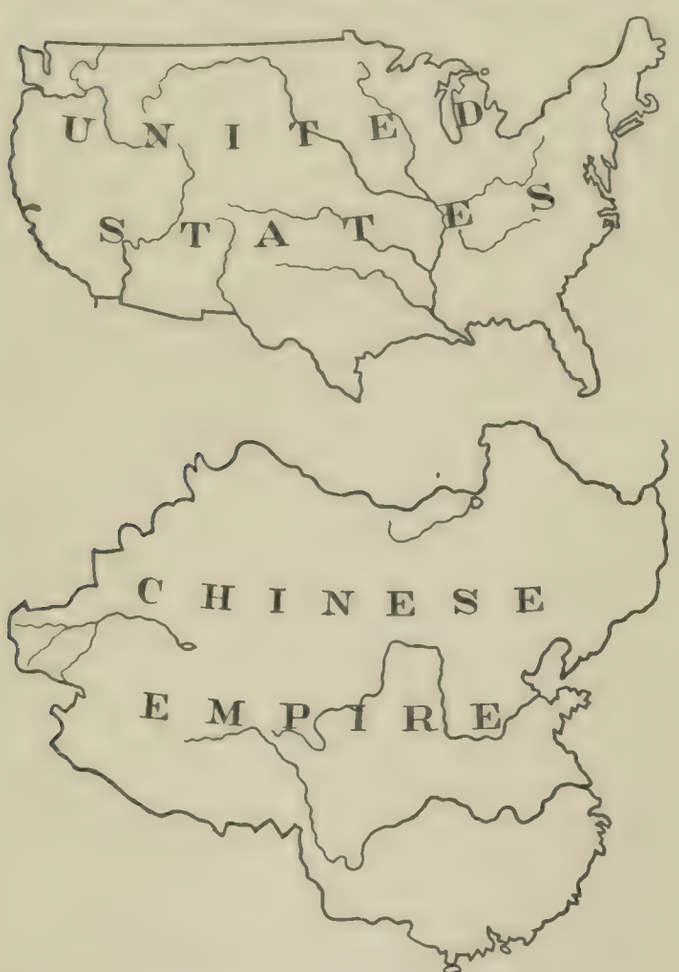
AN element of great significance in the Russo-Japanese War and in its issues is the vast expanse of the Asian territory involved.

Lake Baikal, which makes a break in the Trans-Siberian Railroad, is, for example, as

LAKE BAIKAL COMPARED WITH LAKE MICHIGAN

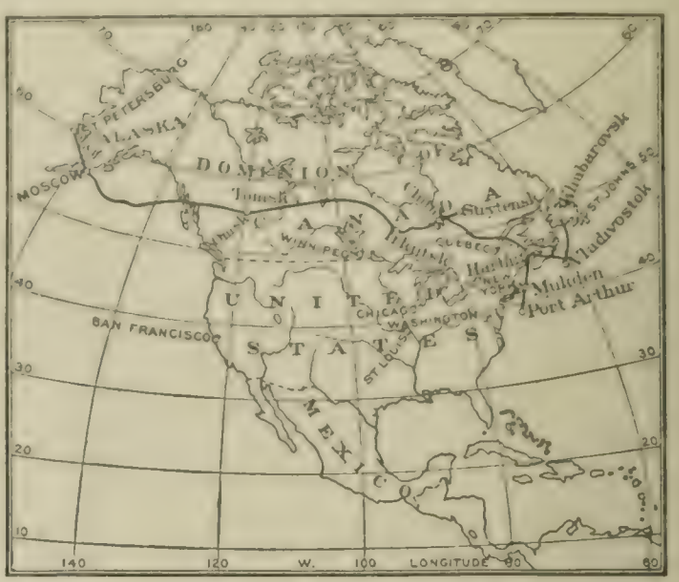
long, and in some places as wide, as Lake Michigan.

In the War Number of this magazine Mr. Henry Norman declared that the war is a contest for the control of China. The size of China is shown by the accompanying comparison.



CHINA COMPARED WITH THE UNITED STATES

The Trans-Siberian Railroad is the longest in the world. If laid down on North America, it would run from the western coast of Alaska to points in the Atlantic Ocean off



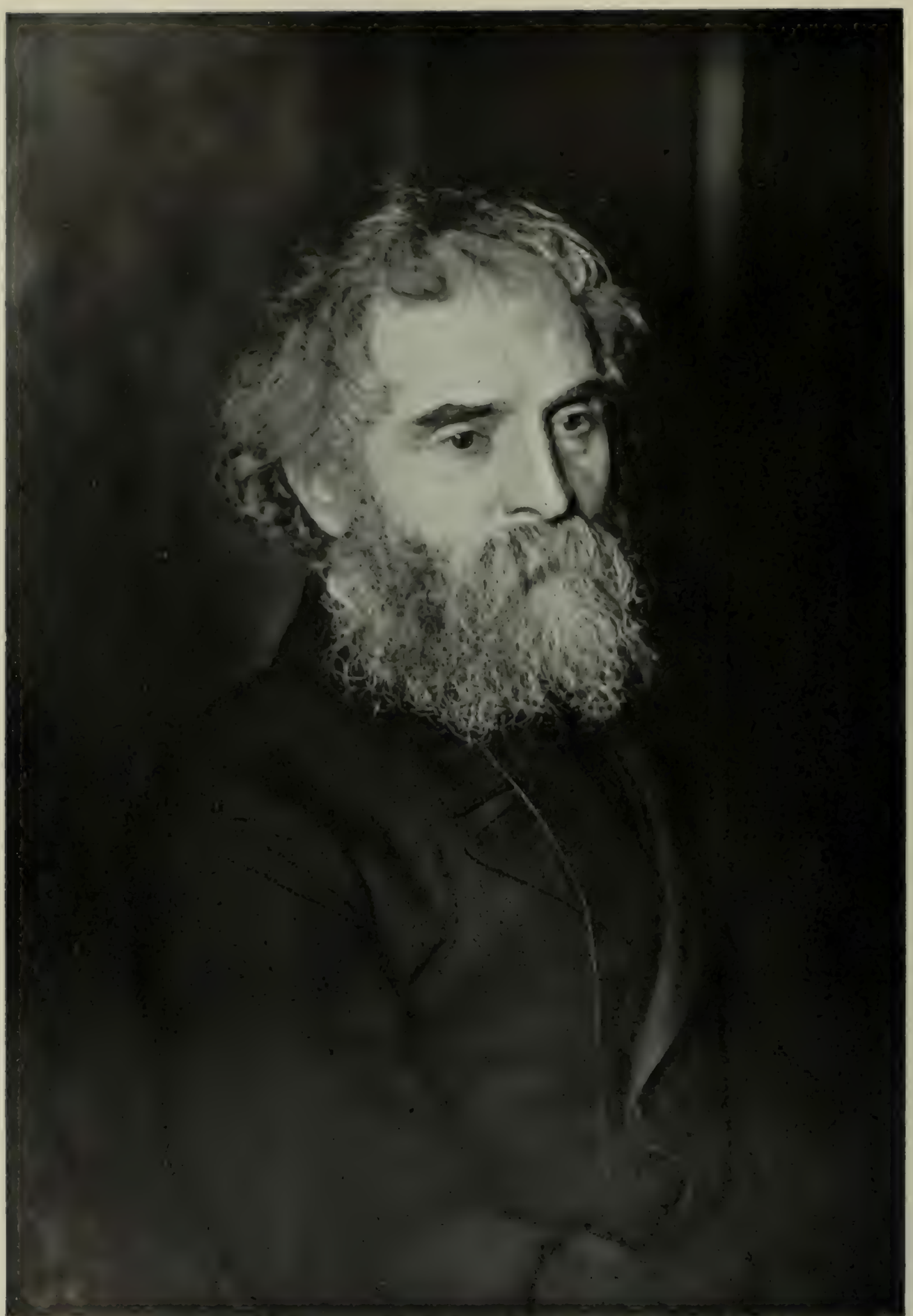
THE TRANS-SIBERIAN RAILROAD LAID DOWN ON NORTH AMERICA

New Jersey and off Nova Scotia. The map shows how far north St. Petersburg and Moscow are as compared with American cities. It shows that Port Arthur is on the parallel upon which Washington lies and Vladivostock on the same line with Halifax.

OLD METHODS NEVER SAFE FROM CHANGE

AN engineer of quick and keen mind was asked some years ago to visit a copper mine in northern Michigan and design some ore-crushing stamps. He accordingly went to the mines, where, for the first time in his life, he saw stamps at work. He found them reared on a huge foundation of spring timbers and rubber-sheeting, which was supposed to add to the efficiency of the stamps. His simple comment was, "If I were trying to crush rock I would not start to do it on a feather-bed."

He suggested that the spring timbers be replaced by a solid mass of iron, so that the blow of a stamp should wholly expend itself in crushing rock, and not largely in compressing an immense elastic mass with utter waste of power. Only at the end of two years did the company permit him to build such a stamp. It did just 60 per cent. more work than the old machinery. During forty years elastic cushions under every mining-stamp in the world had been wasting almost one-half the applied energy.



Photographed for THE WORLD'S WORK by Gertrude Kasebier

M. ANATOLE LEROY-BEAULIEU

A DISTINGUISHED FRENCH PUBLICIST AND AN AUTHORITY ON RUSSIAN HISTORY, WHO IS NOW LECTURING IN THE UNITED STATES

(See "*The March of Events*")

THE WORLD'S WORK

JUNE, 1904

VOLUME VIII NUMBER 2

The March of Events

THE national political conventions are near, and the platform-makers are at work. The platforms of the Republican State conventions may be summed up in Mr. Hanna's terse phrase, "Stand pat." This lacks positive merits; but, in a time of fair prosperity and general satisfaction, a party may win by letting well-enough alone. Such a programme does not provoke thought. It is a lazy programme, but, for that very reason, effective when men are so well contented that they do not wish to be disturbed. So far as a platform can go, then, the Republicans seem likely to show the conquering cowardice of standing still.

The Democrats, in their tentative platform-making, are definitely avoiding the fatal errors of their last two national utterances. They do not repeat the free-silver plank. They are leaving Mr. Bryan's old doctrine out of most of their State platforms. This is a positive gain. True, this alone does not put the party very far forward in political thought. There is nothing convincing in an omission. But to make this omission shows courage, or—to use Mr. Cleveland's phrase—"sanity."

The Democratic party will thus regain its self-respect and the respect of its opponents. It will, at least, clear the deck for action; and, if it does not win this year, it will show a well-drawn battle-line.

MR. ROOSEVELT THE REAL ISSUE

BUT this year's election will not be won by any formal platform. The truth is, Mr. Roosevelt will be the real platform of both parties. The party scribes will write declarations about trusts and the tariff and our foreign policy; but the campaigners are going to talk about Mr. Roosevelt and about little else. The real question presented to the voter will be, "Do you want him for President?" and "Can you stand him?" There is going to be a vast deal of argument or declamation to show that he is an "unsafe" man as President. The Democratic speakers and the Democratic press have already "formulated this issue."

And they are making a tactical mistake in doing so—to say no more about it. Mr. Roosevelt has, at least, been successful in his "unsafe" undertakings—in settling the coal strike, in enforcing the anti-trust law, in acquiring the Panama Canal, in all other delicate dealings with foreign nations. Practical success in bringing desirable results outweighs all mere doctrinal criticism.

This is a lesson that the Democratic party finds it hard to learn. It has so long been in the opposition, and its every-day work has so long been criticism, that it forgets that no battle was ever won by swearing at the enemy. This is the mistake that it seems likely to make this year. If the campaign turn chiefly

HON. JOSEPH W. FOLK

THE DISTRICT-ATTORNEY OF ST. LOUIS AND THE PROBABLE DEMOCRATIC NOMINEE FOR GOVERNOR OF MISSOURI

(*See "The March of Events"*)

Photographed by B. S. Hopkins

MR. BENJAMIN L. WINCHELL

THE NEW PRESIDENT OF THE ROCK ISLAND SYSTEM, WHO HAS RISEN FROM A RAILROAD CLERK TO HIS PRESENT POSITION BY HIS ABILITY AND ENERGY

(See "*The March of Events*")

on Mr. Roosevelt's personal qualities, he will gain by criticism. He is very popular. Personal criticism will not draw away from him any man who admires him; but it will stir his admirers to the more earnest support of him. There is, moreover, a quality in American character that resents abuse. It is a quality that causes us all to say, "Let's be fair. Let's give every man who does anything useful the benefit of the doubt." For this reason, personal abuse, except for some well-proved moral delinquency, generally wins public favor for its victim.

MR. ROOSEVELT'S "SAFENESS"

WHETHER Mr. Roosevelt really be an unsafe man in the Presidency is not a hard question to answer by facts. He has been President nearly three years. He was Governor of New York for a full term. These are the two highest executive posts in the nation. He has not yet done an executive act that has turned out disastrously for the country. His critics are forever predicting that he will surely do some rash thing. But, since the "rash" things that he has done during a very considerable executive experience have turned out successfully, his conduct is surely worth more in evidence than their alarm. The curious fact is that he is criticised rather for what he may do than for what he has done.

Regarded from an independent point of view, this alarm lest Mr. Roosevelt do some reckless thing is significant in two ways. It shows a lack of any vital doctrinal difference between the parties. True, the Democrats cry out for tariff-reduction, but they are not in earnest about it as they were during Mr. Cleveland's campaigns. Then it was expected that revenue would be got from an income-tax. Now it must be got from customs duties. Moreover, the expenses of the government have been greatly increased. Tariff-reduction, therefore, lacks a vital or vote-changing power; and there is no other important doctrinal difference between the parties.

The other fact disclosed by the cry that Mr. Roosevelt is unsafe is the strength of his personality. We are asked to believe that he may run over the legislative branch of the government, and hold the constitution in small esteem, and endanger the peace of the world—as if there were not the most rigid limitations on executive power, and as if any man in the Presidency could burst through these limitations at will.

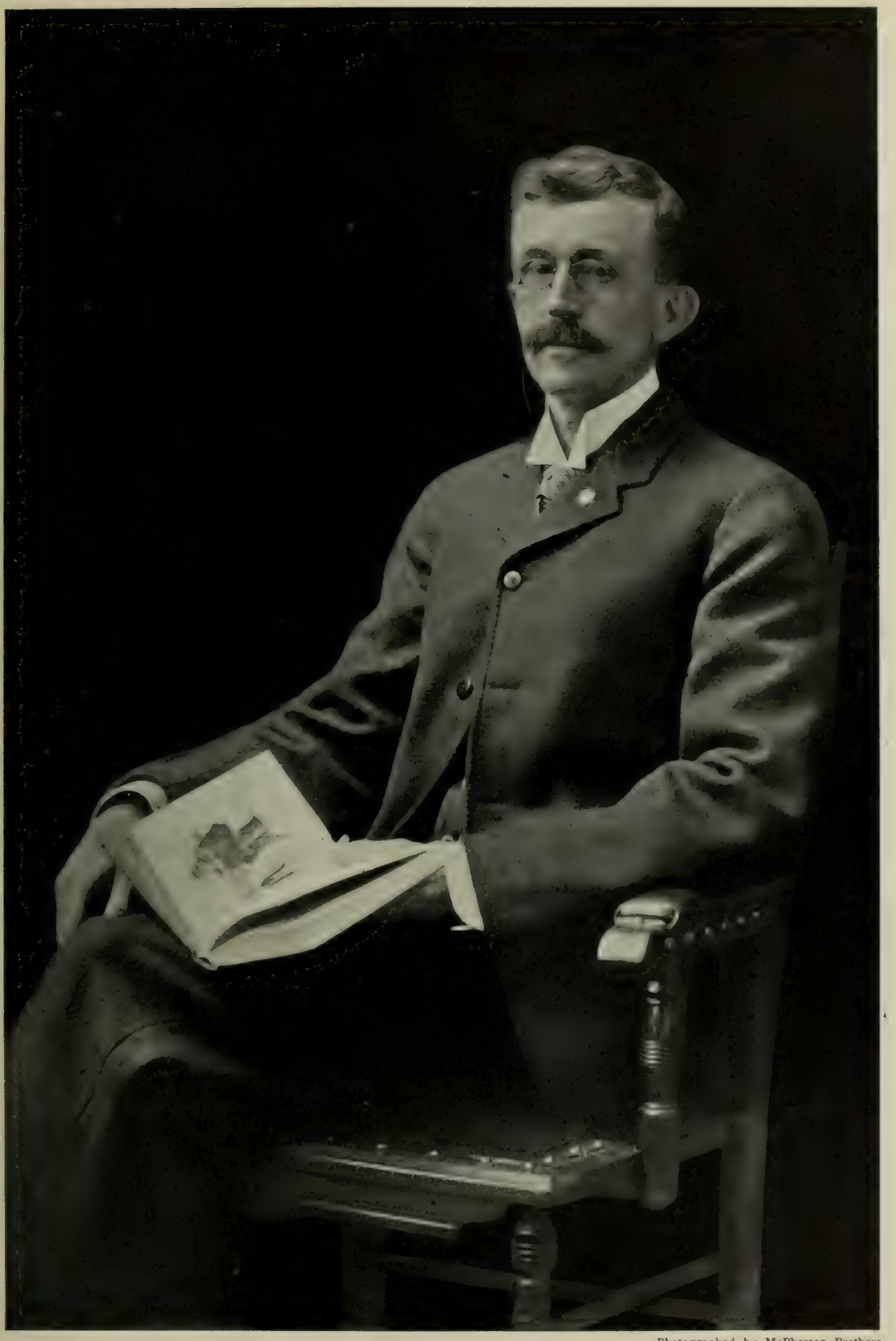
This "alarm" is really a great compliment to Mr. Roosevelt. It is equivalent to saying that he is an energetic President (and no other sort of man ought to be President). His energy has, in fact, had the most wholesome effect in other countries. It has done much firmly to establish great respect for the United States abroad, as well as a higher standard of official conduct at home. And our diplomatic activity these three or four years has been conspicuously directed toward maintaining the peace of the world.

It is a significant measure of the stagnant political thought of the time that a campaign should turn on the personal characteristics of the President—one might even say, on his personal manner. For he has an energetic manner. Men of slow motions who lack imagination may mistake energy for rashness; but the people admire energy. It seems likely to turn out that the President is closer to the masses—knows their temperament better, and is more like them—than his "alarmed" critics. We have, for a good many years, had a lazy period in national politics, and the people are not likely to be frightened by the quickening of the former official pace. They are accustomed to the energetic doing of private tasks, and they are not frightened by the application of the same quality to the public business.

In the preparatory stage of the campaign, therefore, the President, while he may suffer personal annoyance, seems to be lucky in the character of criticism made of him. Take the Panama matter as an example. The first outcry was that he had done an unsafe and unwarranted act. But Congress ratified it, public opinion approved it, and the whole world has come to regard it as wise.

JUDGE PARKER AS A PLATFORM

ALTHOUGH a Democratic platform is hard to build, except as a criticism of the Republican administration, there is, nevertheless, a distinct Democratic philosophy; and this philosophy will be most admirably embodied in Judge Parker, if his party nominate him; and his nomination seems almost probable enough to warrant its prediction. As the public has become better informed about him, it has become



Photographed by McPherson Brothers

MR. O. J. KERN

THE SUPERINTENDENT OF SCHOOLS OF WINNEBAGO COUNTY, ILLINOIS

(See page 4883)

COLONEL YOUNGHUSBAND

COMMANDER OF THE BRITISH EXPEDITION INTO TIBET

(See "The March of Events")

clear that he admirably represents the historic philosophy of the party. He stands less for any particular doctrine, such as is most often summed up in platform phrases of recent years, than for a system of political thought.

He believes, for instance, in the largest possible liberty for the individual, in as little government as possible, in as economical government as possible, and in a very strict interpretation of the constitution. It is a safe inference, not from anything that Judge Parker has said, but from his whole career, that he would not have interfered with the anthracite coal-strike. He would have said that that was not the business of the Executive. He would hardly have been in haste to recognize Panama. He would rather have risked the consequences of delay than to have run the risk of violating the letter of any treaty. To men of the temperament of Mr. Roosevelt, Judge Parker would seem unsatisfactorily conservative and slow. His disposition would be to find as little as possible for the government to do, not as much as possible. Government, to him, is a servant, not an engine, of civilization. He would have a rigid separation of the functions of the several departments of the government. The Judiciary, in effect, makes (or unmakes) laws by decisions. The Executive, practically, makes laws (or makes unexpected applications of them) by rulings. By the "old-fashioned" Democratic creed, none of these things ought to be done.

By such reasoning as this, Judge Parker's political faith may be made clear; and it is the historic faith of his party. From this point of view, Mr. Roosevelt, or any other Republican is "unsafe"—not because any immediate or specific damage will follow his "rash" actions, but rather because the whole spirit of Republican administration is wrong. It is not conservative enough. It does not pay enough heed to the strict letter of the law. It does not really regard the constitution as a sufficiently sacred and complete document.

If Judge Parker be the Democratic nominee, he and Mr. Roosevelt, in their own persons, will most admirably represent these two systems of political thought. Each man will be the platform of his party; and the temperament of each man will be a far better expression of the tendencies of his party than either platform will be. Mr. Roosevelt's energy falls in better with the general temper of the time—this energetic mood of practical efficiency which believes in men who bring things to pass. Judge Parker's conservatism will as admirably fit the thought of those who would reduce government, as nearly as it can be reduced, to its police functions. They would disentangle it from private business—from banking and from commerce, for examples, as far as may be, and from any interference with the natural laws of private affairs. This doctrine, moreover, makes a powerful appeal to half the nation. Embodied in the character of a capable man—the man will become a better platform than the convention can frame. If Judge Parker be the nominee, he will be the Democratic platform, as Mr. Roosevelt will be the Republican platform. And the Democrats will make an effective contest in proportion to their enthusiasm for their own candidate and what he stands for, rather than in proportion to their criticism of Mr. Roosevelt and their "alarm" at what he may do. A positive programme is worth a hundred merely critical programmes.

THE JAPANESE AS MASTERS OF WAR

THE war goes on, to the continued and swift humiliation of the Russians. The practically complete destruction of their sea power in the East was accomplished by the sinking of the *Petropavlovsk* at Port Arthur, on April 13th, when Admiral Makaroff went down with his ship. The scientific campaign, the skillful manœuvres, the successful ruses of Admiral Togo, make a new chapter in naval warfare. He is using torpedoes and the wireless telegraph for the first time in warfare; and he has used them with as great effect and precision as if they were familiar instruments. His resourcefulness is as great as his persistence. There has been no such naval fighting as he has done since the modern warship was built.

And the same successful qualities are shown by the Japanese on land. General Kuroki crossed the Yalu River on May 2nd with his army—surely no larger than the Russian force there—and routed the Russians on ground of their own choosing. The attack was well planned, well timed, and accurately made, the Japanese warships in the mouth of the river giving assistance. The Japanese

captured a large part of the Russian artillery, and almost wrecked that part of the Russian army. It was a humiliating defeat.

The accurate preparation of the Japanese, their extraordinary skill as commanders alike on the sea and on land, combined with the bravery of their men (they charged the Russians with bayonets under heavy fire), have demonstrated two things. The Japanese have won a place in the front rank of military and naval powers. They have mastered the art of war. The other thing that has been demonstrated is that the Russians have forgotten that art. Their bureaucracy has made their army and navy artificial.

The gain and the loss of this demonstration of Japanese efficiency and of Russian unreadiness extend further than war. They will have (whatever the final result of this conflict be) a lasting influence on the regard in which each nation is held. Old opinions of them both are undergoing revision. Even an ultimate victory by Russia would not restore the terror with which she has been regarded. Nor would ultimate defeat prevent the Japanese from taking a place in the world's thought among the most capable people of the earth. Their conduct of this war has so far been one of the most extraordinary chapters in modern history.

ABOUT THE NEXT STAGE OF THE WAR

SPECULATIVE interest in the war increases as Japan goes on from victory to victory. Port Arthur and Vladivostock are practically lost, and Russian communication is cut off by sea. The only means of reinforcement and of securing supplies is by the long, single-track trans-Siberian railroad. Japan's initial victories on land indicate the probability of fighting of a stubborn kind in Manchuria, with the Russians at a disadvantage. The Japanese army can be easily reinforced from home, and military supplies can be brought without danger of capture. In the first stage of the war, Japan seems sure to be victorious.

What then? What will be the next stage? Japan cannot, if it would, invade Russia; and the Russians, if they choose, may continue the war indefinitely, even after the loss of Manchuria. It is declared that their pride and prestige will not allow them ever to acknowledge defeat. They can send men almost by the millions. In other years, they may send another fleet. Their forces and their treasure are practically unlimited.

Or, rather than acknowledge defeat by Japan, Russia may provoke war with England by attacking India, or she may cause a general war about the situation in the Balkans. It would be easier for her honor to agree to peace after a great and general conflict than after a war with Japan only. Advances by England, or by any other power, for peace, so long as peace must mean defeat by Japan, might provoke hostilities elsewhere.

It is a difficult situation, and the end is not clear. If Russia does not win victories that will, in some measure, restore her prestige, she will lose the respect and fear in which all the Asiatic peoples have held her. If she ever confess to defeat by Japan, it will require many years for her to regain her Asiatic influence. The danger is either of a war of indefinite duration, or of the bringing of other nations into the conflict.

ADMIRAL ALEXIEFF AS A PECULIARLY RUSSIAN PRODUCT

THE rise and fall of Admiral Alexieff throw much light on Russian civilization and Russian character. The son of a Russian woman and an Armenian of no importance, he rose to be the viceroy of the East, with a yearly salary of more than $80,000, and with almost regal position and power. The whole conduct of negotiations with Japan was put in his hands, and he had command of both army and fleet. His stupidity brought on the war, and, worse still, made Russia undergo the worst blow to her prestige that she has known in recent times.

Elevated to this preëminent position by a palace intrigue, in the course of which most of the men, such as M. de Witte and Count Lamsdorf, who had controlled Russian policy, were either dismissed from office or tacitly superseded, Admiral Alexieff, a man untried and inexperienced in such work, and avowedly the instrument of official plunderers, tried and failed, and now he has been recalled in disgrace. Such a record is almost inconceivable in any of the truly civilized states, and it shows, more than any other recent happening, the essential backwardness of Russia.

Moreover, this bit of current history gives an indication of the reasons for what has

often been called Russia's "glacial advance." The authorities at St. Petersburg make treaties which ought to bind Russia. But the men in command on her borders are, in spite of themselves, adventurers, with much to gain and little to lose. They know that if, contrary to the nation's given word, they take possession of new territory, they are more apt to be rewarded than reprimanded. In Asia, a little advance is but a little thing, and is not likely to cause more than a trifling exchange of diplomatic notes.

In St. Petersburg there is not only what may be called a "kitchen cabinet," but also a strong body of influential men, who are ready to make money out of their positions. These men, for a consideration, are willing to make matters easy for an official of prominence who has let his enthusiasm get the better of him. Thus, even if the government has to disavow the action of its subordinates, there is little danger of serious reprimand or dismissal for them.

The concession for cutting timber in Korea, which was the last provocation of the war with Japan, was held by a group of rich and influential courtiers, who had, by underhand means, got the ear of the Czar. They used their opportunity to advance their own agents and to put out of office the ministers who opposed their plans. It was they who had Admiral Alexieff put in supreme command in the East, and he used his powers for their benefit. If no objection had been made by Japan, the project of M. Bezobrazoff and his friends would have been worth many millions of dollars. If Japan were peacefully able to prevent it, they would lose nothing; and, if there were a war, they were in a position to make great commissions from the purveyors to the troops and the navy. But the admiral failed to do anything but to bring about a terrible war; and M. Bezobrazoff and his friends, now not in favor, have probably lost even their opportunity to make a hideous profit from the sale of food and munitions of war.

THE JAPANESE SPIRIT

WE are getting new light on the Japanese character, and wonderfully interesting are the incidents that reveal it. The heroism of their soldiers and sailors is no surprise, but the spirit of self-sacrifice that moves all their people is enough to make the whole world wonder. When Admiral Togo called for volunteers to man fire-ships with which he wished to close up the Russian navy in Port Arthur, every man in the fleet responded. Some wrote applications in their own blood to go to what seemed certain death. In an engagement following one of these attempts to block the harbor, Lieutenant Hiroso, when his own ship sank, leaped to the deck of a Russian torpedo boat, and died there, fighting hand to hand. He might have saved his life by swimming to a Japanese boat close at hand.

And this spirit of self-sacrifice is not confined to the soldiers and sailors. The story comes by way of London that a Japanese woman, who was married to a Russian to whom she was greatly attached, found out that he was a spy, and betrayed him. A western woman, if she would have done this at all, would probably have killed herself afterward; but the Japanese considered it a duty, and she did not hesitate. A Japanese murderer, condemned to die, had a dollar left out of money sent by his friends. The jailer suggested on his last night of life that he buy a good supper. But the man asked if he might not send his money to the war fund. The excessive war taxes, which have already caused much suffering among the poor, are paid cheerfully. Many Japanese men, physically unfit to go to war, have committed suicide in their intense disappointment.

To bravery they have added magnanimity. To their dead enemy they showed a rare courtesy. When Admiral Makaroff went down with the *Petropavlovsk*, to honor his memory they organized a procession in which they carried a thousand white lanterns. One of the banners bore this inscription:

"We sorrow unquenchably for the brave Russian Admiral Makaroff."

What, then, is this spirit? It is not only the spirit of self-sacrifice, so common among Orientals, but a determination to serve the country in every condition of life and fortune. The individual examples of bravery may not win the war, but they show the kind of people the Japanese are. And what is true of them in war will be true of them in other enterprises after the war is over, when they take their new and larger place in world affairs. Whatever psychological puzzles they may present, they have shown themselves a people of a very high spirit, indeed.

From the *London Times*

DIAGRAM SHOWING THE POSITIONS OF THE JAPANESE AND RUSSIAN FLEETS AT THE MOMENT THE PETROPAVLOVSK WAS SUNK

THE SINKING OF THE PETROPAVLOVSK

THE accompanying map, reproduced from the London *Times*, shows the formations and relative positions of the Japanese and Russian squadrons at the moment of the sinking of the battle-ship *Petropavlovsk*, on April 13th. The *Petropavlovsk*, it will be seen, was leading with the *Pobieda*, battle-ship, which sustained serious injury on her right-hand side astern. The *Poltava*, battle-ship, the *Diana*, the *Askold*, the *Bayan*, and the *Novik*, cruisers, were following at regular intervals. The position of the Russian ships seems to indicate that they were about to form single line, the battleships leading, for the purpose of entering the harbor. On the starboard beam of the leading Japanese line, which was composed of the battle-ships *Mikasa*, *Asahi*, *Fuji*, *Yashima*, and *Hatsuse*, were the two new cruisers, *Kasuga* and *Nisshin*. The battle-ship *Shikishima*, on the left of the *Hatsuse*, preceded the second Japanese line, which was made up of the cruisers *Chitose*, *Takasago*, *Yoshino*, and *Kasagi*. The armored cruisers *Tokiwa* and *Asama*, which, it would appear, helped to decoy the Russians out of the harbor, are detached from the main Japanese force. The direction of Swainson Point, where the second division of Japanese destroyers lay on the night between the 12th and 13th, is indicated by an arrow. The position of Pigeon Bay, whence a high-angle fire was directed against the inner harbor on the 15th by the *Kasuga* and *Nisshin*, is also shown.

THE HOPEFUL LESSON OF MR. FOLK'S TRIUMPH

WE hear and read much about the degradation of our politics—of cities given over to organized corruption, of legislatures which are the creatures of corporations that have need of "protection," of senators who represent special interests; and unhappily all these things exist. In places and for a time, they flourish. They even become bold enough openly to insult public decency.

But so sound is the general civic health

that a day of reckoning comes surely, and often quickly, for all such criminals. The people, of whose absorption in their own affairs the criminals take advantage, wake up under the leadership of some resolute man, and then they make short work of wrong-doers. The public sentiment shows itself so healthful that political crimes are made to bear testimony to its soundness.

Consider Missouri, for instance. Its State Legislature has been as corrupt and as contemptible a body, for some time, as ever disgraced any State capital. It was the worse because one political party had a secure majority, and its "ring" seemed to have a perpetual lease of power. In St. Louis, too, they had a fair field for spoils, and the public seemed abject and unprotected.

Mr. Folk, the people's attorney, came into office—one resolute, fearless young man, who set out simply to do his duty. Although he belonged to the same political party that the criminals ruled, he convicted the boss and nineteen members of the city council; and then he attacked the machine at the State capital. The wealth and the power of the machine and all its allied interests were overcome by one man—backed by public opinion, after he had aroused it to righteous indignation. Stranger still, he has made for himself what no man could have anticipated in the beginning—a political career for himself in the very party which the "boodlers" had long controlled. He will be nominated as the Democratic candidate for governor, and the nomination is equivalent to an election.

In the same city, St. Louis, United States Senator Burton, of Kansas, was promptly convicted for using his senatorial influence corruptly.

In Chicago, a group of two or three men have reformed the city council, and turned it from a nest of corruptionists into a trustworthy body of public servants.

The man who becomes discouraged because of sporadic and temporary corruption in politics (however bad it may be) must be very short-sighted; and he must permit his mind to dwell on the morbidities of political life, to the exclusion of a proper knowledge of public sentiment. We have lapses of attention to public affairs—we become busy and forgetful at times. Then thieves flourish. We then turn them out, send them to jail, put honest men in office, and then forget again. Thus, our public conduct is alternately good and bad. The large tendency is, without doubt, toward longer periods of good administration, and the corrective of evil-doing is always within easy reach.

PATRIOTISM AND EDUCATION IN THE SOUTH

IT is a most extraordinary thing that a great gathering of influential men, from practically every southern State, should be held every spring, simply to emphasize the business of popular education. This year, this Southern Education Conference was held at Birmingham, Alabama. The schools of the city were closed. Many of the most influential business men and professional men gave three days to the conference. The best homes in the city were thrown open to visitors; and men and women of influence went there from every point of the compass. The addresses were not on pedagogical subjects; for it was not a meeting to discuss school methods, but to emphasize the necessity of training. The superintendents of schools in many southern States reported what had been done under their administration; the presidents of colleges and of technical schools, bishops, students of public affairs, editors—all kinds of men of public spirit took part in the discussion. The subjects discussed were not those about which there is difference of opinion, but the larger need of arousing the people to their utmost in building up their own schools. All the principal colleges in the eastern and southern States were represented, from Bowdoin College, in Maine, to Tulane University, in New Orleans.

The report of the Moseley Educational Commission that came here from England last year, to study American methods and institutions, makes frequent mention of the earnestness of the American people about education. There was never a greater nor more intelligent earnestness shown than these southern conferences give evidence of. Considered as a social phenomenon, it is an extraordinary thing that one southern city after another should invite this annual meeting. It has now been held in North Carolina, Georgia, Virginia, and Alabama, in successive years. All the principal addresses at the conference at Birmingham were made by southern men, and the Executive Committee

is composed wholly of southern men; but men from the North go on this annual pilgrimage with pleasure and enthusiasm; and the conference chooses as its president, year after year, Mr. Robert C. Ogden, of New York—a man of affairs and not a professional "educator" at all. But he is a man to whose contagious moral enthusiasm the cause of popular education owes a lasting debt. Patriotism and education so support one another in this movement that the public man must champion popular education, and the schoolmaster must become a public character.

BUILDING UP THE NEGRO'S PRIDE OF RACE

MR. BOOKER T. WASHINGTON proves anew his right to constructive leadership, by laying much emphasis in his recent addresses on his pride of race; and very properly. The American Negro has much to be proud of. The fact that his remarkable progress has been achieved in a civilization established by whites does not make this progress less important or less a matter of pride. As Mr. Washington has frequently pointed out, the Negro of this generation has profited by his ancestor's slavery. But for that slavery, he would still be an African. But to have won the place that he has won, in a single generation of freedom, is an unparalleled achievement. Pride in this achievement is a necessary basis for further and greater growth. Without pride of race, no race can rise high, for it is upon pride that a strong race-character is built, and a secure race integrity as well. Mr. Washington's insistence on this pride proves the true instinct of his leadership. His doctrine falls in, too, with the doctrine that the whites maintain—the necessity of race-integrity. The vexed questions that grow out of the presence of two races in the same land where one was lately enslaved will disappear with the working-out of mutual race-pride and mutual race-respect. The truth is, the more one looks at the race-problem in the South in the light of a long period—when the stronger tendencies have had a chance to work themselves out—the surer one feels of the ultimate result. Mr. Washington's double philosophy of economic independence and of race-pride mean character, and what we call "problems" disappear in the presence of well-developed character.

A GROUP OF INTERNATIONAL TREATIES

THERE has been, in the last few months, what may be called an epidemic of treaties of amity and arbitration between the nations. France and England and France and Italy have changed their relations toward each other. France has made treaties of arbitration also with Spain and Portugal, and England has made one with Portugal. Bulgaria and Turkey have reached an understanding about the troubles in Macedonia, that ought to have a good effect. And there has been talk in Europe of new treaties about tariffs and arbitration between this country and England, France and Germany.

The effect of all this diplomatic activity has been practically to rearrange the international situation in Europe. The one thing that stands out preëminently is the fact that Germany has not been a party to any of the new understandings. In fact, they have weakened her alliances and brought her enemies together, so that she is more isolated today than she has been since the formation of the Empire.

The great fact is that England, France, and Italy have come together to the weakening of the Franco-Russian understanding, and to the practical disruption of the offensive agreement between Germany, Austria, and Italy. Moreover, these agreements seem likely to bring about at least a partial understanding between England and Russia, two nations which have been sedulously kept apart by the officious policy of Germany. These events have brought on the diplomatic scene another personality of at least as great importance as the German Emperor. For it is King Edward who has been the main instrument in bringing the nations together for a frank and gentlemanly talking-over of their misunderstandings. He has shown how much the different countries have been kept apart by petty jealousies, and how easy it is to settle these jealousies by straightforward conferences.

Although these new agreements hardly touch us directly, they, nevertheless, are of great importance to us. The countries involved are all our good friends and customers, and their mutual understandings will undoubtedly benefit us in many ways. Most important of all, they have a tendency to keep Europe steady during the stress of war in Asia.

OUR ERA OF INCREASING FOREIGN INFLUENCE

THE Congress that adjourned in April, after an unusually short session, was not fruitful of important measures. It did little more than routine work. Its appropriations for the next fiscal year were (in round numbers) $700,000,000. The most conspicuous omission was, perhaps, the omission to enact any law concerning corporations or trusts. There had been much talk of further legislation; but, on this difficult subject, campaign talk is very much easier than legislation. The Cuban reciprocity treaty (for which the special session was called) and the ratification of the treaty with Panama were, perhaps, the two most important actions of the session, outside routine duties.

Near the close of the session, Senator Cullom, of Illinois, who is Chairman of the Committee on Foreign Relations, made an impressive summary of the diplomatic activity of the period since Mr. McKinley's first election. "More important diplomatic questions were brought to a successful conclusion during these terms," he said, "than under any previous administration in the history of the United States."

In his review of them, he took up, successively, the acquisition of the Hawaiian Islands, the war with Spain and its far-reaching results—the Philippines, Cuba, Porto Rico—the Alaskan boundary, international arbitration and its triumphs, the Panama canal, our relations with China and with other powers touching China, the Russian-Japanese war, and the improved work of the consular service. He predicted that Manila would become the great commercial centre of the Orient, and he spoke of the strong influence for fair dealing and for the peaceful solution of troublesome problems, that our country now exerts.

These subjects are familiar to the habitual readers of this magazine. But every review of them makes it plainer that this remarkable series of events has lifted our government into a position of power and of credit that it never before held. The venerable senator's review of this familiar chapter in our history was, perhaps, the most impressive speech in the senate during the session, for it is chiefly in our dealing with foreign questions that we have, during these seven years, done ourselves credit.

AN ACADEMIC VIEW OF THE PHILIPPINE PROBLEM

A LARGE number of eminent men, most of them presidents of colleges and teachers, have signed a petition to be presented to the two national political conventions and to Congress, praying that we shall declare our aim in the Philippines to be the establishment of free government by the natives. Secretary Taft, on the other hand, and most other men who have had to do with affairs in the archipelago, think that such a declaration would delay the very purpose for which it would be made. To arouse premature hope in the minds of a population that is not yet ripe for self-government would give obstructionist leaders among them a lasting opportunity for mischief. The aim of the petitioners is to affect public opinion in the United States. The aim of those who object to the petition is to prevent practical trouble in the Philippines.

Secretary Taft recently said, in an address to the Chamber of Commerce in New York:

> "The Government of the United States went into the islands under a distinct promise that it would govern the Philippines for the benefit of the Filipinos; that it would extend self-government to the Filipinos as rapidly as they showed themselves fit for it, and that as many Filipinos as possible would be used in the personnel of the government. This has always been the attitude of the Government, and never, so far as I know, has there been a single step of departure from it. It was the attitude declared before the war of insurrection began, while it was pending, and at its close, and no resistance on the part of the natives has varied our position in that regard."

The whole subject is too academic to interest the active world very seriously. Suppose that both political parties and Congress were formally to declare that the inhabitants of the islands ought, at some time, to have self-government—this declaration would not be binding on future conventions and Congresses. It would give the purpose the emphasis of formal declaration, but nothing more. Our administration of the islands has, from the beginning, looked toward ultimate self-rule under conditions that cannot yet possibly be formulated. The natives have an increasing share in the government; and some of them will have practical self-rule before others are ready for it.

The islands will be developed by American activity. There must be a period of economic, as well as political, tutelage before any real self-government can be successful. Neither we nor the natives yet know their own possibilities, nor the possibilities of their country. To talk definitely about forms of government for them in a distant future seems premature. For, whatever we may say now, that problem must be solved under conditions that exist when its solution becomes possible. Cuba is not a parallel case. It is parallel in no essential respect. In the future, too, as now, what we must trust is the nature of our institutions and the character of our people. It would be impossible for an American administration of any dependency to regard it as a field for oppression or spoliation. The only idea of government that we have is free government, or as rapid an approach to it as practical conditions will permit. Since we shall have to entrust the task to our successors, whatever declaration we make any declaration seems academic, especially since no man and no party has any other idea for the people of the Philippines than continuous progress toward self-government.

The whole discussion shows that we do dearly love a political controversy. The larger and the more remote the subject, the more earnest we become about it.

HOW YOU MAY HELP THE FILIPINOS

IT is an ungracious and unfair remark to make, but the temptation is irresistible—to say that the energy spent by academic gentlemen to secure superfluous declarations by conventions about the political future of the Filipinos might be better spent in attention to their present educational needs. The teachers in the Philippine schools have as difficult and lonely a task as missionaries ever had. They need the encouragement of their fellows at home. They need support, intellectual and moral, and, sometimes, financial as well. If every group of teachers in the United States and every educational institution would definitely take up the task of sympathetically following the work done in a Filipino school—would ask the American teachers how they may help them, would write to them, would send books, would find out by sympathetic and intimate knowledge what they most need—this is work that would bring self-government nearer, and, in the meantime, make life much more cheerful and interesting for those who are planting American ideas in the minds of possible future governors of the islands. As for those that groan for something to do for the Filipinos, and, incidentally, also for their own countrymen and country-women who are really doing the hard labor to solve the large problem about which we petition and "resolve" and concern ourselves—we may, any of us, make a test of our real earnestness by selecting some particular teacher, and by putting ourselves cheerfully at her service for any help we may give her. If we go about the task right, we shall be more likely to help a school full of little Filipinos than we shall be to help 8,000,000 of people by any academic resolution.

MR. CARNEGIE'S HERO FUND

MR. CARNEGIE yielded to a generous impulse when he established a "hero fund" of $5,000,000. The income of this fund is to be given to maintain the widows (or other dependent persons) of men who lose their lives in heroic ways, and for the help of those who are maimed; and medals are to be given for heroic acts. The fund applies to deeds done in the United States and Canada, or the waters thereof, but military and naval men are excluded from its benefits, because they and their dependents receive pensions from the government.

Criticism has been made of this benefaction because it is said that it will dry up the springs of benevolence in communities where heroic acts are done. Will it? This is as much as to say that, if Mr. Carnegie is generous, there is no need of other people's being so—a judgment of other people that is not very complimentary. Is there not quite as good reason to say that the people of any community where a man heroically loses his life will argue thus—"Mr. Carnegie gives this man's family so much. We, who are his employers or his friends, cannot do less"?

The administration of the fund will encounter many an interesting controversy about what heroism is. One man sees a child in sudden danger from a horse or a moving train. He instantly rescues it—too quickly for thought. Another man, of perhaps as generous and unselfish a nature,

is dazed or stunned for an instant before he can act, and his chance for a heroic deed passes. What is the difference between these men? Under other conditions, the slower man might be as heroic as the more impulsive one.

But the bestowal of the income from this fund is a practical task, after all, and it is chiefly a pension-fund. The glory of brave acts is one thing, and men who do them seldom think of themselves as heroic; they act impulsively. The giving of help to those dependent on men who have unselfishly lost their lives is a piece of philanthropy that commends itself to common sense, and reflects credit both on Mr. Carnegie's right feeling and his good judgment. If other people feel themselves relieved of the proper appreciation of heroism—this is as much as to say that heroes have very unheroic neighbors and friends.

It is estimated, by the way, that Mr. Carnegie has now given, in public benefactions, somewhat more than $100,000,000, a little more than a fourth of which has been given to build libraries. No portion of it has been frittered away, and no portion of it given for merely passing or sentimental purposes. He has made permanent investments in enterprises that have been carefully considered.

Of course, most men who have no money could give a fortune more wisely than men who have it; for we are all endowed with abilities that we never have opportunities to use. But the permanent quality of Mr. Carnegie's gifts for the public welfare will provoke admiration and gratitude many generations hence. Every one of his great gifts is in the nature of a lasting investment. Their benefits will not cease with any changes of personalities or of conditions that can be foreseen.

INTERESTING TENDENCIES IN COLLEGE LIFE

THE careful study of the attendance at our principal colleges made by Dr. Tombo, Registrar of Columbia University in New York, shows that the western and the middle-western institutions are gaining students, somewhat at the expense of the eastern. The reason given is the increasing cost of attendance at the older eastern colleges. The western State universities have only nominal tuition fees. But there is another reason. The western schools are every year becoming better equipped. The communities about them are gaining in what might be called intellectual autonomy. Still another reason is the constant raising of the standard of admission by the eastern colleges. Very interesting, therefore, are the general tendencies, both social and educational, that such a study shows.

The schools of technology continue to gain students at a faster rate than the schools of general learning—a result that was to be expected in this intensely industrial time. Young men who do themselves credit in technical schools find work waiting for them—every one.

Another interesting fact is the falling-off in the number of students at medical schools. We are making a great advance in the quality of medical training. The best schools are raising their requirements for admission and their standard of study, and the "one-horse" schools of medicine are fast disappearing. Nothing could be more wholesome than this tendency.

And the number of pupils at all the best schools of every grade and kind increases—at a somewhat less rapid rate this year than last; but it increases. The work becomes higher. The standard is raised. The training is made severer. In a word, we are becoming a better-trained people every year. This is the best augury for both practical and intellectual leadership.

MR. PULITZER'S SCHOOL OF JOURNALISM

THE conventional "educational" mind seems to lack the initiative impulse in a most extraordinary way. Mr. Pulitzer, the owner of the New York *World*, proposed twelve years ago to endow a School of Journalism at Columbia University in New York; but the university would not then accept his offer. He renewed his proposal last year, and it was accepted; but a long discussion has followed, of the practicability of such a school—a discussion that is simply amazing to any educated man who is a journalist.

For, if there be anything that is self-evident, it is self-evident that a graduate school of journalism, parallel in its requirements and in its dignity to schools of law, and medicine, and engineering, will do a public service that has, for many a year, been needed. But, strangely enough, the propo-

sition has met criticism and even ridicule, not only in academic quarters, but from journalists themselves. The school, therefore, has, literally, to force its way into academic and professional recognition; and this, surely, is a most extraordinary fact.

The conductors of every periodical of character and high aim want trained men—need trained men. Our newspapers, our weeklies, and our monthlies provoke the criticism of their readers because their contents and their methods are not equal to their opportunities. We are constantly told that they are either dull or "sensational"—and the criticism is true. It is true, mainly because there are so few well-trained, well-equipped editors; and there are few well-trained, well-equipped editors because there is no systematic training for the profession. Men enter it and learn it—in so far as we learn it at all—by the sheer, blind labor of practice. The profession is unorganized—we do not mean in a trade-union sense—but it is intellectually unorganized. It lacks coherence. It lacks traditions. It lacks what the law and medicine have gained by generations of carefully trained men.

Mr. Pulitzer—an original and forcible man of extraordinary ability, but himself so untrained that his two great daily papers have been developed in a way that sadly deviates from the ideal newspaper—now comes forward with an article in the *North American Review* in explanation, even in defense, of his wise and generous plan. As a first lesson in journalism, his critics will do well to read it. He makes it plain that the profession can be built up to a standard of character and of thought and of lucidity of expression—in a word, of both dignity and efficiency—that would make its usefulness many times greater than it is. His plea is, first and last, for the elevation of its character. He founds this school for "the good of the Republic." Now, this is sound reasoning, and it is practicable.

As for a course of study—that presents no insuperable difficulty to any educated man, who knows both academic materials (so to speak) and the practical needs of editorial work. The real difficulty will be to find teachers wise enough to conduct the courses. But this much is certain—no teacher can do a more useful service, no young man who wishes to make an honorable career can choose more wisely, if he have character and a right ambition, and no university can add to its usefulness better, than by working out this large-minded plan.

THE PULPIT AS A PROFESSION

THE WORLD'S WORK is asked by a correspondent what advice he should give to a young man who is debating whether he shall become a preacher. "Ought I to encourage him or not?" The young man has character. He is about to be graduated at one of our principal universities. He has very good social qualities. He is of serious mind; and he has a disinclination for practical affairs or for any of the other professions, such as the law, or medicine, or architecture, or engineering. But he is in doubt whether to enter the pulpit. Can he serve his generation best by doing so?

No thoughtful man would obtrude very positive advice in answer to such a question. The young man must answer it for himself. But he will find safety in some deliberation. In a general way, it may be said that he ought not to become a preacher if he can help it. If the work so appeal to him that he finds himself unhappy in resisting the appeal—then he must do it. But, if he have a serious doubt himself, he will run the grave risk of having the doubt grow.

There never was a time, perhaps, when vigorous men were more needed in the pulpit than now. But there was never a time when men were so clearly called upon to make sure that they are well-fitted for the work by temperament and ambition; for there was never a time when so many, after a brief trial, forsook the profession. Relatively to the other great professions, it is probably true that, by a fair measurement, the preachers in the United States today are less influential, because they are less vigorous, than they were a generation or two generations ago. But this fact—if it be a fact, and most laymen, surely, hold this opinion—works both ways. It is a reason why more strong men should enter the pulpit; and, at the same time, it raises the question why so many men leave it. We are passing through a period when we put very great stress on economic independence. Lowell, when he was considering the ministry, remarked that no man ought to be a preacher who did not possess private means of support; and it was, in part at least, an

economic reason that deterred him. Many men feel something of this kind of hesitation. They feel it the more keenly because in many churches their support, financial and moral, comes mainly from women. The preacher, in fact, finds himself too much cut off from work with men. Yet all such thoughts vanish as dew in the sunshine before a great earnestness of purpose.

The question is, whether the church is the best instrument for a man, who is in good-fellowship with it, to use in working out his best service to his fellows. In the esteem of most thoughtful laymen, it is not as good an instrument, relatively, as it once was. In the esteem of successful preachers, it calls, for that very reason, for more men and stronger men. Every man must answer such a question for himself, remembering this—that, whereas a man may enter other professions with doubt, and not suffer embarrassment if he change his work, a man who once enters the pulpit and then gives it up finds it harder to adjust himself to working society because of his change of mind.

SIR HENRY THOMPSON AND THE SPECIALIZATION OF WORK

THIS, you say, is an age of necessary specialization. Consider, then, the career of the late Sir Henry Thompson. He was one of the most eminent surgeons in England. He was one of the great pioneers in his particular branch of intestinal surgery, and was so highly thought of that he was selected as the most competent man in Europe to operate on the Emperor Napoleon the Third in his final illness. But it was not for his specialty that he was most renowned, but for his uncommon versatility. He did more different things well than any other man of his time.

Aside from his practice, he was an indefatigable writer of scientific books, and a highly successful teacher. He was renowned for his dinners—"octaves," he called them—to which the most eminent men of all professions were glad to be invited, and which will probably be historic for the good talk that they brought forth. He was a very successful painter, and he exhibited many times at both the English Academy and the French Salon. He amused himself in his vacations by writing several novels, which had large sales. He was an accomplished astronomer, and he had, at one time, the finest private observatory in England. He made money by his scientific growing of tomatoes and chickens for the London market. He was one of the best connoisseurs of Japanese and Chinese porcelains. When he was past eighty years of age, he took up automobiling, and, after having several times toured Europe in his machine, he wrote a hand-book on automobile management.

Among the minor things with which he busied himself were a number of important reviews and books on the relation of science and theology, the establishment of cremation as a legal method of disposing of the dead, and assisting and directing his daughter in her well-known "Hand-book to the Public Picture Galleries of Europe." He was also well known as an indefatigable traveler, for he made it a custom every year to spend his vacation in wandering about the Continent.

Endowed with tremendous energy and insatiable curiosity, in the course of his long life he was able, in the intervals in his professional work, to make a name for himself in all the things that he took up merely as pastimes. Like Sir Seymour Haden, who made a great name as an etcher in the course of a busy surgical practice, he was better known by the public at large for his excellence in his amusements than for his real work in life. He was a living contradiction to the popular idea that a man wastes his time if he does not concentrate all his efforts on his specialty.

SOME NOTABLE MEN

MEN of distinction in very diverse vocations are those whose faces appear in the portraits in this issue of the magazine. M. Anatole Leroy-Beaulieu, the distinguished French writer, is now in the United States to deliver a series of lectures. Colonel Younghusband has attracted the world's notice by leading the recent British advance into Tibet, but he has long been considered the man best informed on conditions along the Indian border on the north.

Mr. O. J. Kern, the Superintendent of Schools of Winnebago County, Illinois, has accomplished uncommon results in the common-sense public schools he has built up, as described by Miss Shaw in this number. Mr. B. L. Winchell is one of the most noted railroad men in the United States.

HOW THE UNMERGED PACIFIC ROADS NOW STAND

[THE WORLD'S WORK publishes every month an article in which some timely and vital subject of the financial world is taken up]

I DO not anticipate a return of the rate-wars, either in the Northwest or on the Pacific, nor do I expect anything but good business methods on the northwestern lines. There have been differences of opinion in the Northwest, but there has been no difference of principle. The development of commerce—with the resultant profit to our railroads—has been our common aim, and will continue to be."

Thus, Mr. James J. Hill gives his view of the outcome of this long struggle with Mr. E. H. Harriman. That struggle was the climax of a career of struggle for Mr. Hill. The end of it, with harmony in sight, finds Mr. Hill in practical control of the Great Northern, the Northern Pacific, and the Burlington railroads, 19,000 miles of road in all, and ready to share with Mr. E. H. Harriman the conquest of the trade of the Orient and the Pacific. There is no agreement between them—merely an understanding, that each shall go ahead and get the best possible results out of his railroads, avoiding traffic war.

The fight for the great Northwest traffic began in 1879, when Mr. Hill, then station agent on the St. Paul & Pacific Railroad at St. Paul, conceived the idea of building the Great Northern Railroad. He got the capital from England, Holland, Canada, and the United States, and, in fifteen years, developed a 600-mile road into a 5,000-mile system. It paid from the outset.

The Northern Pacific Railroad on the south and the Canadian Pacific on the north, each aided by subsidy, opposed the Great Northern with rate-war and litigation. Slowly, Mr. Hill crushed the opposition. In the panic of 1893, Northern Pacific stock went down. The Great Northern stock stood firm, alone among the transcontinental railroad stocks.

The Great Northern grew, and with it Seattle, Spokane, and Great Falls grew from villages into prosperous cities. Take the case of Seattle. From 1897 to 1903, it has grown to be a city of 133,000 population. Its exports have grown from $1,816,577 to $12,000,000; its bank deposits from $2,700,000 to $28,000,000; its bank clearings from $28,000,000 to $200,000,000; its annual building charges from $201,080 to $6,000,000. The growth is typical of Northwest development.

A great export trade has been created by the Great Northern Railroad. Exports to China have increased from $3,000,000 to $21,000,000 a year, or 600 per cent. Exports to Japan have increased from $4,000,000 to $24,000,000, or 500 per cent. More than 75 per cent. of the export cotton tonnage to China and Japan is carried through Puget Sound ports.

How this export trade was started is a significant story, told by Mr. Hill. "I remember," he says, "when the representatives of the Japanese Steamship Company were with us. Some of them were interested in securing rails for their railroads. I asked them where they were going to get their rails. They thought they would get either English rails from Middlesborough, or Belgian rails from Antwerp. I asked them, if they were going to stay a day or two, to let me see what could be done for American rails. I cabled to my friends in London and got quotations for Antwerp and Middlesborough rails and the best charters to Yokohama. I remember that English or Belgian rails could be laid down at about $29. I telegraphed to Chicago. The American steel business was dull. I told our manufacturers, if they would make a price of $19.50, we would give them a rate of $8 a ton —or 40 cents a hundred—from Chicago to Yokohama, which would be $1.50 lower than the English or Belgian rate. After some hesitation, they made the price and got the contract for 1,000 tons."

That was the first American steel contract with Japan. From it has sprung a business amounting to millions a year. It is still growing.

Mr. Hill describes the simple experiment that created his tremendous cotton tonnage. "Some Japanese were passing through the United States," he says. "My agents in Japan had reported the amount of cotton spun there, and the fact that the raw cotton came mainly from India. It made an inferior yarn, and sold at a low price. I got these gentlemen to try a small shipment of American cotton, with the guarantee that, if it did not prove profitable to mix our long staple with their short staple of India, I would pay for the cotton. It was very satisfactory."

This is the Hill method in a nutshell. Competition with his next-door neighbor is nothing to him—it is the competition with the world that he desires. He represents the commercial achievement of the Northwest. Suez and the waterways of the Atlantic are more his competitors than the Union Pacific or Canadian Pacific Railroads. He trades in the markets of the world and competes with all the traders of the world.

In the fight for the Northwest traffic, the ambitions of James J. Hill and E. H. Harriman clashed. Mr. Harriman, in a swift campaign, armed with power and funds from an unknown source, bought the Huntington properties and the Oregon Lines. By 1899, he was competing with Mr. Hill for the trade of the West and the traffic of the Pacific and the Orient. The method of their first conflict is thus described by Mr. Hill: "We were making great efforts to develop all the northern section between the Great Lakes and Puget Sound, and bringing in an enormous number of settlers, many of them from the line of the Union Pacific in Kansas and the Southwest. I remember one reason why the Union Pacific wanted to get a joint interest in the Burlington. They said we were getting too strong for them; we were going down into their country and taking people from there."

Doubtless, these two great interests would have met in conflict long prior to 1900, but the Northern Pacific lay between them as a buffer, so to speak. The Union Pacific bought it in 1881, and sold it again. In 1894, Mr. Hill tried to buy it privately for $7,000,000—about what it was worth as old iron. The courts made him give it back to the bondholders. That was in the famous case of the London Agreement, outlawed by the decision in the Piersall case.

By 1901, the Union Pacific had grown up alongside of the Northern Pacific on the south, and the Great Northern had come similarly close on the north. The Northern Pacific, meanwhile, had grown rich and powerful, following its reorganization by Mr. J. P. Morgan. For five years, it was uncontrolled, trading fairly and with confidence in all centres of the North. Sometimes it fought the Hill lines, sometimes it fought the Union Pacific. Always, it fought hard.

The plan came to Mr. Hill, and was imparted to Mr. Morgan, to unite these two in the purchase of stock of the Chicago, Burlington & Quincy Railroad, an eastern line. Mr. Morgan liked the idea. They bought Burlington stock at a great price. Had the idea come to Mr. Harriman first, he and Mr. Morgan would probably have bought Burlington. As it was, Mr. Harriman felt that he was being cornered. He conceived the gigantic idea of buying Northern Pacific in the open market—just as Villard had done twenty years before.

The panic of May 9, 1901, was the result. For the sake of financial peace, they compromised in the Northern Securities Company, which was to own both the Great Northern and the Northern Pacific. For three years, these interests fought the government—and lost. Then, for two months, they fought one another in the courts for the control of the Northern Pacific. Mr. Hill will probably win. To press home his advantage would plunge him into traffic wars at home. Therefore, a compromise is in order.

"There is no profit," says Mr. Hill, "in fighting your neighbor. I should prefer to fight my commercial battles in the ports of the Orient against a foreign flag."

So seems to end the struggle of these two great powers. They have not stood alone. Each has led an army of bankers, financiers, and capitalists. With Mr. Hill were the banking houses of J. P. Morgan & Company, the First National Bank, and the Great London house of Baring Brothers & Company. With Mr. Harriman stood the Kuhn-Loeb interests, headed by Jacob Schiff, and the National City Bank, headed by James Stillman, and representing, in a measure, the Rockefeller interests. To present, in a concrete form, the extent and power of the property and capital controlled by these

two groups, the following table of railroads is enlightening:

THE HILL GROUP

Road.	Miles.
Great Northern	5,490
Northern Pacific	5,412
Burlington	8,319
Total mileage	18,921

THE HARRIMAN GROUP

Road.	Miles.
Union Pacific	5,762
Southern Pacific	8,842
Alton	915
Kansas City Southern	839
Total mileage	16,358
Grand total mileage	35,279

On the Pacific Ocean, the Harriman interests control the Pacific Mail Company, operating steamships to Japan, China, and Mexico, and are stockholders in other Pacific lines from San Francisco and Portland. The Hill interests have a contract with the Japanese Steamship Company, operating lines from Seattle and Portland, and control the Great Northern Steamship and Northern Pacific Steamship Companies. Both interests also operate coast-fleets.

The administration of these tremendous properties and the wielding of this immense capital power is, of course, the work of thousands of men. The direction of that administration is in the hands of about thirty individuals, the directors of the various roads in the two groups. The control of the policies of those thirty directors lies in the hands of two individuals, James J. Hill and Edward H. Harriman. Mr. Hill is sixty-six years old; Mr. Harriman is ten years younger. Mr. Hill is robust, powerful, and vigorous; Mr. Harriman is a delicate, broken man. They are strikingly different. Mr. Hill was born in Galt, Ontario, grew up without much education, drifted into railroading, and is self-made. He believes in devotion to service. He will have none about him who do not make the railroad at once the centre of their lives, the one vital thing, the end and aim of all ambition. There can be no shirking of duty on the Hill lines. His own sons are just as rigorously watched as any employee. Eternal vigilance and eternal labor are the prices of service under him. Himself indefatigable, he demands from every one who draws a Hill salary the labor of a Hill man. He has created more first-class railroad men than any other master of transportation in the country.

Mr. Hill is magnetic, but moody. When the mood is right, there could be no more delightful companion. His memory is wonderful, his command of statistics and facts accurate and unfailing, his mind is bright, his conversation sprightly. He is short and very broad, with a massive pair of shoulders and a frame square-set and powerful. Once he worked on the docks at Ashland and was a heaver of heavy freight. He is, in every sense, a large man.

Mr. Harriman, "The Little Wizard of Pine Street," as he is called, is short and very slight, restless, full of energy, critical of detail, exacting, and autocratic. Like Mr. Hill, he is moody, and is impatient of opposition. Relentless in purpose, incapable of restraint, implacable in enmity, daring in his plans, he has been compared many times with Bonaparte. His restless mind covers every little detail in the working of his railroads. Work that Hill, Gould, Morgan, Moore, Vanderbilt, Rockefeller would leave to clerks, Mr. Harriman himself does. He has worn himself out more than once. As on the Hill lines, eternal vigilance must be observed. The difference is that Mr. Hill notes details only when they offend him. Mr. Harriman notes them always. He is the railroad company, the executive staff, the operating department, the directorate, and the traffic department. On his roads, there is but one controlling mind—his own.

Between these two men there can never be close friendship. They will coöperate; they will scheme together for the opening of new countries, new avenues of traffic, new sources of wealth and power. They will divide their world between them. They cannot share it. Each is too strong, too autocratic, too impatient of advice and restraint. So long as Mr. Harriman and Mr. Hill dominate their respective empires, the interests of the Great Northwest will fail to merge. Their ways have come together, and they will follow the common way together merely because it pays. There is no consolidation, no real reciprocity, no love lost between them. The common phrase, "the Hill-Harriman interests," is a misnomer. It should read, "The Hill and the Harriman interests."

WHAT THE TORPEDO CAN DO

HOW ONE IS CONSTRUCTED — THE "WHISKERS" — THE GYROSCOPE THAT MAY MAKE THE TORPEDO A BOOMERANG—STRIKING DISTANCE A HALF-MILE, BUT A HIT AT TWO MILES POSSIBLE — GUNS STILL THE MORE EFFECTIVE WEAPONS

BY

FRED T. JANE

THE success of the torpedo on the night of February 8th, when Russia's two finest battle-ships and a good cruiser were reduced to impotence in a few seconds, has tended to make this weapon very prominent at the present moment. The principal cause of Japan's success, however, was the crass stupidity of the Russian admiral in exposing his fleet to the risk of such an attack. Port Arthur exhibited the power of the torpedo, but it certainly did not demonstrate that it is the weapon of the future. It may be this; but at present it is not superior to the gun as the primary armament of a warship.

The Whitehead, the automobile fish-torpedo, first appeared at the time of the Turco-Russian War. Russia was the first nation to employ it; and she used it with some success. Ever since that day the torpedo has been steadily perfected, though during the last ten or twelve years its progress has been slow except in the matter of the gyroscope, or steering apparatus.

As long ago as the American Civil War "torpedoes" existed, but these were in sum and substance merely contact mines. The fish-torpedo, as introduced by the Russians in 1877, was a distinct novelty, and though many sizes and types exist, and though endless improvements have been effected, the unprofessional eye would not detect any marked difference between the early Whitehead and those torpedoes which recently accounted for the *Tsarevitch* and the *Retvizan*. The nose is blunter, the body longer, but the essential cigar-shaped body is constant. Perhaps the only other change that would be noted is that with age the torpedo grows whiskers. "Whiskers" is the technical term for the mechanism that now surrounds the war-head of a torpedo—radiating curved projections designed to cause the torpedo to explode should it strike a glancing blow.

The length of the usual 18-inch torpedo is nearly 17 feet, and its maximum diameter is 18 inches. It is made up of parts as follows:

(1) The war-head, containing a charge of from 175 to 200 pounds of wet gun-cotton. At the nose of this is a pistol, so arranged nowadays that it cannot explode until the torpedo has been launched on its journey and gone a safe distance from the ship. It is inoperative until the propellers are at work. The explosion of a torpedo in its tube, about which so much has been written, is a practical impossibility. The pistol acts by contact. When it strikes anything, it is drawn back and explodes the detonator, which in turn explodes the gun-cotton. The "whiskers" already referred to are in substance merely so many extra strikers. There are four whiskers.

(2) The air-chamber. This is full of compressed air, which forms the motive power. Lately the French navy has had serious accidents from the bursting of air-chambers, an accident unknown with the more stoutly constructed English torpedoes. The danger of above-water tubes in battle, if any, is that this tremendously pent-up compressed air may, by damage to its container, burst loose.

(3) The balance chamber. This contains secret mechanism for regulating the depth at which a torpedo will run. It can be set for any depth, and this depth the torpedo will take as soon as it reaches the water.

(4) The engines and a variety of ingenious devices, valves, and so forth.

(5) The buoyancy chamber, which affects the torpedo's flotation.

(6) The tail, which contains the steering mechanism, horizontal rudders, and the propellers.

Every torpedo is practically a small submarine boat in which automatic devices replace the crew. The whole idea of the fish torpedo was born out of the earliest subma-

rines, and it is, in a sense, a development of the submarine born too soon.

The gyroscope is the twentieth-century contribution to torpedo efficiency. Like most great inventions, it is based on the simplest of facts—the tendency of a heavy wheel when spun to remain spinning in a certain plane. It is made use of to keep the torpedo steady on its course. Anything that tends to deflect the torpedo comes into conflict with the tendency of the gyroscope. In the old days, before "gyros" existed, one thousand yards was the maximum range at which a torpedo could be fired. There was no difficulty in making a torpedo go farther, but there was no known means of ensuring where it went to when its first power was spent and its main energy in any direction reduced. With the "gyro," hits have often been made at ranges of a mile, and a mile and a half has also been reached. Two miles also is no longer a dream, and, experimentally, a torpedo going very slowly has been made to travel ten miles in a tolerably straight line.

It is the knowledge of facts like this that leads people to credit the torpedo with undue powers. There are two big things, however, against torpedoes. One is the speed trouble. A modern torpedo will go half a mile in a minute, but it will not go a mile in two minutes. It will, instead, require from three to four minutes, and to go three thousand yards—that is, a mile and a half—at least six minutes and probably seven. Thus the speed decreases till to travel ten miles a torpedo requires something like an hour and a half. Its power is limited; its air can drive it very fast for a short distance: if it is to go a long way its air must be economized and speed reduced.

One may aim a torpedo with tolerable certainty at a thousand yards—a little more than half a mile, for it is not difficult to calculate where an enemy in motion will be a minute hence. To calculate three or four minutes ahead is far less easy, while for any longer period pure chance alone can enter. Of course when the enemy's ships are stationary, as the Russian ships were at Port Arthur, it is quite another affair, and the Japanese could have hit them from almost any distance. One or two torpedoes might miss, but a fair proportion of hits could be regarded as a certainty. The trouble is, that such a situation was unusual—never to be expected in war, never to be expected again, even with so bad an admiral as the Russian Admiral Stark.

The second count against the torpedo is a less-known one. It is that the virtues of the gyroscope can most easily become vices. A little careless handling, a little grit in the bearings, and the gyroscope will not revolve in its proper plane. It will revolve in another, and torpedoes in which this has happened have been known to circle and return like a boomerang to the ship that fired them. It is a danger that has carefully to be guarded against. Apart from this, the "gyro" is apt to develop unexpected eccentricities, and in general it is nowhere alongside the gun in accuracy.

The torpedo is aimed by means of an instrument called the "director." This is so devised that it can be set for the known speed of the ship firing and the guessed-at speed of the enemy. Things are timed so that the enemy and the torpedo arrive at a single point at the same time. The only variable quantity is the enemy's speed. If that has been guessed badly, or if the enemy alters speed or course while the torpedo is in the water, a miss is almost certain. The easiest way to torpedo a ship is to steam abreast of her on the same course and at the same speed. She is then relatively stationary and a certain target. The only drawback is that your ship is also a certain target to her if she fires first. Also the intention to attack with torpedoes is so obvious that sudden changes of the hostile course are pretty certain to occur. It is this, not any mechanical defect, that makes the torpedo an uncertain weapon. At its best it is sixty times slower than the shot from a gun. Often the gun is a hundredfold swifter. The gun is less easy to aim than a torpedo, but, because the human element can do nothing to avoid the projectile, the gun is infinitely more likely to hit. And from what can be learned of the damages sustained at Port Arthur, the hits from big guns appear to have been every whit as serious as hits from torpedoes, if not more serious.

The real use of the torpedo has yet to be demonstrated in war. It would be shown if Russian torpedo craft attack successfully the Japanese fleet. Such an event is not very likely. Well-handled fleets surround themselves with torpedo craft, and all experience points to the fact that torpedo craft in such a case will annihilate each other.

AN IDEAL BIT OF OLD LYME, CONNECTICUT

THE IDEAL VILLAGE

HOW A VILLAGE MAY BE MADE A DELIGHT TO THE EYE—SOME ALREADY BEAUTIFUL—WHAT THEIR EXCELLENCES SUGGEST FOR OTHER VILLAGES

BY

JOY WHEELER DOW

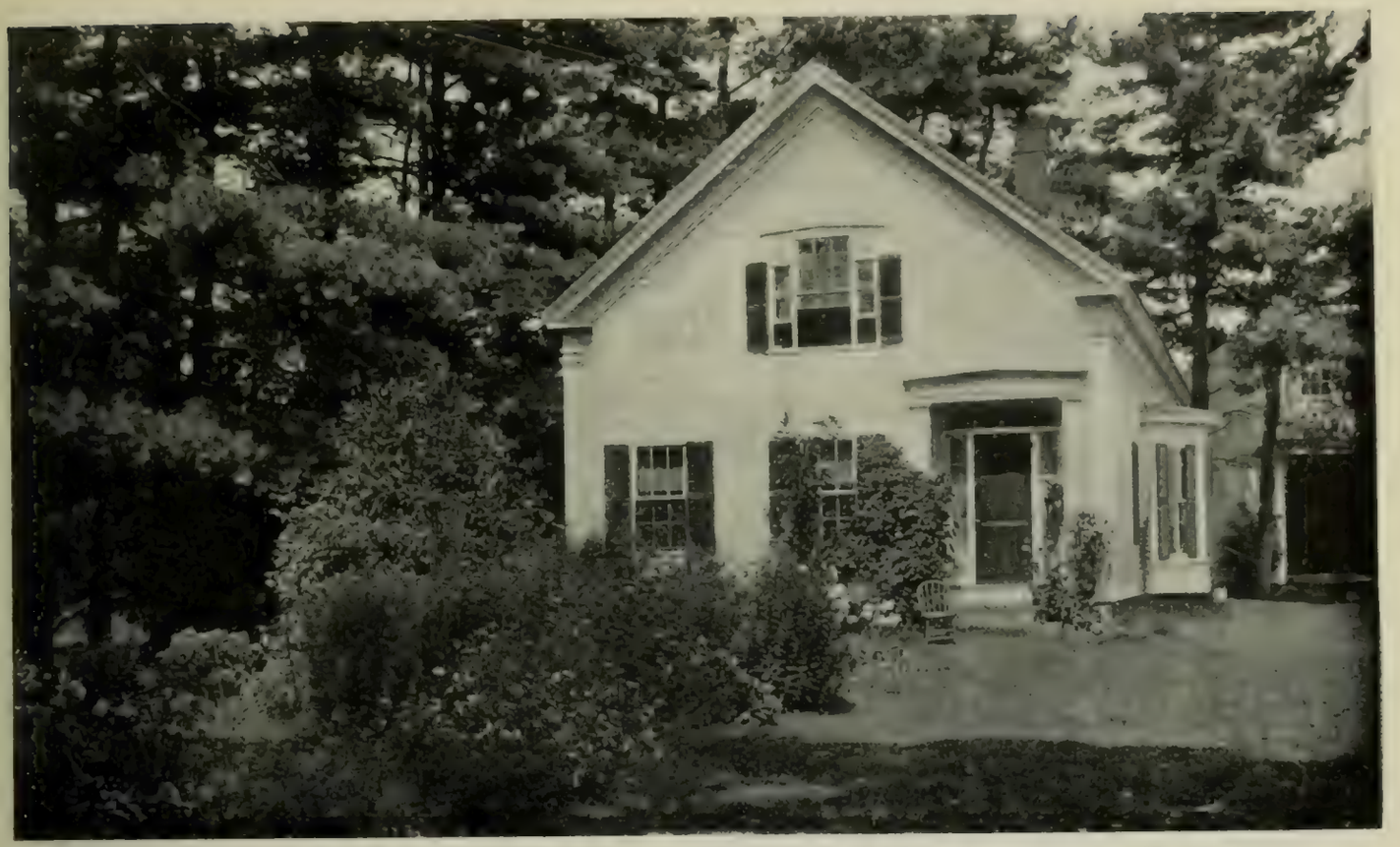
(Illustrated in part from photographs by the author)

THE ideal village is the final working out of the motto, "Let us make our villages more beautiful." As long ago as the fifties, the inhabitants of Stockbridge, in Massachusetts, were aroused to some appreciation of the natural beauty of their surroundings by a woman who instituted the first village-improvement society, as such organizations now exist. It should be less difficult today to enlist popular coöperation, even though we continue to be at once the most thrifty and prodigal of nations.

We habitually throw away opportunities for art, while we never miss a chance of making a dollar in mercantile enterprises. There is to be a readjustment of these matters in time, when there will be many ideal villages; but it would be a pity if posterity is to enjoy the entire fruition of it. Let us see, then, if the present and anxious generation of Americans may not participate a little in the general edification an ideal village promises.

The ideal village should not be confused with the model village. The model village is a relic of feudal times in a modern setting. It is the compromise with charity of a modern suzerain who wishes to make his retainers, upon whose labor he lives, as comfortable as possible in neat but unpretentious abodes within a prescribed reservation which he owns and controls. It is the giving of tithes according to what one possesses to the poor, and infinitely better than if one gave not at

THE IDEAL VILLAGE MEETING-HOUSE AT OLD LYME, CONNECTICUT



"—TO A DISTINCTIVE PRIDE IN THEIR HOME AND ITS GROUNDS"

all. With this modern enterprise and its praiseworthiness, however, the present writing has no concern.

The ideal village is a something vastly superior. It is our castle in Spain, where we long to live, to love, and end our days at last; otherwise, an ever-present dream of the charitably minded individual who seeks to make the world as decent a place to stop in as may be.

TIME, THE HOUSESMITH

And the most successful builder of ideal villages that has come to the knowledge of the writer is Father Time. It is he who has tended the giant trees that arch the village street; it is he who has caused mosses and lichens to impart an agreeable texture to things; it is he who has toned down all unseemly harsh lines and angles, and bidden flowers to spring up everywhere till the air is redolent with an old-time perfume, full of delicious reminiscence. It is Time who has furnished the models for the modern architects, teaching them—or trying to—the gracious art of restoration.

It is Time who has made the villages of England what they are today. Time alone knows the trick of it. He goes about his task in a truly workmanlike manner. The delightful undulations of the thatched roofs (see page 4855) are his idea solely, and the atmosphere that hangs about the thick eaves and cunningly devised casements is his also; the very lanes and hedgerows that line the ways—all belong to Father Time. For an all-round, efficient housesmith, commend me to Time!

PRACTICALITY AND THE PICTURESQUE

But we should like very much to construct for ourselves an ideal village without Time's leisurely consent—without the interminable delay, to manage so as to be alive when the ideal village is a realization. To this end, let us see if ideal villages, partly under way, do not exist in America, the evolution of which modern effort may not hasten—villages 100, 200 years of age already, and where the appalling amount of indispensable preparation is an accomplished fact.

Yes, especially in New England, we may discover many ideal villages in chrysalis their very somnolence inviting the enchanter's wand. Sharon in Connecticut is fairly ideal as it is: note the glimpse of rare scenery we have to one side of the house in the illustration on page 4856. By singular coincidence,

A BEWITCHING VILLAGE DOORWAY, OLD DEERFIELD, MASSACHUSETTS

THE CHARM OF THE THATCHED COTTAGES

there is in Sharon an ideal tavern for the modern traveler, excepting as to its architecture, which is not exactly orthodox. I regret that the modern architects who have contributed to the growth of this village have not availed themselves of their opportunities: they have not consulted the methods of Time, and, into the wonderfully ideal setting, have obtruded modern architectural fashions, thereby striking invariably false notes which jar much more than they would in a new, suburban town where it is all fashionable architecture that one sees about one.

The element of practicality should never go to war with the picturesque. It is commercialism, and not practicality, which is the greedy one so afraid to lose a dollar. The true practical side of the subject we are now to consider—how, indeed, to subjugate and subdue commercialism in order to realize an ideal village.

HOW TO PLAN AND CONSTRUCT AN IDEAL VILLAGE—ITS APPROACH AND COMMON

Select, then, an ideal village to begin with one that was well-in-hand a century ago. For present purposes—a picturesque hypothesis—almost any will do, Old Lyme, at the mouth of the Connecticut River, conspicuously. Its present stage of development is very interesting. On page 4851 (head of the article) will be found an ideal view in this very ancient village, taken looking toward Black Rock and the Sound, from a triangular bit of turf immediately before the meeting-house. The imposing vista down the road was not nearly so effective until Mrs. Evelyn McCurdy Salisbury, some years ago, had this part of the village street widened and otherwise appropriately beautified. As this improvement would have been our first concern, it is most gratifying to find the step admirably taken for us. One may achieve no ideal village without an approach at once impressive and indicative.

Along this present approach to Old Lyme, and happily hidden in the picture by the trees, are a number of typical, modern, American dwellings which, I assure you, would have to come down. Two or three of them are rather pretentious, but no matter. And here the services of a millionaire would prove acceptable. We wish to

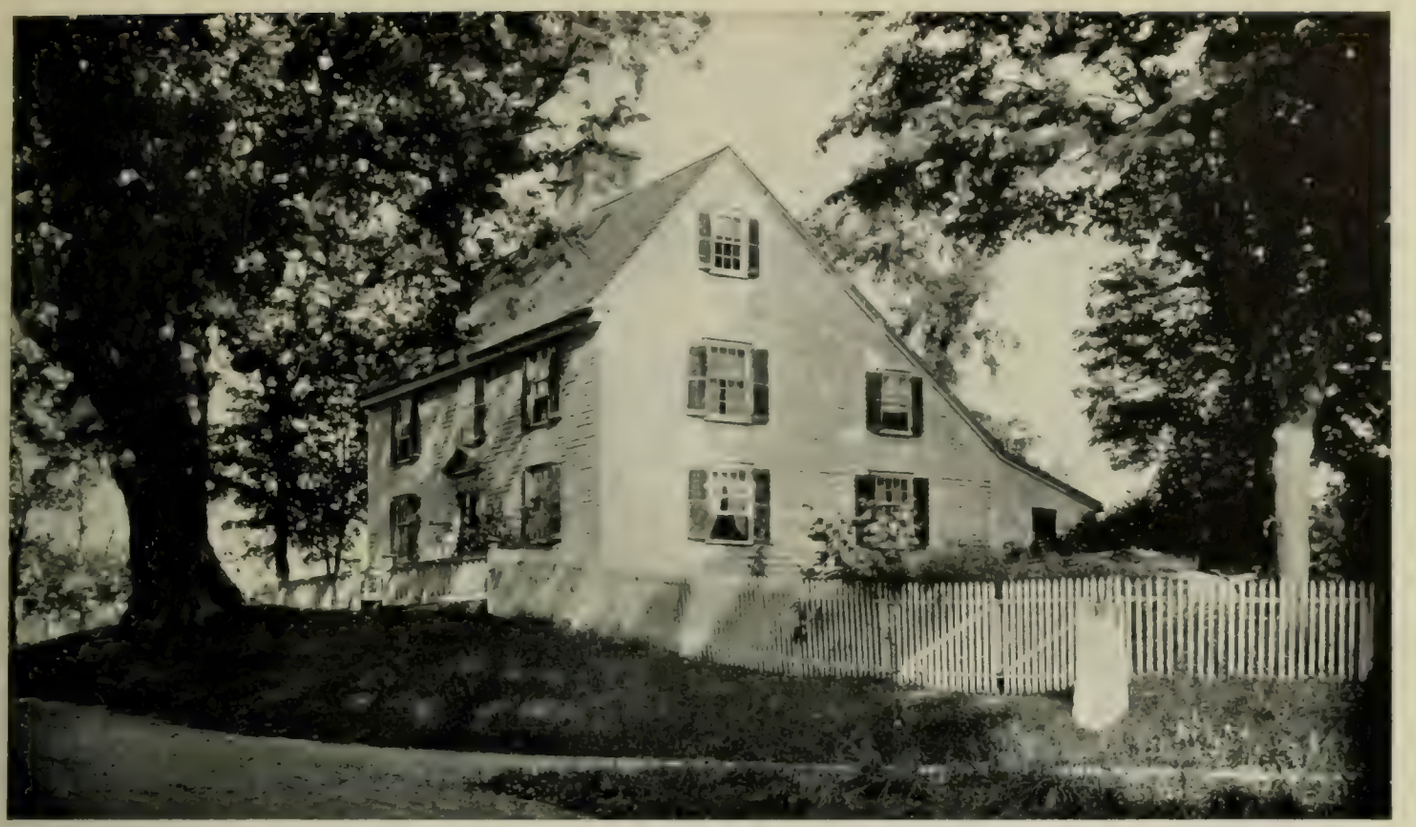
A BIT OF SHARON, CONNECTICUT, AND ITS REMARKABLE SCENERY

make our ideal village a paying investment, but not, necessarily, in dollars and cents. All architectural ugliness, therefore, must be, as painlessly as possible, suppressed, and certain becoming landmarks reinstituted. To do this, I have found it convenient to borrow from numerous other ancient and promising ideal villages.

At the distant fork of the road, where the sunshine, unobstructed, is playing, the suggestion on page 4857, loaned by the neighboring village of Guilford, will act its part very acceptably—that of the first house one meets in approaching the ideal village. This attraction may then be succeeded by two or three others of the same order. The west front of Mount Vernon (see page 4857), with some slight alterations, would make an ideal village school-house, an edifice I would now locate upon the left-hand side of the way, somewhat nearer the station-point of the observer, laying out its playground to the rear, and so facing the Sound. An ideal village cottage just off the main street, and standing at right angles to it (see page 4858), might be placed diagonally across from the school-house, and nearer, upon the same side, a bewitching village doorway, contributed by Old Deerfield in Massachusetts, could be fittingly disposed of. (See page 4854.)

Next, there could be a "show place" for the village, which Greenfield, Massachusetts, has courteously consented to supply. (See page 4858.) This stately building, with its flanking wings, would make a stunning object for the surprise and delectation of the wayfarer as he comes to town, who, in this manner, will soon have reached the three-cornered common before the meeting-house, seen in the foreground.

Old Lyme has no real town common. That is a serious omission, so we must manage to make one. There is a common at Bristol, Rhode Island, which could serve as a prototype, only it is badly situated. Could it be transferred to a site between Hope Street—the principal street in Bristol—and the harbor embankment, the latter developed into a spacious quay embellished by a balustrade of Indiana limestone, incorporating seats, lamps, and a flight of steps, perhaps descending into the waters of Narragansett Bay, Bristol common would be the most beautiful town common in existence, and we should want to appropriate it for our needs at Old Lyme. Except that here the water-piece would have



AN IDEAL LANDMARK AT THE FORK IN THE ROAD—THE APPROACH TO THE IDEAL VILLAGE

to be the Connecticut River, not quite so satisfactory nor so effective as would be Long Island Sound, which, unhappily, lies distant some two or three miles, so that it cannot form a part of the village surroundings. A level common is much more effective and beautiful than a sloping or hilly one, so to this desideratum our topography lends itself naturally.

THE MEETING-HOUSE

But the keynote of the whole scheme of an ideal village is, of course, its renaissance steeple, that silverlike needle to be seen glistening upon the horizon and sending thrill after thrill of unspeakable joy to the heart of the returning exile, prodigal, or common traveler, anxious for his journey to end. The cupola of the town hall, the village flag-

THE WEST FRONT AT MOUNT VERNON, VIRGINIA

With slight alterations would make an ideal village school-house

AN IDEAL VILLAGE MANSION ON FEDERAL STREET, SALEM, MASSACHUSETTS

AN IDEAL VILLAGE HOUSE JUST OFF THE MAIN STREET AND AT RIGHT ANGLES TO IT

pole, or another church tower may be so arranged as to become clearly visible when the village merges into the middle distance of the picture; but on no account must anything dominate the white renaissance steeple. That should stand supreme and alone, immaculate as our faith, and kept so by frequent applications of white-lead, and, over all, crowning the skyline, the weather-vane should gleam as burnished gold.

Certainly, the village of Old Lyme has an ideal meeting-house (see illustration on page 4852), erected in 1817; and, recently restored by a competent and conscientious New York architect, it entirely comes up to our expectations. We congratulate ourselves while we contemplate, and say "Well, this is it!" The interior is painted in two shades of the palest of drabs, including the inside blinds, which could have been pale apple-green with additional charm. There is but one shortcoming—this meeting-house lacks the family box-pews that are simply obligatory in every ideal meeting-house. We wish to open the high and paneled pew-door which bears our family name engraved upon a silver plate; we want to make believe, at least, that our ancestors before us sat and knelt in the same old pew, with its fascinating furniture—cushions and hassocks and patriarch's chair.

A VILLAGE SHOW PLACE CONTRIBUTED BY GREENFIELD, MASSACHUSETTS

THE MEETING-HOUSE AT HANCOCK, NEW HAMPSHIRE

On this page is illustrated the meeting-house at Hancock, New Hampshire, another delightful model. Both of these edifices are finished with weatherboards. The texture of the outer walls would have been much enhanced by long rift shingles; but we need not complain about a minor detail.

THE TAVERN AND THE MAIL-COACH

Next in importance to the meeting-house of an ideal village is its tavern, and here we

THE GREEN TREE INN—GERMANTOWN, PENNSYLVANIA

shall have to look a little to England to help us out. For there never were ideal taverns in America, architecturally. In Colonial times tavern life was held in so little esteem that, as a matter of fact, there is no Colonial tavern which has endeared itself to the public as certain historic taverns in England have succeeded in doing. On page 4860 appears the building that was once upon a time the noted Green Tree Inn, of Germantown; but this, it will be seen, is merely a Pennsylvania-Dutch dwelling-house, and gives no suggestion of its use in history when General Washington and the Marquis de Lafayette were wont to stop at Germantown to "sup and lie."

The two English inns illustrated, namely, the "Unicorn" and "King's Head," convey something to the mind of what an ideal inn should be like. It should be situated near the centre of the village, close upon the sidewalk line, but circumscribing, by wings and a high, paneled wall of brick, if you please, an inner court, mysterious and alluring, which may be extended rearward indefinitely, and filled with as much botanical pleasantness as may be. There will be bricks laid in walks that meander after the manner of parterres, and stopping before bowers, or summer-houses, furnished with suitable seats and tables (other than the rustic kind) for collations served out-of-doors. Add to the scene a fountain playing in the midst, and you have secured much ideal tavern atmosphere.

Facing the street will be "ye greate hall," with other apartments adjoining for the entertainment of guests, and "ye tap room" at the farther end. In one of the L's opening upon the courtyard should be the dining-room; in the other the ballroom, the latter apartment extending through two stories for height, supplied with a gallery for spectators at one end and a musicians' balcony at the other. If it could be so contrived that the tavern-coach might drive under an elliptic arch tunneled in the street elevation of the hotel, and so traverse the ballroom side of the courtyard, so much the better; because every advantage of a carriage entrance would thus be obtained without endangering the picture with an ugly excrescence upon the exterior of the tavern, probably anachronistic.

The coach will not carry the mail and its passengers very far, however—not farther than the railroad station; but if it be not more than a mile or so from the common, the coach may have lots of fun and opportunity for dis-

AN IDEAL VILLAGE TAVERN IN ENGLAND—"THE KING'S HEAD"

A TYPICAL ENGLISH TAVERN—"THE UNICORN"

play in going there and back several times a day; while the landlord will be amply repaid for its keep by the additional interest thus afforded his patrons. Nor must the sign-board be overlooked. It should swing quite over or a little to the side of the main entrance, and the crudest of bright pigments can do it no harm. We shall call this imaginary tavern "The White Eagle," looking up the charges upon the devices of old taverns generally for the necessary archaism. If such an inn as this could be maintained as its appointments would indicate and require, I am sure that no one would be greatly upset

A VILLAGE BLOCK IN PRINCETON, NEW JERSEY

in being kept out of his own home by the usual delays of contractors, while he lodged at the "White Eagle."

THE SHOPS

The shops of the ideal village should be unobtrusive and few. The windows should be smaller than modern shop windows, flat, built even with the shop front or quaintly bowed with lights of glass not more than ten by twelve inches, divided by thick, archaically moulded sash-bars. Some of them need not resemble shops at all. The ancient hospital at Bristol, England (shown on this page), would make a most fascinating village block for shops upon the lower story and for offices above. The shop fronts of the village block erected recently at Princeton, New Jersey (shown above), are, however, the poorest feature of that design. They are palpably modern shops without atmosphere. The street scene in Shrewsbury, Shropshire (also illustrated on this page), supplies a suggestion for the right sort of shops for an ideal village.

AN ENGLISH STREET AND TAVERN IN SHREWSBURY, SHROPSHIRE

THE PLAYHOUSE

We have now to consider a class of building concerning which controversy is rife—how the playhouse should be planned and how constructed. The metropolitan playhouse is a different problem from that of the ideal village in magnitude only; in theory, it is the same, the reduced proposition being this: First, attract the audience to the playhouse. Second, let it see, hear, and be comfortable. Third, get it all out upon the sidewalk

THE ANCIENT HOSPITAL AT BRISTOL, ENGLAND
Would make a most fascinating village block

AN IDEAL VILLAGE HOUSE AT FOUR O CLOCK IN THE AFTERNOON—KEENE, NEW HAMPSHIRE

again within the space of a minute or two, if necessary.

The problem is not difficult in itself, and in the case of the ideal village is easily solved. We do not have to reckon with the everlasting rate-per-cent theory; we have an adequate sinking-fund consecrated to art and forever charged off the commercial ledger. The site is donated. We do not have to build the playhouse as a tenement behind the shops; on the contrary, we have architectural *carte blanche*, as did M. Gabriel, architect to Louis XV., when he designed a playhouse for the Marquise de Pompadour. We choose her favorite *motif*—the *motif* best suited to the theatre. The whole composition, to borrow a musical term, is written in three-quarter time—there is scarcely a straight line to be observed anywhere; everything arches, dips, or resolves into scrolls, for we are now in quest of somewhat different atmosphere—the atmosphere of music and the play.

A corridor with numerous exits, and of sufficient amplitude to accommodate the entire audience without crowding, surrounds the auditorium wall, which is pierced by a continuous row of arched doorways. The

THE MOST BEAUTIFUL DOORWAY IN SALEM, MASSACHUSETTS

THE TERRACE AND GARDEN IN THE REAR OF AN IDEAL VILLAGE HOUSE

parquet itself is again surrounded by a generous aisle, and thus the seating capacity of the house will be extremely disappointing from the commercial standpoint, but extremely satisfactory from every other. A row of private boxes absorbs the balcony, each one the property of a representative family, as at the opera. The proscenium arch, above

A RECESSED DOORWAY ON THE VILLAGE STREET
The steps lead directly up from the sidewalk

which is suspended an asbestos shutter, is lower than is usual in modern theatres. This ideal playhouse is not intended to be fire-proof, but should it take fire—which is quite within the range of possibility at any time—well, one can get out of it.

THE LIBRARY AND TOWN MEMORIALS

The library is an important institution of every village whether ideal or otherwise. For the former, the English-Gothic libraries of the universities would serve our purpose excellently, and they possess the additional value of novelty in this country, at the same time overflowing with ancestral history. The ideal library, however, needs less notice from my pen than any other feature of the village, because American architects have

AN IDEAL VILLAGE DOORWAY
The best bit of architecture in Hopkinton, New Hampshire

achieved greater success in its design, I may say, than in any other class of buildings. For years the village library has been a favorite form of memorial.

But an ideal village may be hopelessly ruined by ill-advised memorials. Don't build a Romanesque chapel! They are pretty enough, but they tell us no history—American history; and I know you do not want to be responsible for a single disturbing element.

Make a memorial of the playhouse, instead. And why not? National comedy is the art and literature of a people, combined. Yet here is a muse habitually dishonored. An ideal playhouse would do credit to the memory of any one. Let us not forget that splendid reply of the wife of Molière to the priests who refused the greatest comic poet of France sepulture, "In Greece, they would have raised altars to him!"

And I see no good reason why there should not be a memorial tavern. "The White Eagle," just exploited, would prove a most graceful memorial. It is not at all necessary to confine ourselves to chapels, schools, and libraries.

THE DWELLINGS

One cannot build an ideal village, very well, without dwellings, though I have thought about them last; and here we need a supervising genius, indeed. For no matter how extensively cultivated an American may be, it is ten to one he knows next to nothing about architecture. It may never have occurred to him that architecture is only another name for expressing history by blocks, so that he remains in need of some elementary grounding in the subject before he may be trusted to select the sort of house suitable to erect along the main street or facing the common of an ideal village.

If the frontage be sufficient, then let me recommend an ideal village mansion that still stands in an admirable state of preservation on Federal Street at Salem. (See page 4858.) Or possibly one happens to be already the lucky possessor of a priceless original in need of restoration only. Excessive care will be necessary not to over-do it.

But before I conclude, I want to show you an ideal village house at four o'clock in the afternoon—contributed by Keene, New Hampshire—which I owe it to find room for somewhere along the village street. Are not the slanting shadows irresistible—and that entry?

And lastly, at the farther end of the village street, let there be a substantial mansion of brick with white trimmings, as illustrated on this page. I have left many unimproved sites; but we have the nucleus well established—besides, no ideal village may be ever quite finished. Not the least of its charm is that here we may combine philanthropy with amusement that shall last us out our lives.

THE MANSION AT THE END OF THE IDEAL VILLAGE STREET

CHARLES P STEINMETZ

A great electrician and inventor

CHARLES P. STEINMETZ, ELECTRICIAN

HIS RAPID ADVANCE FROM A POOR GERMAN STUDENT TO AN AMERICAN INDUSTRIAL LEADER—AN INTIMATE STUDY OF ONE OF THE GREATEST INVENTORS IN THE WORLD

BY

ARTHUR GOODRICH

ONE of the greatest of living masters of electricity—a man who has evolved a hundred practical devices and who is now the director of experimental efforts at the largest electrical works in the world—is Charles P. Steinmetz.

I had seen him—"the Professor," as they call him familiarly—working, directing, and advising in the heart of the large experimental laboratories of the Schenectady Electrical Works, where blinding lights shoot out from half-closed doors and grating noises suggest that a mysterious power is being held in leash by the human workers in that labyrinth of rooms and passageways. I had not visited his home. One night, walking down the quiet street where he lives, I saw a strange greenish glow cut athwart the snow far ahead.

"What's that?" I asked my companion.

"Steinmetz," was the laconic reply.

On nearer approach, a trimly built house came into view, surrounded with a weird brilliancy that came from rows of electric lights.

Here I met Charles P. Steinmetz at home. He had just come from some important work in New York, and had brought with him a dozen cages of rare birds which he was transferring, when I called, to a larger cage. As he worked, he talked rapidly, constructing his sentences in clear-cut English with a German accent. The task done, we went through rooms which a turn of his hand illuminated brilliantly. In a long conservatory thickly growing cacti bordered the walk that led to a fish-pond, where, in the day time, one can watch many kinds of fish in an underground aquarium. Tropical flowers beyond, whose red blossoms lose their color in the green radiance, surrounded a little pool filled with young alligators; and a small cage at the further end contained a poisonous reptile from Central America. From the conservatory a covered passage led to a separate frame building in the rear, which contained complete experimental chemical, electrical, and mechanical laboratories. Here I saw sections of the mercury lamps which give the greenish glow I had seen. There were also electric motors of many sizes, rows of jars full of chemicals, lines of electrical machines, and all kinds of experimental apparatus. And across the table, coat off, smoking continuously, was a man who is known wherever electricity is known, and whose career is a romance of achievement.

Mr. Steinmetz was born in 1866 in Breslau, Germany, where his father was a railroad employee on a small salary. The boy spent hours at the station watching the trains. Anything mechanical attracted him. At the University of Breslau he specialized in mathematics, chemistry, and astronomy. He made a crude laboratory at his home, and experimented with machines and chemicals.

Socialism was rampant in Germany, and the government, fearing revolution, enforced strict laws against the Socialists. Mr. Steinmetz enthusiastically joined the movement. When the editor of a Socialist paper was thrown into jail, Mr. Steinmetz, who had often written for the paper, took up his work. The police seized the paper and confiscated an edition which contained a number of Steinmetz's articles. Other Socialistic publications, however, had his help. Soon a newspaper was started under his direction, with an ignorant Polish store-keeper as nominal editor. Mr. Steinmetz was still a university student and, as such, could not legally sign himself editor. The police, who were growing constantly more active, suppressed the paper and reported Steinmetz's connection with it to the university. They were working, also, for evidence against the agitators in the clubs

of Socialistic students, and for a time it was a contest of wits between them and the students. Each side carried on organized detective work, and watched carefully for any move of its antagonists.

The natural action which the authorities of the university might have taken against Steinmetz was delayed, partly because he was the most brilliant student in the college, and partly because his teachers were—unavowedly, of course—in his favor. He was to graduate with high honors, and expected to win a considerable amount of prize money for a thesis. Suddenly news came to him through one of the student detectives that a warrant from the public prosecutor of Breslau was out for his arrest. He eluded the police by buying a round-trip ticket to the mountains on the Austrian frontier. The police believed that he did not know that a warrant had been issued for his arrest. Assured by his purchase of the return ticket, they let him go.

Steinmetz crossed the frontier to Vienna. Then he went to Zurich, because a large polytechnic school was there, and there he began to write on scientific subjects. His articles, which paid him $2 a week, appeared in a Zurich daily paper. He also wrote for German electrical papers, and tutored. He studied mechanical and electrical engineering and steam-engine designing. His ambition at this time was to return to Breslau as soon as he could without fear of arrest, and take his degree at the university. He had planned to try for a professorship in mathematics. But at Zurich he met an American from San Francisco, with whom he formed a friendship that changed all his plans.

The two young men lived together and became close friends. When the young American went back to America, Mr. Steinmetz went with him. In the steerage, he studied English. The two landed in New York with $20 between them. The only chances for employment Steinmetz could see were in two letters of introduction he had in his pocket. He knew no one in America.

The two friends took a small room in Brooklyn. Mr. Steinmetz's first letter of introduction brought a rebuff, but the second, directed to Rudolf Eickemeyer, in Yonkers, introduced him to a man who was to be an interested and kindly employer, co-worker and friend. He began work with Mr. Eickemeyer as a draughtsman for $12 a week. His friend found employment in New Jersey, and for a year or more they lived along on their small incomes, cooking their own meals over a gas-stove.

At Yonkers, Steinmetz experimented with iron for motors, and helped Mr. Eickemeyer to develop inventions of elevator motors. He wrote for the German periodical to which he had contributed from Zurich, and for the American electrical papers. These articles, on the theory of alternating currents, attracted widespread attention among electricians, and when Mr. Eickemeyer's factory was sold to the General Electric Company, it was commonly said that Steinmetz was the largest acquisition the company obtained. This happened four years after he landed in America.

He left Mr. Eickemeyer to go to the factory of the General Electric Company at Lynn, Massachusetts. During the year he was there he worked chiefly at the plan, then new, of transmitting electricity over considerable distances for power and light. Here, and later at Schenectady, he also invented methods of controlling electrical transmission. His inventions now number 100. His mercury arc-lamp gives three times the amount of light for the same amount of power as the common arc-lamp. Its only fault is the lack of red in the color of its light. His new meridian incandescent light, which gives a diffused radiance, is already being used in offices and houses. A new arc light which contains every color is being brought to efficiency in his laboratories.

When he went to the Schenectady works Steinmetz needed an experimental laboratory. He gradually equipped a complete workshop in a barn near his house. One night it burned down. Shortly afterward, he induced the company to fit up big laboratories at the works, where a score of electrical engineers and chemists now work with him. When he began to build his home, about three years ago, he constructed laboratories first and lived in them while the conservatory, next, and then the main structure, were building. He spends most of his time there or at the works.

Mr. Steinmetz is direct and exact. He reads much, and his library is filled with many kinds of books. He is well informed on the important questions of the day, and there is

scarcely a policy or a personality in national and international politics about which he has not definite and well-based opinions. He marshals these as he does facts in electricity and chemistry.

His increasing information is quickly turned into practical results. He has a mathematical brain. One of his ablest assistants spent a number of days of hard work in solving an intricate mathematical problem. When he had finished it, he asked Steinmetz to work it out. The inventor grasped the problem at once, counted on his fingers a few times, and gave the correct answer without touching pencil to paper. Yet he remarked recently: "Mathematics is valuable only to obtain results. Mathematics for mathematics' sake is foolishness."

Some years ago Steinmetz went into the Adirondacks with a hunting party of friends. Not caring to hunt, he was often left alone at the little lodge that was made the party's headquarters. One night before the campfire a mathematical question came into his head. To settle it, he needed a table of logarithms which could not have been found within miles of the camp. He remembered a few figures, and in a short time had worked out an entire table of logarithms for himself, and from it solved the problem. This mathematical sense, which was originally trained by hard study at Breslau, makes it possible for him to answer quickly the rapid fire of questions his aids hurl at him daily.

The laboratory workers come to him constantly for advice and direction. Eighteen thousand employees stand ready to work out his ideas. With the men he is always genial and democratic. When any business matter needs settling, he settles it in determined fashion. He is as independent as he is good-natured. When the heads of the works made a rule against smoking in the factory, Mr. Steinmetz said he would smoke or leave. He did not leave. "He can accomplish more in an hour," said one of his assistants, "than I can do in a week." If some difficult problem needs solution at the works, it is nearly always taken to Steinmetz.

Not long ago there was an explosion in a man-hole in New York City which made great trouble for an electric railroad. Many local engineers tried to find the cause of the trouble and gave various unsatisfactory explanations. The matter was brought to Mr. Steinmetz's attention. In a few moments he asked how certain adjacent wires in the man-hole were covered. Here, indeed, was the trouble. It was simple, but no one else had thought of it. He takes the short cut to the essential thing. It is characteristic of all his work.

Away from the laboratories, he is always busy. Aside from his library, where there are always a number of books put aside for the next opportunity for reading, his conservatory interests him. He is fond of nature. He has a camp on the Mohawk River, where he spends his summers. While there he cooks his own meals, and makes his guests rough it with him. He is in a canoe or in the water most of the time, and on sunny days spends hours on a raft, in his bathing-suit, reading and working. He never wears an overcoat in winter, and is always hearty and well. But he does not do these things to keep well. He does them because he enjoys doing them.

Although he receives a large salary, he has refused chances to enlarge it, saying that he was getting as much as any man should receive. For example, he is a professor at Union College, and, when the expected endowment for his work was not provided, he went on with the work. The men at the works welcome him at their homes and are received cordially at his house. One of them calls him "Dad." At Schenectady he is known as "The Professor." Many a young man in Schenectady has him to thank for encouragement and practical help.

A few years ago Steinmetz was a poor young German scholar; today he is a well-to-do American captain of industry. He is a naturalized American citizen and proud of it. Since his successes here he has been back to Germany, but he was homesick for this country and the Schenectady shops, for his work and his friends. It was here that, after a youth of struggle and drudgery abroad, he found the work that is joy to him—work that has made him one of the greatest electricians of the age.

FIFTY YEARS OF KANSAS

WHAT THE STATE HAS BECOME SINCE THE PASSAGE OF THE KANSAS-NEBRASKA BILL, THE FIFTIETH ANNIVERSARY OF WHICH WAS RECENTLY CELEBRATED—A STUDY OF A GENERATION OF STATE-BUILDING IN THE WEST

BY

WILLIAM ALLEN WHITE

IN May, Kansas celebrated the fiftieth anniversary of the signing of the Kansas-Nebraska bill—the repeal of the Missouri Compromise. Fifty years ago was a period of transition in American politics. The heroes of the thirties and forties were leaving the stage of activity and the new heroes were entering. Calhoun, Clay, and Webster had said their lines. Lincoln, Seward, Grant, and the war heroes were waiting in the wings for opportunity to give them the cue. In the territory of Kansas, the five years that followed the repeal of the Missouri Compromise were years of bloodshed, which inflamed the whole nation to Civil War. For without the burning of Lawrence, and the raids of John Brown, and other outlawries of the border, Sumter might not have been attacked.

The events from the signing of the Missouri Compromise bill to Appomatox were inevitably logical. The absolute right and wrong of the contest, in the large way, history has settled irrevocably. But the rights and wrongs of each of the veers and turnings of the road that led from one event to the other, through all the labyrinths of border ruffianism and across the devious trails of Price and Lane and Jennison, may not be set down so easily. But the rancors that were kindled in the border wars are growing cold in grass-grown graves. The children and the children's children of the men who were at one another's throats in those days of hate and lust for vengeance are marrying and giving in marriage across the lines, and the story of the early struggle will soon be as a tale that is told. Fathers will be honored for the way they fought, not altogether for the cause that called them out. To those who won it may seem unfair, but it is the way of the world, inexorable and changeless. For the

"dawn is here and the day is near, and the dead must be forgot."

But in the settlement and growth of Kansas, as well as that of the neighboring trans-Missouri States, there has been no malice; the characters are all heroes and Americans in this story—with no villains to mar the plot. The story of the settlement of Kansas is, like the story of the American colonies, like the story of the coming of the Normans, like the story of the Saxon conquest—a story of pluck.

Fifty years ago Kansas was marked on the maps a desert, and for the most part it was a desert indeed. It is an upland country chiefly, a vast plateau, veined sparsely with creeks, and arteried with a few rivers that were swollen with the floods of spring and, through the season of growing crops, oozed sluggishly in pools on the parching white sand. Before civilized man came to grapple it, this desert lay green and tempting in May and June and brown and dreary the rest of the year. Along the streams the giant bluestem grass hid the deer and antelope, and formed a place of forage for the coyote and the gray wolf that lived in the limestone ledges upon the bluffs. Every fall, from the State's northern to its southern boundary, great prairie fires, house-high, roared over the plain and marked it with ribbons of black desolation scores of miles wide. For the north wind and the south wind that carried the fires across this prairie made forests impossible, and no creature not fleet of foot or light of wing could make the place its habitat.

The Mormons and the forty-niners left sunflower seeds by the roadside, and the yellow flowers in their season marked with a blaze of glory the few trails that followed the ridges of the long east- and west-stretching hills. These trails were transcontinental—the California Trail, the Santa Fe Trail, the Pike's Peak Trail. On these trails or near them the forts and trading-posts of the gov-

ernment, and the relay stations of the freighters and the mail carriers were found. He who would venture north or south from these highways had only the sun and the stars to guide him. And when settlers did come into the prairie, their early journeys over the virgin trackless sod were accompanied by a music that has been still for these twenty years: the purring of the tall blue-stem under the wagon-bed, in the rich valleys, marked with a strangely syncopated time as the heads of the resin weeds tattooed upon the wagon bed and spokes. It was a sound like the lapping of velvet waves upon golden sands, and many and many a child lying curled up on the bottom of the mover's wagon has known it for his lullaby. And in the dreams of thousands of men and women of mature years, pilgrims in the uttermost parts of the earth, this song of the blue-stem, and the resin weeds' tattoo come bringing with them a memory of clear, blue sky, hung at the horizon with long, trailing clouds that beckoned into an enchanted distance. So came the settlers to Kansas.

Civilization upon the 4,000-foot slope that rises westward from the Missouri River to the Rockies planted itself permanently at the rate of about a mile a month. There were, of course, waves of population, reaching out into the wilderness, from time to time; but they were often beaten back, so the slow rise of man's domination over the desert was accomplished by a tide rather than by a flood.

There are, roughly speaking, five different agricultural levels, or steps, in the State, between the eastern and the western boundaries. On each of these levels different seeds and different crops and different methods of growing crops must be used to farm the land successfully. If men could have known this in advance, Kansas would have been settled, and delivered ready-made to the Nation, as a self-sustaining commonwealth in the early seventies. For thousands of dollars—perhaps millions, when one considers the fruitless time and labor—were wasted in learning that the seed-corn from the border will not grow well in the central portion of the State, owing to the difference in altitude, which makes a difference in the growing season; in learning that there are areas where corn will not grow profitably at all; in learning that corn as a selling crop will grow profitably nowhere upon the soil of the State; in learning that the profit in corn is in feeding it to cattle; in learning that wheat is the only selling crop that the western and central part of the State will grow; in learning that kaffir corn, sorghum and alfalfa are dry-weather crops which insure the Kansas farmer absolutely against drouth; in learning that short horn and Hereford cattle pay better than native stock; in learning the value of the cow and the hen as by-products of the big products of the farm.

But these things have been known of men in Kansas for nearly ten years now; and since they became well-grounded in the Kansas mind there has been no talk of drouth; it rains enough in Kansas every year; it has rained enough in Kansas probably since the carboniferous period. But the Kansans of the seventies and eighties did not know how to choose and plant and harvest so that the rain-fall would occur at the proper season for their crops. The tuition in the school of experience was high; and the pupils had to earn this tuition as they went along. It was hard work—heart-breaking, cruel work; many were called and few were chosen. All over the country, from Alaska to Florida, one finds ladies and gentlemen who have received their degrees from the Kansas school of experience. If they were gathered back to their alma mater, the "standing room only" sign would go up in short order.

And now that Kansas has conquered the soil, getting crops from it with bountiful regularity, she is delving into the ground. In the southeastern triangle of the State, the ten years last past have brought important discoveries of coal and oil and gas, and zinc and lead. The Iron Mountains of Missouri are near by, and smelters and foundries and allied industries, that need cheap fuel, are filling up southeastern Kansas, changing its economic status from agricultural to manufacturing. The gas and coal and oil belt is pushing farther and farther back into the State. It is not unlikely that half the area of Kansas may cover valuable fuel products. Since 1894, Kansas has pulled herself out of debt; her proportion of rented farms is smaller than that of any other State in the trans-Missouri country. Seven-tenths of the homes of the people are owned. The railroad mileage of the State is larger than that of any other American State in proportion

to the population. The per capita wealth of Kansas may not be larger than that of New York, but Kansas wealth is more evenly distributed. There are no rich men—not a dozen men in the State worth more than $1,000,000; not 200 worth $500,000, but thousands worth from $5,000 to $10,000, and scores worth $100,000. The money of the few Kansas rich men has been earned and saved.

But the chief glory of Kansas is not her material wealth, but her schools. In the amount of money spent for schools in proportion to the wealth and population of the State, Kansas ranks fourteenth. The most considerable item of the Kansan's taxes are school taxes. And at these he does not grumble. For most of the school money is spent in the school districts. There is a county high school law—drafted, by the way, by Dr. James H. Canfield, now Librarian of Columbia University—and this law is growing popular in the State after more than half a score of years of desuetude. It permits counties to establish public high schools, which are really academies, out of the public taxes. Above these academies are the State Normal School, the State Agricultural College and the State University—institutions sheltering a student population of 5,000, who are receiving first-rate collegiate or special technical instruction absolutely free. Two dozen denominational schools, academies, and colleges will increase the student body in Kansas to 10,000 young men and women. For practically all Kansas schools are co-educational.

Unquestionably, the money spent for schools and colleges in the State has produced a citizenship peculiar, in some degree, to Kansas. For Kansas has been called the Paris of the States; which means that the people being highly literate are quick to perceive half-truths, and are easily excited and always ready to act. Especially does anything appeal to Kansas which has a moral or emotional character. The State's judgments of men and measures are frequently unsound, and the Kansas political type is therefore sometimes freakish and impossible—or at least highly improbable, as a public person. This comes from the fact that Kansas would sometimes rather be wrong than slow; as a State, we read many newspapers, and therefore listen easily. Time and again bad men have come into favor and power in Kansas on moral issues which, of course, being in shifty hands, were never realized. Kansas has not learned that the movement which proclaims methods and not men will never succeed; that it is men, and not what they preach, that make or unmake good government. Schools, however excellent they may be, can teach men and women to read, but not to reason; as a State, Kansas has inherited a Puritan conscience. but time and again she has allied herself with Black George because he preached noble things and promised much.

The State was founded by people who were called there through appeals to their emotions on a moral issue, and over and over, since the founding of the State, the people have been swayed by emotional waves. The Greenbackers found comfort in Kansas; the Prohibitionists have held the State for twenty years against all assaults; the protective tariff as a shield for American industries carried the State when Kansas had only agriculture to protect; fiat money as a means of relieving the poor appealed to Kansas in 1890 and 1892; and free silver swept the State in 1896. In 1900, Kansas believed that the nation had a great duty before it in the Philippines; and this year, though Kansas made a point of being the first northern State to instruct for Roosevelt, she headed her delegation to the National Convention with two of Mr. Harriman's railroad attorneys.

But only in politics, and there only once in a long time, does Kansas furnish the apotheosis of the half-baked. And politics is a small part of the affairs of this life. In business, in matters social, Kansas is sane and shrewd and admirable. It is a remarkable thing what these trans-Missouri States have done in fifty years—to build up a commonwealth of people who came here poor; to establish institutions, and pay for them out of the savings of the people year by year; to justify a credit equal to that of many States three times as old and ten times as rich. This Kansas has done. It has required hard work and pluck to do it. These are the bases of the Kansas character. This is a foundation laid upon the solid rock. If there are any unfortunate idiosyncrasies in the Kansas people they are only skin deep, and only such as are common to the Middle West, and time will remove them.

THE MODERN LAWYER

HOW HE PLAYS HIS PART IN INDUSTRIAL DEVELOPMENT—THE MOST HIGHLY PAID BRAIN-WORKER IN THE WORLD—SOME MILLION-DOLLAR FEES—THE DIFFERENCE BETWEEN THE OLD-TIME LAWYER AND THE NEW—CORPORATIONS TAKING THE PLACES OF INDIVIDUALS—THE DAY'S WORK OF A LAWYER

BY

IVY LEE

THE modern lawyer is not the lawyer of American tradition, but a product of our new civilization. The population of the United States could not increase by such tremendous strides as it has made without creating new demands for men to adjust legal difficulties constantly arising. Nor could our per capita wealth jump from $1,038 in 1890 to $1,235 in 1900 without proportionate need for the services of lawyers. But some fields of legal work which formerly lawyers monopolized trust companies and title insurance companies have entered and now control.

A lawyer may still be asked to search a real-estate title. His client, however, is not a human being, but a corporation—a title insurance company. Before the lawyer's services are called for, a trained clerk has delved into records, and the lawyer is retained merely to verify the report of this clerk. A title corporation employs a large number of attorneys at such tasks, but they are never paid more than $35 or $40 a week. Once the accuracy of the record becomes established, the need for further legal services concerning it is exhausted. Even competing corporations of this kind coöperate to prevent duplication of legal work. The modern lawyer may be asked to draw up a will. Again, his client is a trust company, which is to be named as executor in the proposed testament. The same thing happens in the preparation of bonds and mortgages. Lawyers must do the actual work, as formerly, but corporations take the responsibility and get most of the compensation.

It is contended that trusts have concentrated into a few hands legal work which the constituent manufacturing concerns composing the trusts formerly had done by their individual counsel. This is true to a certain extent, but it is also true that from 1890 to 1900—an era of combinations—the actual number of manufacturing establishments increased from 355,415 to 512,734. The American Patent-Office is issuing more patents than ever before. New inventions create new industries, which demand legal advice and assistance. While the Bell Telephone Company, for example—the Telephone Trust—, has in late years been expanding enormously, the independent telephone industry has developed even more extensively. The telephone is being carried to farm-houses in the far South and in remote sections of the West. The independent telephone manufacturer is doing it. It creates additional work for the lawyer. And what is happening in this industry is happening in many others,

The vast development of modern insurance has opened another new field for lawyers, Fifty years ago, when old-time attorneys were performing time-honored duties, the total assets of the life insurance companies of America aggregated only $4,000,000. To-day those accumulations are more than $2,000,000,000. Nearly 20,000,000 life insurance policies are carried by American companies, Every death claim must be sanctioned by a lawyer. An extraordinary number of fraudulent demands are made. The lawyers must be the companies' protectors. These great insurance associations have interests in every civilized nation. They invest in hundreds of millions of dollars' worth of real estate mortgages. They engage in extensive building operations. To protect their properties, to save themselves from fraud, to advance their multifarious interests, these companies now have their own lawyers stationed in every State in the nation, in addition to the large corps detailed for service at the home offices.

The courts themselves are creating new demands for the lawyer. It is absolutely impossible for any one man to keep track of all the decisions they render. As a result, several large corporations now exist for the sole purpose of preparing and publishing accurate digests of these multitudinous decisions. One such corporation in New York State employs 150 trained lawyers at such tasks. These men may be found hard at work in the large office buildings of the great cities. They are, in truth, briefless barristers, yet they are gaining a comfortable livelihood in the practice of the law.

This age has created new professions, like those of the promoter and the negotiator, in which an accurate and comprehensive knowledge of law is necessary. By "promoter" is not meant the unscrupulous individual who seeks to foist upon an innocent public securities which have no value, but the man who can represent accurately and honestly, and at the same time most effectively, the opportunities and the values of investments in new industries. Negotiators might be called the salvage corps of modern business. But for the intervention of such men, trained in the diplomacy of both law and commerce, warring financial interests might often bring one another to complete ruin. A striking instance of the value of such a service was the settlement, some years ago, of the violent controversy between the meat packers and the Union Stock Yards of Chicago. Each of these interests was threatening to annihilate the other. All the resources of business had failed; recourse to the courts would have been disastrous. Lawyers secured peace.

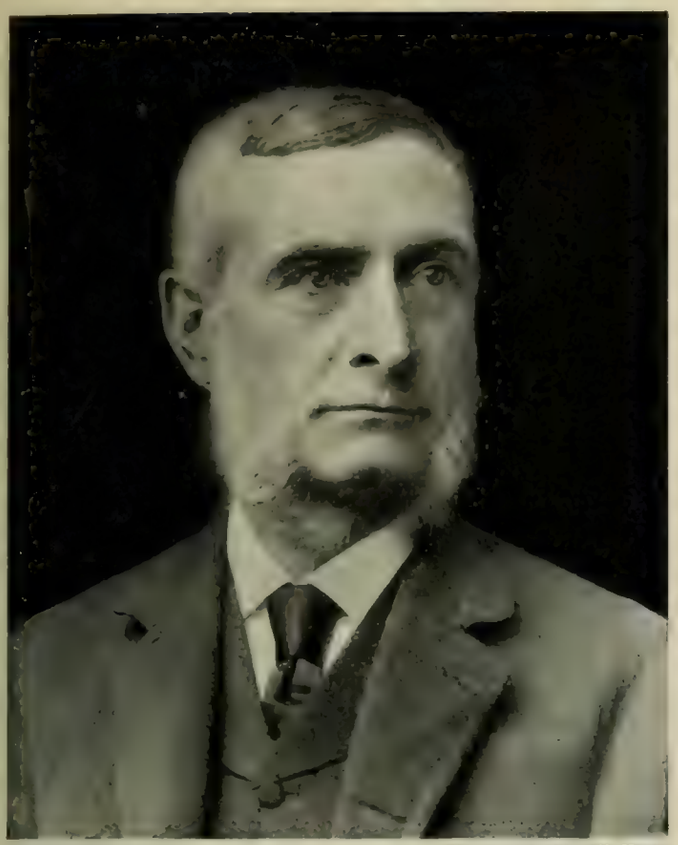
In this strenuous age of commercialism, the presence of a lawyer is demanded within the very offices of great business establishments. As Mr. James B. Dill expresses it, the lawyer has become in fact a "legal partner of trade." The lawyer is an indispensable figure in the great financial and industrial development of this country. Mr. J. Pierpont Morgan recognized this when he invited Charles Steele, a keen and sagacious lawyer, to become a member of his banking firm. Few great corporations now attempt to do business without a lawyer on their board of directors. Lawyers are responsible for most of the great deals which financiers and bankers are credited with.

It was William Nelson Cromwell, a New York lawyer, who first suggested the formation of the United States Steel Corporation as a way out of the tangles which threatened to enmesh the entire steel industry of the country. It was a lawyer—S. C. T. Dodd—who designed the original Standard Oil Trust, and who, when Mr. Rockefeller and his friends were bewildered by an Ohio decision discharging the original trustees, formed the present plan which so far has withstood every assault. Few great corporations in this country have as little important litigation as the Standard Oil Company. It is not Mr. Rockefeller, but Mr. Dodd, who is responsible for it.

But the new fields open to the American lawyer are not confined to the boundaries of the United States. Since the Spanish War, an entirely new set of problems has arisen, due to our activities in international commerce. We have arrived at the period of the American international bank, with its branches throughout the world, coming into contact with the laws of many peoples. Our foreign trade has astonished the nations. A growing demand has arisen for men with a knowledge of international law—men who can go into foreign countries and represent the legal interests of American exporters there. To-day, fully 500 American attorneys represent American interests in Paris. Yet this whole field of international law is a field comparatively undeveloped by the American lawyer. The interests, the problems, and the opportunity are all new. Nor is this work a substitute for something which has been done in the past. It is a positive addition to old duties.

In view of this rapidly widening field of activity, the supply of lawyers does not exceed the demand. In 1890, there were 89,630 members of the bar in the United States, or one to every 698 of the population. According to the census of 1900, the total number was 114,703, or one to every 659 of the population. There is, and will be for a long time, plenty of work for the good lawyer to do.

But what are the chances of success in the law, and what does success mean? Again, old-fashioned conditions are revolutionized. Getting a start is more difficult than ever before. In the great cities, new men usually begin as clerks in the offices of the great firms. In some of these establishments there may



Photographed by W. Kurtz

JOHN E. PARSONS

His great legal success has been as counsel for the Sugar Trust. He is prominent in church work, having been a member of the recent Presbyterian Revision Committee

Photographed by Hollinger

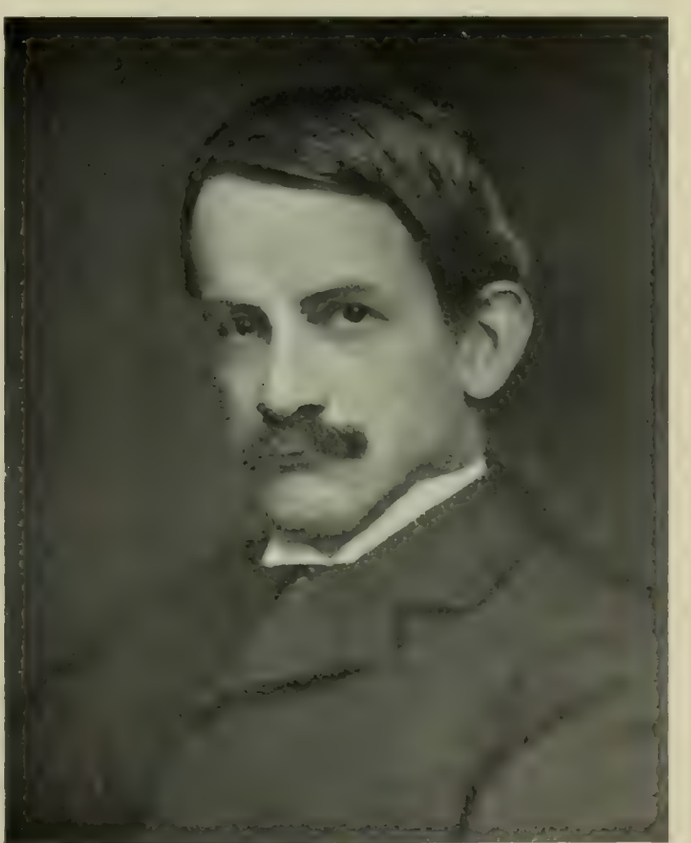
HON. JOSEPH H. CHOATE

At present United States Ambassador to Great Britain. Before his retirement from the bar he was preëminent as an advocate. His argument secured the Supreme Court decision declaring an income tax unconstitutional

Photographed by Hollinger

FRANCIS LYNDE STETSON

General counsel for J. P. Morgan. He directed the legal work in the creation of the United States Steel Corporation



Photographed by Hollinger

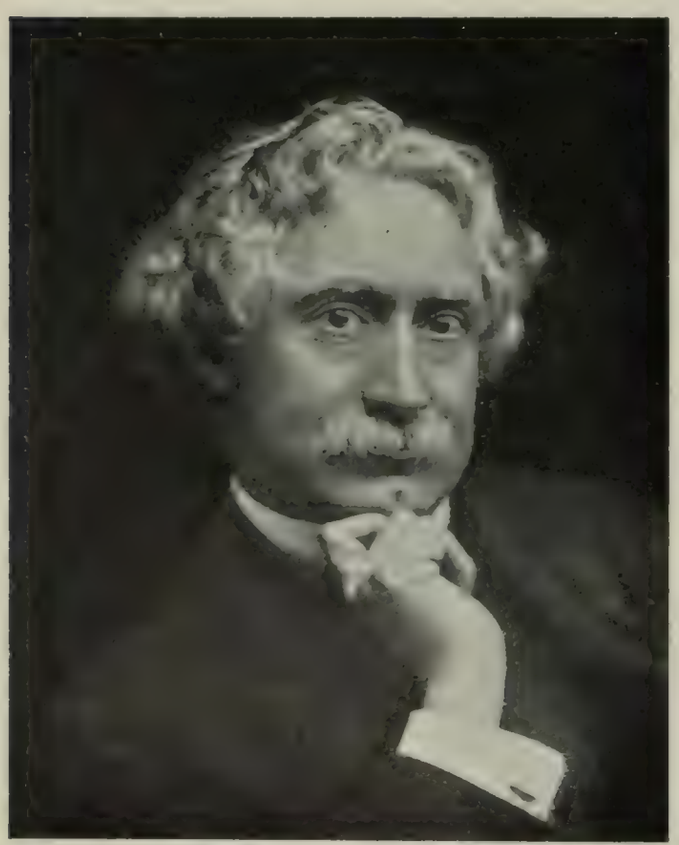
EDWARD M. SHEPARD

Whose most notable work has been as counsel to the Rapid Transit Commission of New York City. He is at present local counsel of the Pennsylvania Railroad

Photographed by Frances Benjamin Johnston

ELIHU ROOT

Who, as Secretary of War, has been mainly responsible for the legal arrangements in the administration of the Philippines



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WILLIAM NELSON CROMWELL

Who originated the idea of forming the United States Steel Corporation to prevent a disastrous steel war. He also managed the sale of the Panama Canal Company's rights to the United States

be twenty or thirty such beginners. Their ranks are usually recruited from the honor men of law schools and the editors of law school periodicals.

At the start, these clerks are paid but meagre salaries. Forty or fifty dollars a month is the best pay in the most desirable offices. Sometimes, by the taking prompt advantage of opportunities, a man rises to a salary of $2,500 within two or three years. Two more years, and he may get $5,000 a year. When a man has reached that stage

Photographed by Kenneth

RICHARD OLNEY

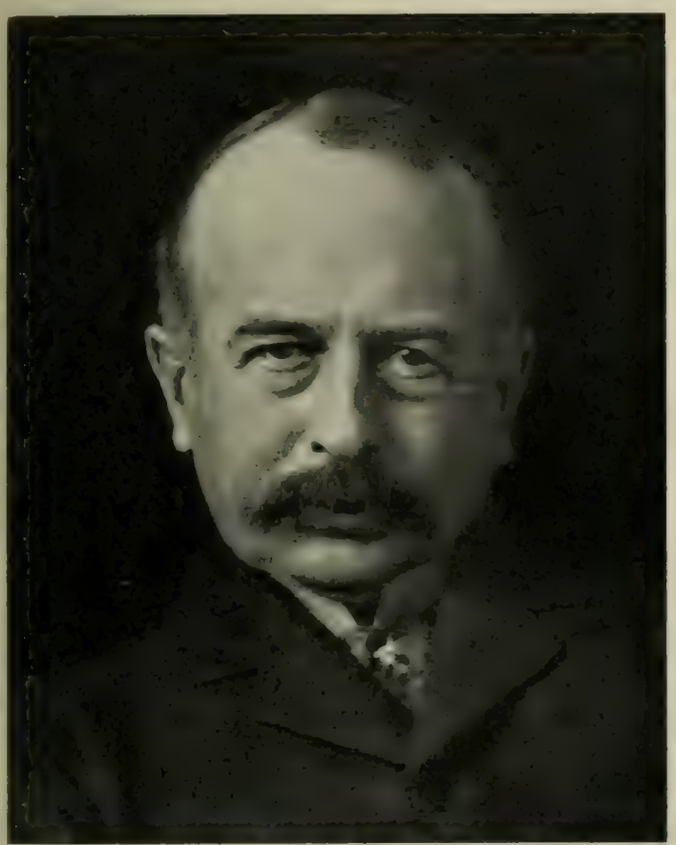
A modern lawyer as distinguished in his profession as he is in politics and in scholarship

he is either admitted into the firm or he starts out independently.

The step from this point to the headship of the great firms is not long. Many men make it very early in life. The concentration of work in the hands of these large and influential firms is the most striking feature of the practice of modern law in the cities. One New York firm like this occupies two capacious floors of a huge office building. Its operating expenses alone amount to more than $100,000 a year. Its bills for stenography and printing amount to tens of thousands of dollars. A large banking department is a part of its regular machinery, and two

bookkeepers are required to record its accounts. Its library of law books would be a magnificent adjunct to a university with a good law school.

No division of labor, however, such as prevails in manufacturing establishments, has yet been found possible in the actual practice of the law. No substitute has yet been discovered for the trained wisdom and the acute discrimination of an able lawyer. A firm is merely an aggregation of lawyers who, for the sake of convenience, occupy the same



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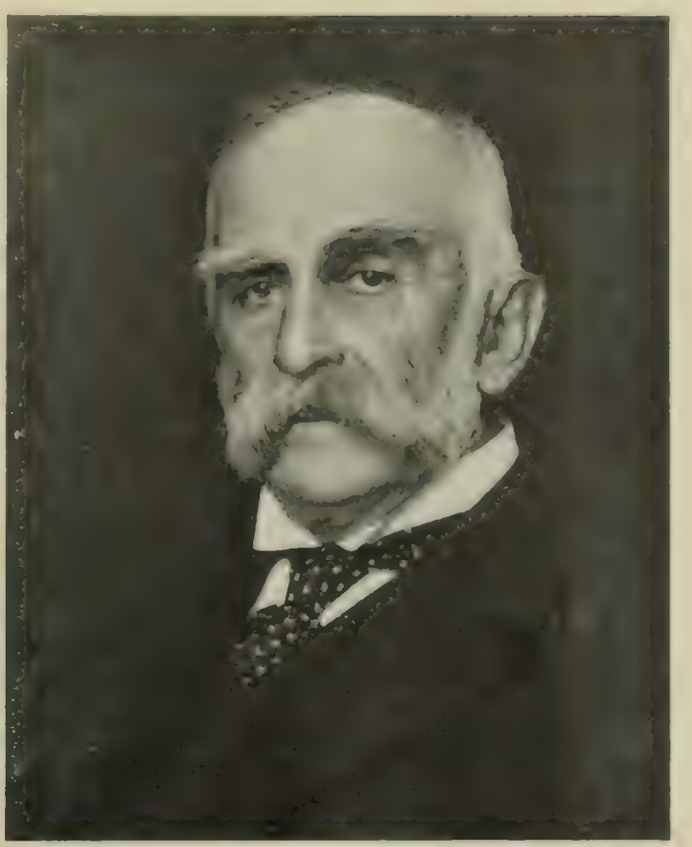
JAMES B. DILL

Who is said to have received $1,000,000 for settling the dispute between Mr. Carnegie and Mr. Frick. Mr. Dill has had more to do than any other man with the creation of the New Jersey corporation law

suite of offices, use the same subordinate employees, share miscellaneous administrative expenses, and assist one another in such incidental ways as may arise. No client is the client of the firm, in actual truth; he is the client of an individual member of the firm. Nor are various phases of the firm's cases divided. Any litigation is left to the sole direction of the partner in charge of it.

The great modern legal establishments usually consist of from three to six members. The senior member is the chief business-bringer. He has probably achieved a great



Photographed by Hollinger

JAMES C. CARTER

For the past several years the undisputed leader of the American bar

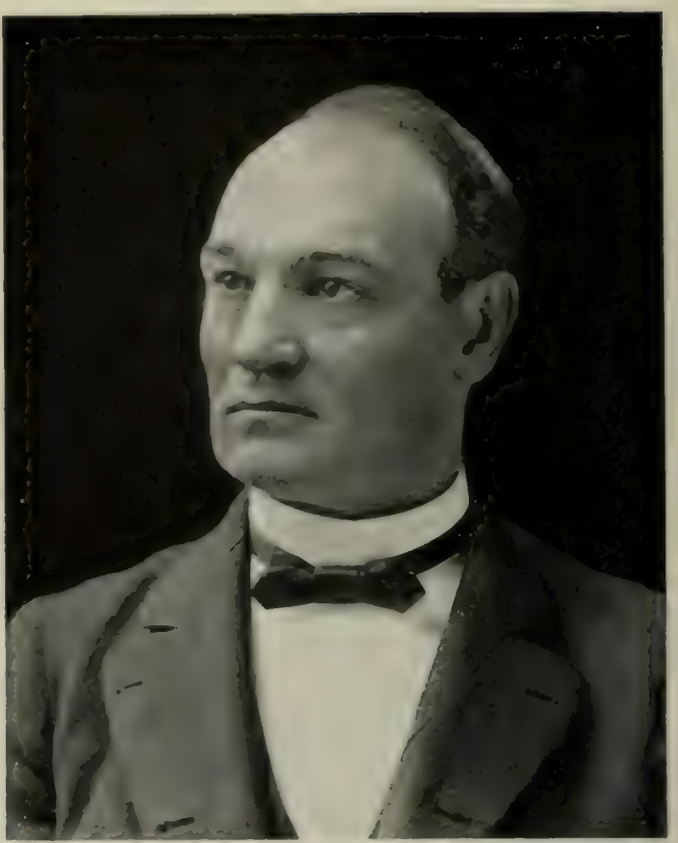
Photographed by J. E. Purdy

ROBERT M. MORSE

Who is at the head of the legal profession in Boston

ALBERT B. CUMMINS

Governor of Iowa, who made a reputation as an advocate before he became conspicuous in politics



Photographed by C. M. Bell's

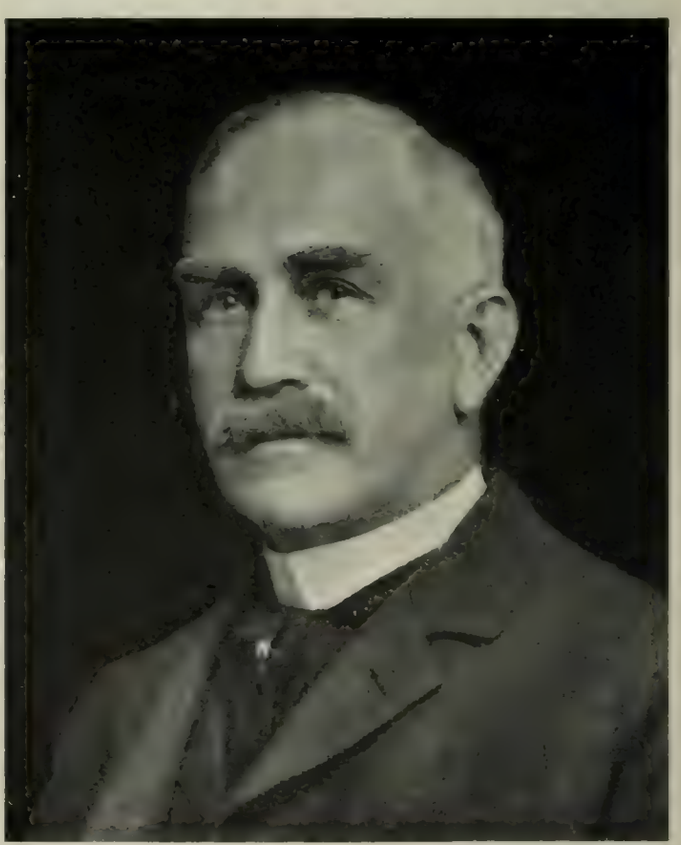
JOHN G. CARLISLE

Who has achieved the almost unique distinction of succeeding as a corporation lawyer after many years of active political life

Photographed by Gessford

WILLIAM B. HORNBLOWER

The head of the firm which has the largest miscellaneous practice in New York City



Photographed by Bellsmith

JUDSON HARMON

Of Cincinnati—formerly Attorney-General of the United States, and now President of the Ohio Bar Association

reputation in some famous case. Sometimes the field of politics is invaded to get a famous name to place at the head of the establishment. Speaker Thomas B. Reed became senior partner in a strong New York firm after twenty years' absence from the practice of law. Former Secretary of the Treasury John G. Carlisle was another of these recruits from the ranks of statesmanship. Sometimes, although the two cases mentioned were exceptions, it happens that the distinguished name fails to attract business. Mere names do not win judgments at court or protect corporations from legal trouble.

Very often the heads of these firms are specialists to a limited degree. One lawyer may have made a particularly thorough study of the law of trust companies, but he may be called upon for a different kind of work. The president of a large New York trust company was the client of one of the leaders of the bar in that city. One night the president's wife's jewels were stolen by a maid. A reward was offered for their recovery. Thereupon the maid returned the booty and demanded the reward. The president of the trust company immediately sought his counsel and demanded that he go into a petty court and protect the wife against such unjust exactions. And the great trust company specialist did it. A lawyer may have his specialty, but if he is to be conspicuously successful he must be prepared to give advice upon any kind of legal proposition.

"Show me how I may do this thing"—that is often the command of the capitalist to the counsellor. The lawyer does not inquire into the motives—be they sinister or benevolent—of his client. It is frequently his work merely to devise means by which the proposed object may be realized without transgressing the letter of the law. One well-known New York attorney not long ago remarked jocularly to his friends that he was "counsel-in-chief to the criminal-rich."

And what sort of life does the successful lawyer lead? What is the price of his success? I know a prominent New York corporation lawyer who is out of bed at five o'clock in the morning, and, after taking exercise, is ready for breakfast at half-past six. He is at his office in Wall Street at eight o'clock. His secretary and his stenographer await him. Dictation begins at once of the rough outline of a brief to be prepared. He follows this with dictating memoranda for his clerks, specifying certain questions of law and of fact which he desires looked into during the day. At nine o'clock he reads and answers important letters which his secretary has sorted out for his attention. At half-past nine he is ready for consultations with clients. From that time until four or five in the afternoon he is in continuous attendance, either before courts (generally of appellate jurisdiction), at meetings of boards of directors, or in consultation.

At perhaps half-past four the lawyer is ready to receive reports from his clerks. They are required to report solely upon the point entrusted to them. Often they have no idea whatever of the main issue involved. Little or nothing is left to their judgment or discretion. It is merely desired to know what the law and the cases are upon some particular point. They are expected to report accurately, concisely, and quickly. Making every minute count is essential to the work of a modern law firm. This miscellaneous work continues until perhaps half-past six o'clock, when the day's labor down town is at an end. Some lawyers even make use of the time consumed in going home. During the summer months, William Nelson Cromwell spends his nights on the New Jersey coast. He goes down by boat each afternoon, but a large state-room on that vessel is equipped with desk and typewriter and stenographer, that full use may be made of the precious hour devoted to the trip. During the winter he will probably be ready for dinner at half-past seven. An office boy has gone ahead of him, carrying a green bag full of books and papers, which are to be considered during the evening. One of the important papers is the rough draft of that brief which was outlined in the early morning. In the light of the reports from the clerks, that argument must now be polished. Two or three hours will be spent in such work before the full day's task is completed.

It is the practice of one important lawyer, after presenting his argument to a court, to dictate to a stenographer any points he may desire especially to remember in case it should be necessary to take up that matter again. The papers are then turned over to his secretary and the whole subject dismissed from his mind. If any point of possible future interest comes before a meeting of directors

which he attends, he loses no time afterward in dictating his ideas on that point to his amanuensis. After consultations with clients, he follows the same practice. When subjects of such divergent character follow one another so rapidly, it is futile to depend upon memory for anything. All memoranda and documents of such a lawyer are carefully indexed by a card system, so that everything is available for immediate use.

Moreover, it is necessary, in addition to all his routine, for the progressive lawyer to keep in daily touch with the decisions of the United States Supreme Court and the more important lower courts. Many lawyers pay $150 a year for printed copies of all decisions of the Federal Supreme Court, mailed immediately upon being handed down. More than one attorney has won brilliant victories before that tribunal because he was familiar with the court's decisions just rendered, while the opposing counsel was waiting until the published document had come to reveal the important news.

In all this pressure of activity there is almost no time for social diversion. The wives and the daughters must enjoy that by themselves. There is no leisure for the theatre and the opera. There is no opportunity for that cultivation of polite literature which in the past has added such grace and richness to the profession of the law.

But the reward is stupendous. The successful modern lawyer is the most highly paid brain-worker in the world. There was a time when the lawyer sought to charge each particular client all that he thought that client would pay. The lawyer of today aims to charge so that his account will appear on the profit side of his client's ledger.

William Nelson Cromwell is to receive $2,000,000 for selling the rights of the Panama Canal Company to the United States. But for Mr. Cromwell's extraordinary patience and skill the Isthmian canal might have been built through Nicaragua, and the Panama Canal Company would have remained in its defunct condition.

William D. Guthrie is said to have received $1,000,000 for breaking the will of Henry B. Plant. As a result, Mrs. Plant obtained $7,000,000 or $8,000,000. But for Mr. Guthrie, her share of the estate would have been exceedingly small. James B. Dill is credited with having been paid $1,000,000 for settling the famous dispute between Mr. Andrew Carnegie and Mr. Henry Frick. A legal fight would probably have resulted disastrously to every one concerned. It is not known how much Francis Lynde Stetson is paid as the general counsel of J. Pierpont Morgan, though it is estimated on Wall Street that Mr. Morgan gives him an annual retainer of $50,000 merely for first call upon Mr. Stetson's time, all actual services being paid for in addition.

There are so few lawyers who are equal to the bewildering demands of modern legal and industrial conditions that those few can command tremendous remuneration. It is a still more striking fact that all of these lawyers of great fees and powerful clients have much more work thrust upon them than they can possibly do. Most of it is work that they, and they alone, can do with the precision and perfection necessary for the task.

But there is another side. It is frequently remarked that important members of the bar are becoming less and less public figures. Bankers and merchants become personalities whom the public delights to honor for their good works. The doctor is known for his wonderful operations. He lectures and performs before clinics. But the crowded state of the legal profession, the wide diversity of interests, and the decreasing importance attached to court work, keep the lawyer from the public eye and obliterate his record after he is dead.

"It is true that my financial reward is very great," remarked one of the most successful of American lawyers to me. "But I do not work for myself. My day is spent in designing and planning for other men. My work is not my own. I am another man's tool. I have no time or strength for lending assistance and advice to charities, libraries, hospitals, or churches. After my success is achieved, I cannot retire and continue to receive my income, as can the merchant, the banker, or the manufacturer. So jealous is my profession that it allows me no opportunity to participate in politics and social reform—privileges the old-fashioned lawyers delighted in. My life is a constant grind, redeemed only by the large income it brings me. Even my success is but a reputation. The public cares nothing for my personality, and, outside of the members of the bar, but few people ever heard my name."

THE SUPERSEDING OF STEAM-POWER

HOW GAS-ENGINES OFFER A NEW FORM OF POWER FOR FACTORIES AND SHIPS—A 10,000-TON CRUISER ABLE TO GO AROUND THE WORLD WITHOUT TAKING ON FUEL—TORPEDO-BOAT ACTIVITY INCREASED—HOW THE POWER IS PRODUCED—A NEW ERA IN MACHINE ACTIVITY

BY

LEWIS NIXON

A SMALL Russian fleet on its way to the East, at the beginning of the war with Japan, put back from the Red Sea to the Baltic because it ran out of coal, and no neutral port would provide them with more than enough to reach the nearest Russian harbor. The scope of a modern battle-ship, in brief, depends on her coal-supply. That scope has always been restricted to distances comparatively short. When the *Oregon*, for example, made her famous run from San Francisco to Cuba, she had to stop and coal at Valparaiso. And yet so great a revolution has come about in methods of producing power that a 10,000 ton cruiser of twenty-one knots an hour could today proceed around the world at fourteen knots without taking on fuel and without sacrificing any of her war efficiency. New kinds of engines have come into vogue which suggest facts larger even than this. I have been led, lately, to think that the development of the steam-engine, almost to the exclusion of the gas-engine, has been a mistake, and that we are now at the beginning of a new era in the use of power.

The steam-engine became the machine with which most modern industrial activity has been carried on because it was possible in the steam-engine to secure fifteen pounds of power simply by condensation of steam. Ericsson invented a crude hot-air engine, but the piston of this was so large that it took all the pressure the hot-air developed to move it. So the hot-air engine received little attention and the steam-engine monopolized the study of engineers. The compound engine followed the simple, and then came triple- and quadruple-expansion engines. The water-tube boiler came into use, and also the rotary engine, which is lighter than the ordinary engine and for high powers less expensive. The commonest form of this is the turbine. Today the demands for electrical energy, which is produced best by rotary engines, are bringing these into wide use very rapidly.

In all this development steam has been used—and steam cannot be had without a boiler. When one considers the tremendous advance made in the use of internal-combustion engines in automobiles, which have surpassed railroad locomotives in speed, with a very light equipment, one cannot help wishing that the automobile form of power had been developed concurrently with the steam-engine. Every schoolboy knows the losses in producing steam-power from the time the coal is burned—up the chimney, in the ashes, in leaks, and in radiation. Engineers could today gain better and more economical results by abandoning steam and using internal-combustion engines, even in large establishments. The gain in economy of fuel will advance with the size of the establishment. With the internal-combustion engine, a brake-horse power can be produced on a pound of coal. This could not be done with steam under any conditions.

The most important method of generating power in an internal-combustion engine is through the use of producer-gas—which is like burning coal in a stove and having an engine run by the gases sent off through the smoke-pipe. Gas-plants are set up—taking up less space than boilers—coal is burned to produce gas, and the gas is burned in the engine. Power produced from coal in this way takes half as much coal as power produced through steam. And gas-engines can be made of any size.

Producer-gas equipments, brought into common use with internal-combustion engines, would, for one thing, greatly simplify the

design of ships. The greatest bugbear now in ship-building is the boiler. There must be air and space for stokers to shovel in, fire-rooms large enough to insure the men at work against prostration from heat, and large coal-bunkers. In building a ship, the boiler space has always been arranged for first, and the vessel built around that. All this, certainly, will now be obviated. The great advances recently made in the use of producer-gas, and the constantly increasing distribution of coal throughout the ports of the world, will result in the use of producer-gas plants, supplying gas-engines on large vessels of every kind.

Oil-engines using crude petroleum will be developed, but, even here, the fuel can be made into gas and burned thus with far greater economy than is possible when the oil itself is burned under boilers. Or gasolene can be used. In an ordinary 3,200 horse-power torpedo-boat, forty-three tons of coal would be used in ten hours. With gasolene, the radius of activity of the same torpedo-boat can be more than quadrupled, for 3,200 horse-power can be produced from 3,200 gallons of fuel. Briefly, 16,000 pounds of gasolene will do the work of 96,000 pounds of coal. The cost of the fuel is higher, but, with a gasolene-plant in a torpedo-boat, only two men are required in the engine-room, and none at all in the fire-room. The dangers of steam at high pressure are avoided, and the complexity of steam machinery done away with.

To make a fuller explanation—internal-combustion engines are of three classes:

(1) Engines using gasolene which vaporizes at low temperatures, and which, mixed with the air, gives an explosive mixture. This is the general type of the automobile engine.

(2) Engines using heavier oils, with which it is much more difficult to provide a proper mixture, and where the vaporizing is obtained by means of a spray and by the use of high temperatures.

(3) Gas-engines proper, using natural gas or gas made from a solid or liquid, such as coal or petroleum. Great advances have been made of late in the production of gas from coal for such engines. This gas is called producer-gas, because it is made in producers. Already a number of these, of great efficiency, economy, and simplicity, are on the market.

One of those now extensively used is a vessel containing a banked fire, or deep bed of incandescent coal, through which a current of air and steam is forced. The glowing coals rest on a bed of ashes, and the air and steam are forced in from below and rise up through the coal.

Ultimately, the coal is not perfectly burnt, and a gas is produced from a combination of the oxygen of the air with the carbon of the coal, which, by combination with oxygen, can be burnt after leaving the furnace. This gas passes through various receptacles such as superheater, scrub-box, and purifier, where it is sprayed and washed to remove tar and other impurities, until it is at length delivered ready for use. The steam is produced in most cases by the heat of the gases.

In a producer-plant designed by a motor company for use on board ships there is a small boiler in the upper part of the producer. This is very compact, and the plant can be installed within the limits of weight and space of a steam-plant, and increase the steaming radius about four times with the same bunker stowage.

Dr. Ludwig Mond has invented a producer system on a large scale which produces a clean, cheap gas and at the same time saves a great deal by utilizing by-products.

Since peat, turf, wood, sawdust, tan-bark, coke, lignite, coal or petroleum can be used to produce a serviceable gas, the range of its application is enormous. For river work, where driftwood is used, a stupendous advantage is secured, for a horse-power can be produced on two and one-half pounds of good wood. The operation of gas-plants is very simple. There are many instances where gas-engines have run night and day for more than three months without stopping or needing adjustment or repairs.

Owing to the certain saving to be secured in coal-consumption and to the simplicity and reliability of the gas-engine plant, we shall witness a gradual forcing out of the steam-plants in future power-plants for lighting, pumping, or factory use, and it will be a question of but a short time before many of the existing steam-plants will be replaced. In the cities, soft coal can be used with no smoke, in addition to the very great advantages otherwise connected with its use, as a gas, instead of as fuel under a boiler. This means a revolution in the use of power.

COMMON-SENSE COUNTRY SCHOOLS

HOW SUPERINTENDENT KERN HAS REVOLUTIONIZED RURAL EDUCATION IN WINNEBAGO COUNTY, ILLINOIS—WELL-PLANNED AND HEALTHFUL BUILDINGS AND GROUNDS—CHILDREN TAUGHT FARMING AND TRAINED FOR PRACTICAL LIVES

BY

ADÈLE MARIE SHAW

(THE SIXTH OF A SERIES OF FIRST-HAND STUDIES OF AMERICAN SCHOOLS)

FROM the groves of Winnebago our children lift their song" is no mere fiction of a local hymn. The children of Winnebago County, Illinois, have reason for rejoicing. A wise county superintendent of schools has, in five years, worked a revolution, and the story of these five years contains volumes of suggestion.

When Winnebago County elected Mr. O. J. Kern, a Rockford high school teacher, to the office of superintendent, it had, scattered about an otherwise pleasant landscape, more than a hundred little, dreary school-houses. In their naked interiors children were "educated" to be as helpless in a world of busy competition as the farmer without horses is in a world of farm machinery. Seventy-six of these schools had less than twenty pupils each.

Soon after his election, Mr. Kern made a tour of the centralized schools in Ohio, wrote an account of his observations, illustrated it lavishly with pictures of model buildings and wagons for transporting pupils, filled it with illuminating facts, and sent it broadcast. The seeds that he thus sowed have been diligently cultivated ever since. The Seward consolidated school is one of the first visible results.

Seward, where the school is situated, is "real country." A creamery and a grain elevator draw their supplies from its farms. Two little churches and a railway station and the school house are its public buildings. The three old school-houses abandoned for the new one were one-roomed bits of match-box architecture, in each of which one teacher taught in ten-minute recitations everything to everybody. In the new building, classes are graded from the stage of the first-reader through two years of high school work. The school-house is large, and its architecture is pleasing. In the basement are a girls' gymnasium and a boys' workshop. On the third floor are a laboratory and an assembly room.

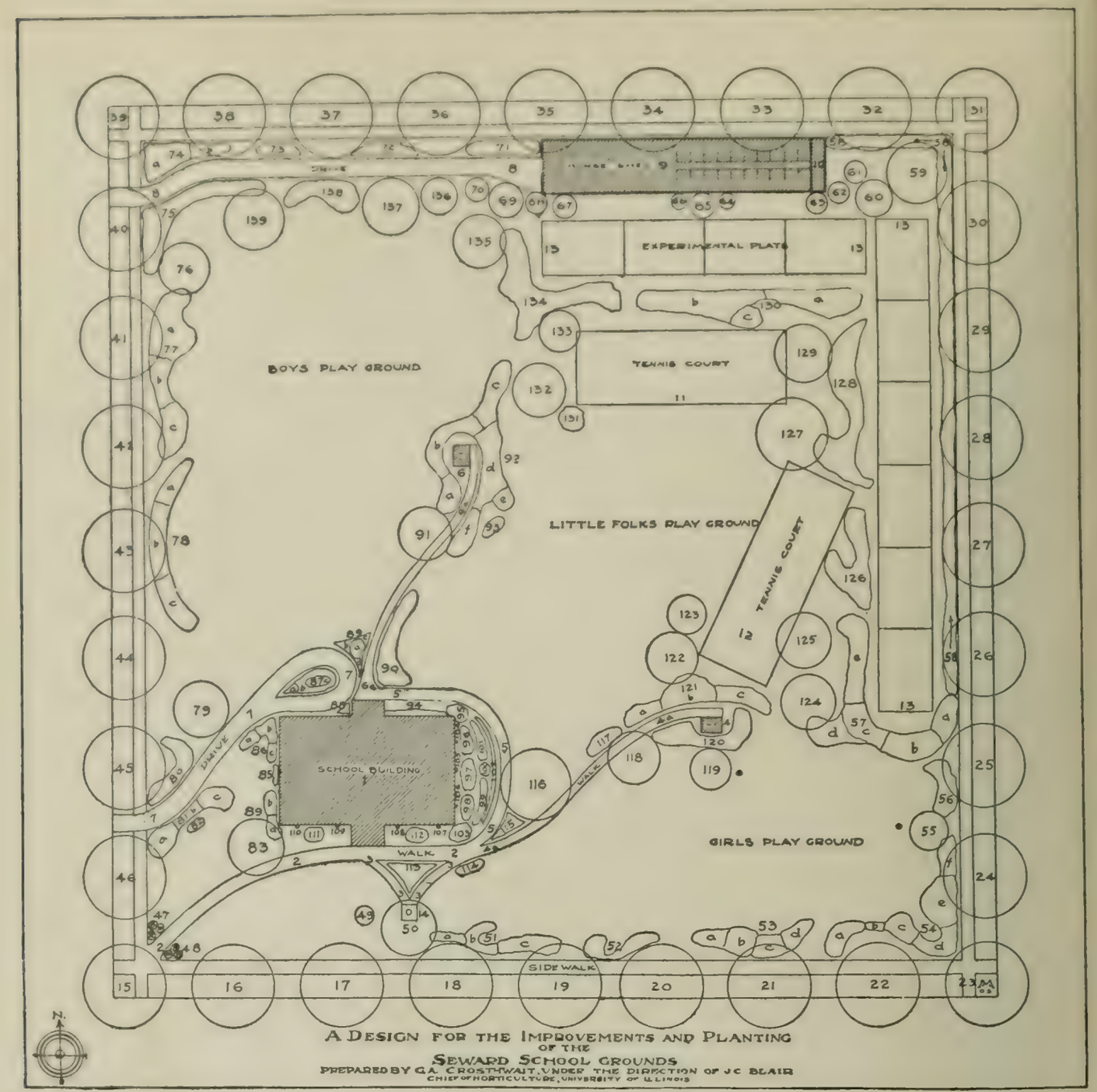
People in other country places have watched this experiment, and they want similar privileges for their own children. Two other districts in the county have petitioned for the consolidation of their schools, and they will get it. Then twelve of the one hundred and six little rural schools in Winnebago County will have been merged into three, and twelve districts will have "city advantages" for country children.

The Seward school has, in addition to its heating, ventilating, and general sanitary equipment, forty beautiful statues, bas-reliefs, and pictures given by Mr. Horace Turner, of Boston. The Highland school in a Rockford (Winnebago County) suburb has a room decorated by the same donor. Thus its pictures, its books, and its flowers serve as models for the other schools.

But the good work of Mr. Kern has not been limited to the better school buildings.

"While we work for the new buildings, we do what we can with the old," said he.

In a little building far from a railroad or an electric car line, and quite out of sight of the nearest dwelling, I found two beautiful landscapes (one after Corot), a picture of horses much loved by the children, a photograph of the Acropolis, and a portrait of Abraham Lincoln. These pictures are very much better than the conventional calendars, or even the prints of the Coliseum, which are seen in many city schools. Bits of New England seashore or the beach at Monterey, California, awoke the imagination of the inland child. Cathedrals, feudal knights, and Roman arches were there, but they were relieved by these modern and more interesting



A DESIGN FOR THE IMPROVEMENTS AND PLANTING OF THE SEWARD SCHOOL GROUNDS
PREPARED BY G.A. CROSTHWAIT, UNDER THE DIRECTION OF J.C. BLAIR
CHIEF OF HORTICULTURE, UNIVERSITY OF ILLINOIS

HOW TO LAY OUT A MODEL SCHOOL GROUND

1. School House.
2. Front Walk. (5 ft. wide.)
3. Walks to Well. (3 ft. wide.)
4. Girls' Closet.
4a. Walk to Girls' Closet. (3 ft. wide.)
5. Walk to Rear Door. (4 ft. wide.)
6. Boys' Closet.
6a. Walk to Boys' Closet. (3 ft. wide.)
7. Drive to Rear Door. (6 ft. wide, of cinders or gravel.)
8. Drive to Horse Shed. (6 ft. wide, of cinders or gravel.)
9. Shed for Horses. (20 ft. x 100 ft.)
10. Shed for Manure. (5 ft. x 20 ft.)
11. Tennis Court. (27 ft. x 78 ft.)
12. Tennis Court. (27 ft. x 78 ft.)
13. School Garden or Experimental Plots. (Each 20 ft. x 30 ft.)
14. Well.
15–46. American Elm, White Elm, Water Elm.
47. Althea Rose of Sharon (R) Red Variety. (W) White Variety. (B) Blue Variety.
48. Hibiscus syriacus.
49. Colorado Blue Spruce.
50. Sugar Maple, Hard Maple, Rock Maple.
51. (a) Red Siberian Dogwood.
    (b) Golden-barked Cornel.
    (c) European Red Osier Dogwood.
52. Sweet shrub, Spice bush.
53. (a) Garland Syringa.
    (b) Large flowering Syringa.
    (c) P. billardii.
    (d) Golden Mock Orange.
54. (a) Japan Snowball.
    (b) Weigelia candida.
    (c) Wayfaring Tree.
    (d) Common Lilac.
    (e) Cranberry Tree.
    (f) Syringa vulgaris alba.
55. Hardy Catalpa, Western Catalpa.

56. European Barberry.
57. (a) Common Elder.
(b) Golden Elder.
(c) Cut-leaved Elder.
(d) Flowering Currant.
Crimson-flowered Currant.
(e) Rhus glabra.
Rhus copallina.
Rhus typhina.
58. American Arborvitæ. A hedge.
59. Basswood, Linden, Linn, Lime Tree, etc.
60. European Larch.
61. Lombardy Poplar.
62. White Flowering Dogwood.
63. Red Flowering Dogwood.
64. Red Juniper. Red Cedar.
65. Nordmann's Silver Fir.
66. Red Juniper. Red Cedar.
67. Pyramidal Arborvitæ.
68. Pyramidal Arborvitæ.
69. American Arborvitæ.
70. Siberian Arborvitæ.
71. European Burning Bush. Strawberry Tree.
72. Forsythia fortunei.
73. Dwarf Pink Flowering Almond.
Dwarf White Flowering Almond.
74. (a) Cranberry Tree.
(b) Japan Quince.
75. Hazelnut.
76. Kentucky Coffee Tree.
77. (a) Red Osier.
(b) Cornus paniculata.
(c) European Red Osier Dogwood.
78. (a) Mountain Sumac.
(b) Rhus glabra.
(c) Rhus typhina.
79. Norway Maple.
80. Flowering Raspberry.
81. (a) Van Houette's Spirea.
(b) Thunberg's Spirea.
(c) Golden Spirea.
82. Tree Peony.
83. Tulip-tree.
84. (a) Fortune's Pink Spirea.
85. Spirea bumaldi.
86. (a) White Alder. Pepper Bush.
(b) European Burning Bush.
(c) Spice Bush. Sweet Shrub.
87. (a) Dwarf Deutzia.
(b) Common Mezereon.
(c) English Fly Honeysuckle.
88. Hardy Ferns.
89. (a) Deutzia crenata candidissima.
(b) (c) (d) Dwarf Deutzia.
90. Hardy Roses of Different Varieties.
91. Basswood, etc. See 59.
92. (a) Common Lilac.
(b) Red Osier.
(c) Purple Barberry.
(d) Japan Snowball.
(e) Purple leaved plum.
(f) White Lilac.
93. Tartarian Honeysuckle.
94. Hardy Ferns.
95. Forsythia fortunei.
96. Lonicera fragrantissima.
97. Tartarian Honeysuckle.
98. White Tartarian Honeysuckle.
99. Indian Currant. Coral Berry.
100. Joan of Arc.
101. Snowberry.
102. St. John's Worts.
103. Forsythia viridissima.
104 and 110. Japanese or Boston Ivy.
111 and 112. Hibiscus syriacus. (Several varieties.)
113. Great Panicled Hydrangea.
114. Flowering Currant.
115. Hardy Roses.
116. Oriental Plant trees.
117. Syringa vulgaris Charles X.
118. Maidenhair Fern Tree.
119. Hackberry. Nettle Tree.
120. Japanese Sweetbrier.
121. (a) White Lilac.
(b) Common Lilac.
(c) DeMarley's Red Lilac.
122. Scarlet Oak.
123. American Red-bud. Judas-tree.
124. Pin Oak.
125. White Walnut. Butternut.
126. Silky Cornel.
127. Black Walnut.
128. Hazelnut.
129. Wild Cherry, Black Cherry.
130. (a) Forsythia fortunei.
(b) Japan Quince.
(c) Pearl Bush.
131. Silver Bell.
132. White Pine. Weymouth Pine.
133. Hemlock. Hemlock Spruce.
134. Japanese Holly.
135. European White Birch.
136. Norway Spruce.
137. Black Pine. Austrian Pine.
138. Japan Corchorus.
139. Thornless Honey Locust.

HARDY PERENNIALS. ANNUALS

In the accompanying plan, no plants have been suggested besides trees and hardy shrubs. The idea is that in this way the most enduring and dignified planting can be produced. However, there are two great classes of plants which are of importance, especially in the earlier years of the growth of our statelier plants. These are our perennials and annuals.

Herbaceous perennials are easy to grow and may be planted in almost any place in a planting. They may be planted in the open or among and under trees and shrubs. In a naturalistic planting, however, they should not be planted in formal beds. They should be scattered about in a seemingly careless manner. They should be found in the bays of shrubbery and in any nook that seems to need filling.

For quick effects, the annuals come into play. What has been said of the perennials is true of the annuals as well. Whatever else is done in this planting, do not disfigure the landscape by digging up great spaces for formal flower beds. Let teachers and children have the privilege of noticing where the various perennials and annuals do well and among themselves deciding where they are most at home. Our retiring wild flowers of the woodland would seem entirely out of place in a bed out in the lawn. A few perennials and annuals which may well find a home in some part of our planting are mentioned below.

J. C. Blair, Urbana, Ill.

The above list is recommended to all schools and homes in Winnebago County. Surely, if no planting is done, the excuse can no longer be—"I did not know what to plant."

For more beautiful school grounds.

O. J. Kern, Co. Supt.

pictures. The selection of decorations, too, was made under expert advice.

But even attractive wall decorations are not the most important part of the improvements in these rural school-rooms. Other improvements are shown in two reports of Superintendent Kern, entitled: "The Winnebagoes" and "The Country School and the Country Child." Each is a book of great delight. Each has gone into every farmhouse and village store in the county. The illustrations tell as much as the text. The following explanation stands beneath a picture of one attractive country school-room:

"The interior of District School No. 70, Winnebago County, Illinois, June, 1902. The directors had the interior nicely painted, a hard-wood floor newly laid, and a jacket put around the stove. A library case and pictures were put in with the money received at a "social" held by the pupils and the teacher. You see also a box of books from the Winnebago County district school traveling library. The exterior view of this house is shown on another page. The weeds are all cut and the out-houses are repaired. There is a progressive board of directors. Mrs. Lulu Keeling is the teacher."

Under a photograph of a water-tank, a porcelain sink, and water cups (one for every two or three children instead of one tin dipper for the school), Mr. Kern writes: "This is infinitely superior to the open pail which often stands among dinner buckets, wraps, overshoes, brooms, washpans, and fragments of lunch;" and he adds a description of the price, the construction, and the proper place for such a water-tank.

Parents, teachers and pupils are urged to make the school-house attractive outside as well as inside. Outside work is easier. To give to school-rooms the trim, well-ordered look of gracious surroundings is not so easy. Out-of-doors, nature works with enthusiasm to help even a modest effort at beautifying. Where such an effort has been made, the reports give full credit; but they reprove those easy-going neighborhoods that neglect the school-yards. Below the cheerful picture of a newly painted school-house, with neat blinds, and young trees in its playground, Mr. Kern sets the truthful photograph of a forlorn building, without clapboards, and without a vine or a tree to cover its defects. Here are his comments:

"This school-house was ready for use September 1, 1902. The weeds are all cut and removed. The fence has since been removed. The interior was nicely refitted during the last vacation. The directors are C. E. Johns, J. W. Miller, and L. J. Wing

"This school-house is in the same township, three miles away. Everything is holding its own. Even the weeds were not cut when the school was opened this present year."

Whenever there is anything to commend, he gives credit to whom it is due; but he tactfully refrains from unnecessary blame for the negligent. "The ventilation of this woodshed all that could be desired" is the only criticism upon the school picture of an out-of-door woodpile where, all winter, teacher and scholars must dig their fuel out from the snow.

Sometimes a district is offended by the comments, but more frequently it laughs and goes to work. There is a pleasant district rivalry, and the directors of many schools have labored with effective energy for no pay and sometimes little thanks. A director's task in an ignorant and slowly moving neighborhood is not easy, for, after he is convinced that progress is a paying investment, he must convince his neighbors. "Men who wouldn't look at their grandfather's farming implements think that their grandfather's education is good enough for any one," said one of the supervisors.

At Schweinfurth, a few miles from Rockford, magnificent trees surround the playground of the school-house, and partly shelter a building too disgraceful to be even picturesque. Great ragged holes open directly into the one room of the building. Between these holes and the children's desks a thin board partition has been erected. A woodshed has been made of one end of the room. The benches were made long ago, and they are now so worn and broken that one has lost its seat and another has sagged from its supports. Soot from a leaking stove-pipe has added to the room's appearance of age. The children take no pride or interest in their slovenly and demoralizing surroundings, and on the first day of the term only four of thirteen registered pupils were present. But even in this most discouraging spot in the county the teachers have secured a fine book-cabinet and some pictures.

Since Winnebago County elected Mr. Kern its school superintendent it has not known the peace of stagnation. If the school

grounds are improved, he photographs them, and if they are not improved he photographs them. When there are holes in the school-children are constantly inspired by letters and visits from him. The buggy of the Superintendent may be seen anywhere, at

THE SCHOOL CHILDREN OF WINNEBAGO COUNTY, ILLINOIS, HAVE VIGOROUS OUTDOOR EXERCISE
At the end of recess

house walls, everybody knows it. Mr. Kern's bulletins are read by everybody in the county, and by many people outside it, and they are acted on. The parents, the teachers, and the any time, on the country roads, with a traveling library and magazines or a book for the teachers. On the seat are a camera and the luncheon he is often too busy to eat.

Mr. Kern sends out as timely reminders to the parents, pamphlets printed in large type on heavy paper, and illustrated with good pictures. One sent out last summer had energetic paragraphs on "School-house and Yard," "Pure Drinking-Water," "Out-houses," "A Uniform School Year," "Better Teachers and Better Salaries," and gave the names of forty-three teachers who studied at the State Normal summer school. This is the appeal for pure drinking-water:

"Most of the sickness among school children in the fall is caused by their drinking the stagnant water from the school well. Will you not hire some one to pump the water out three or four days before school begins?"

The children in the transformed country schools of Winnebago County get object-lessons in right living.

The Seward school, now standing in the middle of a corn-field, is to have the best playground in the county. Nearly 200 varieties of trees and hardy shrubs will be used in making it. The work will be a lesson in horticulture. The Japan quince, the flowering currant, and the maiden-hair fern tree will hereafter appear in front-door yards hitherto guiltless of any plant but grass.

NATURE MADE THESE GROUNDS ATTRACTIVE

A BEAUTIFULLY SHADED SCHOOL YARD

A year ago Cherry Valley township set out seventeen large elms in its school grounds. The children cared for the trees by planting flower beds around the roots, watering, weeding, and loosening the surface soil. The children in the county have used their knowledge of color and design, and have competed for prizes given by periodicals for playground plans, for flower gardens and vegetable gardens, and for well-kept lawns.

Mr. Kern sends to each district pictures of German, French, and Flemish school gardens, lists of flowers easy to cultivate, and directions for planting trees. And these pamphlets are meant to be kept. Every school sends to the Superintendent a report of gardening attempts, of failures, and of successes. This work has so much interested the parents of the school children that, at their last meeting, the Winnebago Farmers' Institute passed a resolution encouraging school gardening.

In 1902 Mr. Kern started the Farmer Boys' Experiment Club, to interest the children in the common farm animals and plants. With directions from the agricultural college, the boys tested the vitality of seeds, and they planted corn, and kept a record of its growth. In June Mr. Kern took the boys, their parents, and their friends to the State College of Agriculture. The party of 300 filled six cars, and for $2.50 apiece rode 428 miles. Some of those who went had never before been on a railroad train. At Urbana the State University welcomed them gladly. There the women spent their time in dairies, cooking-classes, and flower gardens, and the men and boys were shown the Experiment Station. The boys were impressed with the results of fertilization, with the stock-feeding, and with the model dairy barn. The party spent the night in Urbana, saw more of the things science could do with soy-beans and wheat and peas, and then traveled back to Rockford, animated by new interests.

In 1903 the club again went to Urbana. This year about 500 people, some from outside the county, will join in an expedition to the State Agricultural College at Ames, Iowa. For a fifth of the usual fare they will go and return, crossing the Mississippi River, and seeing something of another commonwealth.

The Farmer Boys' Experiment Club has increased to 386 members, many of them boys who have left school. When the experiment station that they had visited wanted to find out whether or not sugar-beets could be raised with profit in Illinois, the boys took the offered seeds and proved that they could. The beets they sent in were the finest the station received.

The Farmers' Institute of Winnebago County offered valuable prizes for good corn.

THE WORST SCHOOL BUILDING IN WINNEBAGO COUNTY—THE RESULTS OF NEGLECT

The boys worked faithfully, and, when they exhibited their results, the farmers were enthusiastic. All but two of the resolutions passed at the last meeting of the Farmers' Institute were in commendation of some phase of Mr. Kern's work. At the young people's session of the Institute, crowds were turned away for lack of room.

How to interest the boys in the farm has been answered. How to interest the girls is beginning to be answered. A Home Culture Club with 216 members has been formed. Home sanitation and decoration, the effect of bad air and poor light, and the hygienic furnishing of sleeping-rooms have been made into a valubale programme. Any natural little girl would rather be digging in the earth, or pulling up clover and alfalfa to see the nitrogen tubercles on their roots, and getting bulletins from the State College addressed in her own name, than adorning a fireless room with the best-hemmed curtains.

SNOWDRIFTS COME IN THROUGH THE WALLS OF THE WORST SCHOOL IN WINTER

THE INTERIOR OF THE WORST SCHOOL-HOUSE

A CONSOLIDATED SCHOOL WITH THE WORK OF BEAUTIFYING THE GROUNDS BEGUN

THIS SCHOOL HAS BEEN ABANDONED

The girls heard the reports and the inspiring talks at the Institute, and they liked them. And Mr. Kern determined that they, too, in spite of local custom, should be taught about plants and animals.

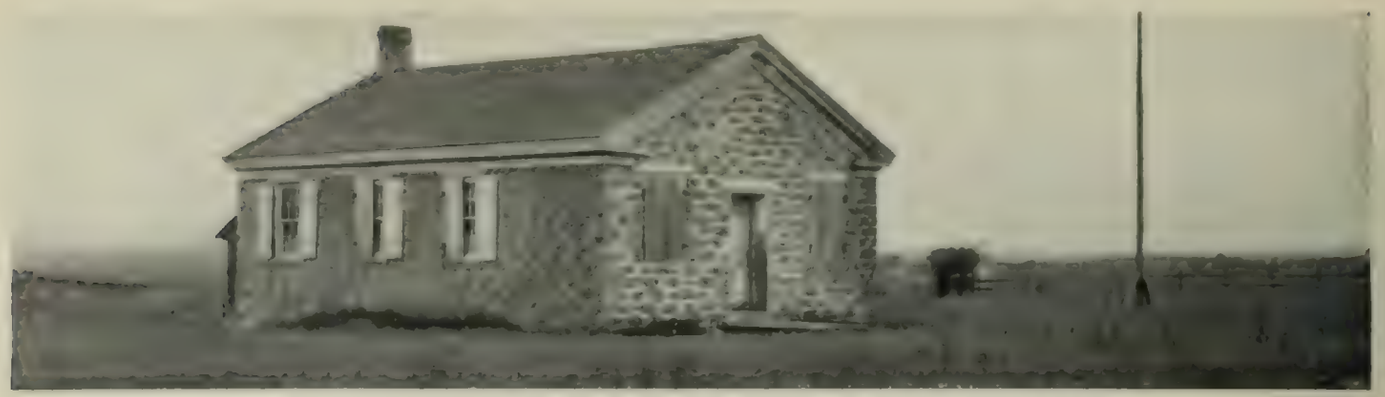
When spring came Mr. Kern was ready. Professor Hopkins, of the Agricultural College, had outlined a set of experiments for girls and boys alike, and the girls will do their needlework better next winter for the course in agriculture this summer. "I hope," wrote the Superintendent in sending out the directions, "that every boy and girl will keep a record of his experimental work this summer, and be ready to present it to me at the annual meeting of the Winnebago County Farmers' Institute next winter. Read the following report sent in by Marvin Bates, of Burritt township:

A CONSOLIDATED SCHOOL REPLACING THREE ABANDONED BUILDINGS

"My corn was planted on the 9th of May. There were two stalks in every hill excepting two which did not come up. There were 357 ears, and very few stalks without ears. The total weight was 352 pounds at time of gathering. I gathered it the 22d of November. The cost of raising it was as follows:

THE MEMORIAL HALL IN ROCKFORD WHERE ALL EDUCATIONAL MEETINGS ARE HELD

"RING AROUND" AND "LEAP FROG" AT RECESS



THE USUAL COUNTRY SCHOOL-HOUSE—UGLY AND UNADORNED

Postage on corn seed	$.07
Plowing of ground, 1 hour	.20
Dragging of ground, 15 minutes	.05
Marking of ground, 15 minutes	.05
Planting of ground, 30 minutes	.10
Hoeing, 30 minutes, May 29th	.10
Hoeing, 30 minutes, June 8th	.10
Plowing, 30 minutes, June 23d	.05
Weeding and hoeing, July 17th	.25
Hoeing, July 24th	.10
	$1.07

There were 5½ bushels at 45 cents	$2.48
Cost of raising	1.07
Gain	$1.41

Such work adds to the children's power to use their text-books. Boys and girls reckoning the percentage of "smut" in a field of oats are studying very practical arithmetic. Reports like Marvin Bates's are very good elementary bookkeeping. The child's account of an excursion, written and read at the Institute, is very good practice in composition and oratory.

Mr. Kern's experiment has made both country and city enthusiastic. The newspapers are interested in every new development, and call attention to such facts as the change in the local agricultural standard. A few years ago fifty bushels an acre was considered here a good yield for corn. The boy who won the first prize raised 125 bushels to the acre. Many others raised more than 100 bushels to the acre.

The beautiful Memorial Hall, the library, and the high school building at Rockford, are once a year the club-rooms or the school-rooms of the Winnebago teachers. The Teachers' Institute lasts five days, and teachers attend as part of the regular year's work. There is nothing cut and dried about this gathering of the forces. The work is per-

THE CHILDREN AT WORK IMPROVING THE GROUNDS AROUND THE OLD STONE SCHOOL-HOUSE

AN UNSIGHTLY CORNER—THE CHILDREN'S EXPERIMENT CLUB BEGINNING WORK

vaded by the spirit of a man whose originality is never fantastic, and whose ideality is common sense. Confidence in his leadership, reliance upon his complete friendliness, his willingness and his ability to help, give poise and stability to this teaching body.

The work of the last five years, persisted in through hardships and doubts and opposition from outside, has had very great results. "It is the merest beginning," says Mr. Kern.

It is impossible to harbor a doubt of what is to come to Winnebago County. Where else will you find in a rural school a reading-table whose magazines are bought by the district? Where else, excepting at Menomonie, Wisconsin, a group of schools that in five years have gained like these? They are bound to grow. Bye and bye, when the schools are all consolidated, then the swimming pool of Menomonie, the reading-classes of Indianapolis, will find their counterparts in every Winnebago school building. In that happier time fresh air will be as available for the farmer's wife as for the farmer. A girl of seventeen will have lungs as sound as her brothers'. Every good movement is here, under way and gathering momentum as it goes.

"Working With an Ideal" is the title of an article about Superintendent Kern. "This modest, unassuming, enthusiastic, and far-sighted man," it calls him. His work has been done quietly. He did not wait to exploit his theories, he tried them himself, where he was, and he made them a success. It was hard work, and he was so busy that men were watching him from one side of the continent to the other before he found out that he had done the impossible.

Two important things become fixed in your mind here:

(1) The application of good sense to

THE SAME CORNER THE SEASON AFTER, SHOWING THE EXPERIMENT CLUB'S IMPROVEMENT

A MEMBER OF THE EXPERIMENT CLUB IN HIS PRIZE-WINNING CORN-PATCH

A FIELD OF BEETS CULTIVATED BY THE BOYS OF THE EXPERIMENT CLUB

public education is so rare as to seem a miracle when it is found.

(2) If one man can in a few years instil new and vigorous life into a whole county, the less time we spend complaining of conditions, and the faster we work, the better.

PRIMARY CHILDREN ON DURAND SCHOOL GROUNDS, WINNEBAGO COUNTY, PLAYING "HIAWATHA"

THE CREW OF A TURRET ON THE UNITED STATES STEAMSHIP *ALABAMA*, AND TWO TARGETS

The world's record time for rapid-firing was made in this turret

TRAINING GUNNERS IN THE UNITED STATES NAVY

OUR BATTLE-SHIPS BREAKING ALL RECORDS IN SHOOTING AT A TARGET — GUN-POINTERS SELECTED AFTER RIGID TRIAL — A FOREIGN EXPERIMENT IN SHOOTING AT A BATTLE-SHIP—THE VALUE OF TARGET PRACTICE

BY

LIEUTENANT-COMMANDER ALBERT GLEAVES

COMMANDING U. S. S. MAYFLOWER

A REVIVAL of target practice dates from the Spanish-American War. Up to that time, adequate attention had not been paid to the necessary training to produce expert results in any navy in the world, except possibly the French and Russian. Since that time, England and Germany have made important changes in their systems, and in the United States navy target practice has been carried on so assiduously that recently the American gunners established the best records that have ever been made. The Wisconsin first broke the record, and later the Texas shot even better.

Target practice in our navy is as old as the guns. We always devoted much time and attention to the guns, and in so doing we acquired a world-wide reputation in all our wars for excellent shooting.

In the beginning of the new century, when the infant navy of the United States first began to make itself heard in the West Indies and on the Coast of Barbary, target practice—not the scientific drill of today, but none the less target practice, including shooting at beef casks—became throughout the navy a part of every ship's routine, and our sailors were thus for years kept in training until the great struggle came with the acknowledged champions of the ocean. Up to that time only one English ship, the *Shannon*, had target practice, or put sights on her guns, and her reward came one eventful June day in Boston Bay ninety years ago, when she fought the *Chesapeake*.

The necessity for target practice was taught for all time on the bloody decks of the *Guerriere*, the *Macedonian*, the *Java*, and the *Peacock*. It matters not whether the gun in vogue is a carronade, a Dahlgren, or a

modern high-powered rifle; unless it can be made to hit the target, it is absolutely useless. But it was not until the battle of the Yalu, in the Chinese-Japanese War, that heavy gun-practice was seriously considered. The value of the practice was proved at Manila and Santiago. The search of foreign experts for the best way to hit a mark resulted in the present system of target practice, generally the same in all navies, and brought to a high point of efficiency in ours.

It is only half the work to arm and equip ships with the most improved guns and

Photographed by Enrique Muller

AN EXPERT GUN CREW ON THE *MAINE* AIMING AT A TARGET

sights; they must also have a highly trained personnel capable of manipulating guns, turrets, and torpedoes. When China found herself arrayed against Japan she offered $500 cash per month for skilled gun-pointers, but, in all great navies, gun-pointers are trained, not bought, and when the fight is on it is too late for instruction.

How does a man become an expert gunner? Diligent drill and constant training are not enough without a certain amount of natural aptitude. One man after another is tried. A few days' drill in the turrets eliminates all except the fairly promising. For the talent of eye and nerve which marks the born gun-pointer the Government pays from $2 to $10 a month in addition to the man's regular pay. This premium is not confined to any race, creed, or color. On one vessel in the navy, one of the gun-pointers is a Negro.

Selecting gun-pointers is one of the most important duties in the navy. Having selected the men for gun-pointers, the next step is to train them. Two methods are now in vogue, both having the same principle, but differing in detail. In the old days of sails and smooth-bore guns, the invariable rule—and the only rule the gun-captains knew—was this: "Fire at the top of the downward roll (just as the ship begins to roll toward the target), and aim at the enemy's waterline." This rule lasted far into the age of steam and turret guns, and has only recently been supplanted by "continuous-aim firing," or the art of keeping a gun trained on the target, regardless of the oscillations of the vessel, during the whole or a portion of the roll. This kind of practice was first brought to the attention of the Navy Department by

TWO FLOATING TARGETS OF THE KIND NOW USED

Lieutenant-Commander W. S. Sims, recently Naval Attaché at Paris, and at present Inspector of Target Practice.

The method for training men by this new system—by the use of a "dotter"—was devised by Captain Percy Scott, of the British Navy, the officer who gained a great reputation by his improvised gun carriage upon which the five-inch naval guns were transported from his ship, the *Powerful*, to Ladysmith, in the Boer War. The "dotter" is a mechanical device which causes a small target to move across the face of a gun, with a combined vertical and horizontal motion. The gun-pointer must make the gun follow the target, and whenever the sights are on the bull's-eye he presses a button. This causes a pencil to dot the target. That is his shot. The other method of instruction is with the Morris tube, which consists of a small gallery rifle fitted on the gun, to take the place of the "dotter's" pencil.

So expert have some of the English ships become in target practice by the constant use of the "dotter," that one captain declared that he was prepared to keep all his shot within a certain area on the side of the enemy's ship at the fighting range of 2,000 yards. Indeed, one of his crews fired a six-inch gun eight times in less than a minute,

every shot striking the target; and another, with a nine-inch gun, made nine hits out of twelve in six minutes, or at the rate of one and one-half hits a minute. This is very nearly perfection.

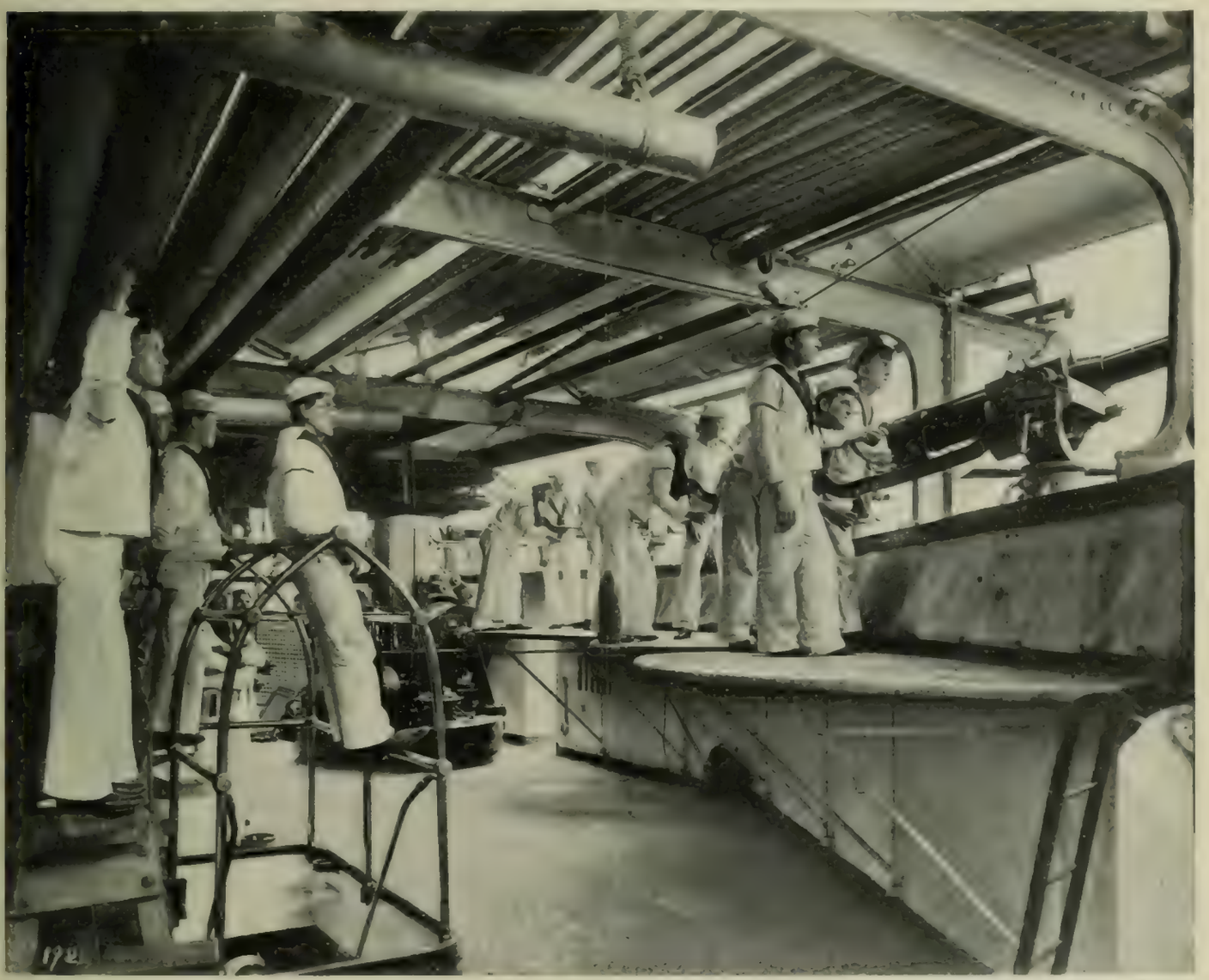
In addition to the dotter and the tube, a loading machine is used. This teaches the men to load quickly, for, while accuracy of fire is the most important element in a battle, rapidity of fire is the next essential. The loading machine, also the invention of an English sea-officer, consists simply of the breech of a dummy gun fitted with service mechanism. The regulation shell is used, and the men are trained to load the machine by hand without the use of rammers. On board the British ship *Barfleur* all the movements of loading a five-inch gun twenty times with service ammunition were performed in one minute and twenty-four seconds. This is an exercise the men are very fond of. It has become one of the features in the athletic contests, common on all large war-vessels.

Two kinds of target practice are employed now in all navies: one in which the target is stationary and the ship moving; the other in which both ship and target are moving. In the first the target is towed out to any predetermined distance, say 2,000 yards, and anchored in such a way as to lie constantly in one direction. The target is at an apex of an equilateral triangle, the other two angles being marked by buoys. The ship, cleared for action and with all hands at battle stations, steams at a speed of ten or twelve knots in front of the target, firing her guns only in the interval between buoys. In the towing practice the firing ship moves in one direction, while the target is towed in the opposite direction by another ship. This practice in the English navy is exciting. The squadron is divided into two columns, which move past each other in opposite directions at a distance of one mile and at a speed of eight knots. The distance between ships in each column is 1,200 yards, and

A TARGET HOISTED UP FOR EXAMINATION ON THE QUARTER-DECK
Showing seven holes made in eight shots from 13-inch gun

each ship tows a target twenty feet long by sixteen feet high 500 yards astern, which is fired at in succession by the ships of the opposite column. Of course, only "blind," or unloaded shells are used, but it is close work.

According to the United States Navy rules of target practice, all guns are divided into three classes: heavy guns, embracing eight-inch and larger rifles; intermediary guns, four-inch to seven-inch inclusive; and secondary guns, all below four-inch. Each class of gun has certain established standards of excellence, which are subject to change. Rules have been adopted making the practice throughout the navy uniform, in order that at the annual practices, which take place at a stated time in certain parts of the world, the competition may be absolutely fair. Cash prizes are awarded to the best shots, and increased pay to those men who "qualify," as it is called, for marksmen. After each annual competition, those who qualify receive extra pay for two years. The highest rate of pay for a turret-captain is $70, and President Roosevelt has ordered that the turret gun-pointers of the first-class shall receive $10 a month extra, and that the pointers of smaller guns shall receive $2 to $8 a month extra, according to the class of gun and the qualification they achieve.



HANDLING THE GUNS ON THE *MASSACHUSETTS*

Besides these advantages of pay, rank, and position which are open to every enlisted man of the navy, cash prizes are offered by the Navy Department for the best records, and to meet this expense Congress appropriates about $200,000 yearly. England appropriates $26,000 for prizes, and in 1900 Germany's budget included an item of $482,000 for ammunition, target practice, and

Photographed by Enrique Muller

SAILORS FROM THE *ILLINOIS* PRACTICING WITH THE REVOLVER ON CULEBRA ISLAND

prizes, which was an increase of $71,000 over the previous year. The prizes in our navy are so distributed that almost every man who can shoot at all may win something. There are three prizes for each class of guns in each ship. Handsome trophies are presented to the ships having the highest final score of their class. They retain these until they are beaten at a subsequent annual practice. The honor of carrying these trophies is more eagerly contested for than all the money prizes put together.

For fifty years, and until two years ago, the standard navy great gun-target was a triangular sail, ten feet high and ten feet wide at its base, with a bull's-eye painted in the centre. This was hoisted on a floating platform. At a distance of 1,000 yards, such a target presented a very small surface, and whenever a shot struck it the most conceited gun-captain, however he might boast of his prowess to his mates, felt in his heart that the hit was simply an accident. The recorders were two midshipmen stationed in the fighting-top of the vessel, who watched the splash of the shots and guessed how close they were to the target. Those guesses were duly recorded upon blanks printed for the purpose, and sent to Washington as part of the quarterly report of the practice. "Fifty yards short, ten yards to the right," or "good line shot, 150 yards over," are familiar recollections to all those whose active service is not less than ten years old.

Then the navy went to the other extreme and gave values to fictitious shots—that is, the shots which did not hit the target at all, but which might have done so had the target been the size of a battle-ship. Elaborate mathematical tables were compiled, and diagrams of vertical and horizontal planes constructed, and astonishing values assigned to shots which hit nothing except the ocean—all to make up a "final merit" record of each gun-captain.

It may be remembered that, according to the press accounts at the time, an old condemned lightship was rigged as a target and anchored off Gay Head. She presented an area of 900 square feet of canvas and about one-third as much of hull, or a total of 1,200 square feet. At a distance of 4,000 yards and at a speed of twelve knots, one by one the ships of the North Atlantic Squadron steamed past the target and poured at the wooden hulk a hurricane of shell. At the beginning it looked easy to hit, because the target was so big that, when the flagship started across the line, there was not a little grumbling on the other ships that there would be nothing

Photographed by Enrique Muller

SAILORS ON THE TARGET RANGES—CULEBRA ISLAND

left for them. Four ships in succession, however, passed and fired their heavy guns, without doing material damage. Then the range was closed to 2,000 yards and the 6-inch guns and the rapid-firers began to play upon it, with results scarcely more appreciable. And yet the gun's crews of all the ships had been constantly, faithfully, and conscientiously trained and instructed. We had simply been working in the wrong direction.

In the winter of 1902-03, off Pensacola, the battle-ship squadron, firing at a target of one-third the area of the lightship, made a record that astounded the whole service. With 13-inch guns the smallest per cent. made was 40, while the greatest was 75, or eighteen hits out of twenty-four. The 8-inch guns scored 53 per cent. of hits, and the 6-inch guns 54 per cent. On one ship the 6-pounders scored 149 hits out of 240, or more than 62 per cent.

In September, 1903, at the new ranges at Martha's Vineyard Island, some excellent scores were made. One turret of the *Alabama* made fifteen hits out of sixteen shots, or 93.7 per cent.; but more remarkable still was the increased rapidity of fire. The rate of hitting with these ponderous 13-inch shells averaged nearly one hit every minute from each gun though some of the *Alabama's* 13-inch guns made considerably better time; and the scores of most of our battle-ships do not fall much behind this. One 6-pounder pointer of the battle-ship *Illinois* fired ten shots and made ten hits in thirty-three seconds, or at a rate of eighteen hits per minute—a score which has probably never been equaled. The world's record for naval gunnery has been held, according to the London *Engineer*, by Second-Class Petty Officer and Seaman-Gunner W. Rowe, of the *Ariadne*, who fired ten rounds from a 6-inch gun in one minute and made ten hits.

Target practice is obviously a subject upon which most nations are silent as to details, and, therefore, very little has been made public concerning a most remarkable target practice held by order of the French Government off Toulon. The turret of the battle-ship *Suffern* was subjected to the fire of two shots from a 9.2-inch gun of the *Massena*. A battle-ship in commission fully manned and equipped, representing millions of dollars, was thus deliberately made a target for another ship. The idea was to ascertain what would be the effect of impact of shots upon the turret of a modern battle-ship. The range was short in order to minimize the possibility of not hitting the turret, and the turret was covered with additional plating. The report of this test was not given out.

Photographed by Enrique Muller

A CREW LOADING A GUN ON THE *FLORIDA*

In the scheme for naval target practice as made public by the Bureau of Navigation, the waters of Key West have been selected as great gun ranges for the North Atlantic Fleet, the European and the South Atlantic Squadrons, and it is proposed that annually in the spring the ships shall rendezvous there for the "record" practice, which follows the "preliminary" practice held several months before. The object of this firing is to determine upon the men who are well-fitted to be gun-pointers, and to qualify them according to certain standards, thus determining their class, extra pay, and prizes.

Conditions of prize firing vary according to the nature of the guns. The English 12-inch and 9.2-inch guns fire for six minutes only (the vessel steaming at eight knots), at a range varying from 1,400 yards to 2,000 yards, and at a target seventeen feet high, twenty-one feet high at the top, and fifty feet at the foot, the whole giving an area of 525 square feet. The 6-inch quick-firing guns fire for two minutes (the vessel steaming at twelve knots), and at a range from 1,400 yards to 1,600 yards, at a target whose area is 350 square feet. It will thus be seen that the heavy guns fire at a longer range than the quick-firers, but their target is larger and their speed slower. On the other hand, as their rate of fire is slower, the distance between shots varies more with the big guns than with the quick-firers. The function of the heavy guns is essentially to pierce the armor which stops the quick-firers' projectiles; hence practice with the former is mainly judged by the number of hits, whereas the capabilities of the quick-firers are estimated by the weight of the metal hitting the target.

It is most fortunate for the nation that Secretary Moody and Rear Admiral Taylor, recognizing the inestimable value of Admiral Farragut's fine phrase—"The best protection from an enemy's fire is a well-directed fire

from our own ships"—have broken away from iron-bound traditions and archaic methods, and, in the face of strong hostile criticisms, have authorized the new order of naval gunnery. Preparedness at the outset of any naval war counts most of all. The day of formal declarations of war and of the accompanying ceremonials has passed. When two countries face each other with hostile intent, the one which strikes first and hardest is apt to score the highest. Vexing questions of international law must be settled afterward by diplomacy, but those whose trade it is to fight ashore or afloat must be on the lookout for a vulnerable point in the harness of the enemy, and speedily seek it with gun, ram, or torpedo. Of late, there has been not a little criticism of the administration of our own fleet. There are those who deprecate constant cruising and regular target practice because such manoeuvres involve a great cost for coal and powder, an incessant wear and tear of material, and a wasting of the energies of the personnel; but efficiency can only be obtained by exercises approximating as closely as possible to war conditions. If the material wears out, the resources of the country can readily repair all damages; if the personnel gives way, it is far better to find our weakness in time of peace than in the hour of battle.

All the reports of the record practice for the current year have not yet been received, but it is known that the results of the firing have shown a decided improvement over the scores made last September. At Pensacola, last month, there was a close contest for the pennant and the prize battleship trophy between the *Kearsarge* and the *Alabama*, in which the *Alabama* was successful, but a few days afterward she lost it to the battle-ship *Wisconsin*, flagship of the Asiatic Station, which made a record of 83 per cent. of hits. The *Wisconsin* in turn has been compelled to yield the trophy to the second-class battle-ship *Texas*, whose record has not yet been officially announced by the Navy Department.

The achievement of the *Texas* probably will not be exceeded during the present practice.

So proficient have the bluejackets become in handling the turret guns, that in actual target practice on board the *Alabama* a 13-inch gun is loaded and fired in thirty-eight seconds. Five years ago the official time allowance for firing a gun of this calibre was six minutes! In other words, the turret guns have become rapid-firers, a fact which suggests no end of interesting changes in the armament and its arrangement on board the fighting ships of the line, inasmuch as the necessity for the "intermediate" battery (guns from 4 to 8 inches) no longer exists. The alert Japanese, it is said, have already taken prompt advantage of this new condition, and have approved designs for two heavily armored battle-ships of 17,000 tons, each armed with 12-inch and 10-inch guns only, in the main battery. The 12-inch guns are capable of piercing twelve inches of armor at a range of three miles.

MORMON CHURCH INFLUENCE IN POLITICS

A MIGHTY BUT INTANGIBLE POWER—HOW THE ORGANIZATION OF THE CHURCH PROMOTES MORMON CO-OPERATION IN ELECTIONS—THE DECLARATIONS OF THE PRESIDENTS—THE STORY OF UTAH CAMPAIGNS—POLYGAMY DYING OUT

BY

ONE WHO KNOWS

THE real Mormon question, which the Smoot investigation brought up, but did not solve, is the question of church dictation in politics. Polygamy is always an issue between the great mass of the American people and the Mormons, but it was suspicion of church domination of Mormon office-holders in Utah and in Washington that formed the basis of the opposition to Mr. Smoot.

In reality, there has not been in Utah much "church dictation in politics"; there is, and will continue to be, a vast deal of "church influence." President Joseph F. Smith, of the Mormon Church, is doing everything in his power to keep the church out of politics; but neither he nor any other man will ever be able to banish church influence. Indeed, there would be church influence in Utah if there were no Mormons there, and Catholics, or Methodists, or Presbyterians, or Lutherans, preponderated as Mormons do now.

Politics in Utah have no counterpart elsewhere. The Mormon vote is vastly in the majority. Every Mormon holds some position of religious authority, and usually the abler men hold the higher places in the church. No other church has an organization so close or so perfect. The real executives of the church are the "bishops." A bishop's jurisdiction extends either over an ecclesiastical "ward," three blocks square in the cities, or over a comparatively small territory in the country. These bishops are selected for their knowledge of practical affairs and their ability to handle men. Every bishop knows intimately the capacity, the resources, the character, and the shortcomings of every Mormon residing in his district. In practically everything that goes on in a Mormon community, from the construction of an irrigating ditch to the interpretation of a passage of scripture, the bishop is counselor and referee. He is a guide to his people in business and social affairs, as well as in spiritual matters. His flock are naturally influenced by his political opinions. Consequently, even though he may not desire it, he is a power in local politics.

The leaders of the political parties accordingly cultivate the bishops, and candidates seek their support. If the district is "close," the party to which he belongs is likely to nominate him for office in order to "catch the Mormon vote." However indifferent to politics he may be, he is forced to take sides. His support by Mormon voters is not due to pressure or dictation. A people accustomed to coöperate in all the other relations of life will not abandon the habit of coöperation in politics. Unity of action among the Mormons, however, appears more frequently in nominating conventions than in elections.

After nominations are made, the Mormon voters are likely to vote a straight party ticket even when the party nominee is a Gentile running against a Mormon. Richard W. Young, an able son of Brigham Young, and a devoted church adherent, was defeated at the polls for Supreme Judge of Utah by Robert N. Baskin, one of the most prominent anti-Mormons. Brigham H. Roberts was also defeated in his first race for Congress by Clarence E. Allen, a strong anti-Mormon. George Sutherland, a leading Gentile of the State, defeated William H. King, a son-in-law of Apostle Lyman, for Congress. Joseph T. Richards, son of the general legal counsel of the Mormon Church, and himself a Mormon, was beaten for District Judge by Charles W. Morse, a Gentile. Mormons voted for these Gentile candidates because they would not bolt their party ticket. In conventions, however, where party loyalty is not in question, a Mormon candidate for a nomination has an immeasurable advantage over a Gentile opponent.

Under these conditions, the cry of "church influence" is raised after every convention and every election. The defeated candidate finds a convenient excuse for his failure in the assertion that he was beaten through church influence. The bitterest enemies of the Mormon Church are the men who have been helped by its influence for a time, and who have then been dropped. Of course, the successful candidate who has been helped by the Mormon vote has nothing to say about church influence. Indeed, the public officials who have been most subservient to the church in Utah have not been high Mormon prelates, but Gentiles anxious to secure the favor of the Mormon people. One Gentile United States Senator showed devotion to Mormon interests even where political considerations did not require it. In less important offices, the subservient Gentile or the subordinate Mormon official seeks church favor far more assiduously than does the high Mormon official who, by virtue of his elevated position, has nothing to gain in seeking it.

The first general outcry against the dictation of the church in politics came during the fall campaign of 1895, when the Democrats called a State convention to consider the advisability of disbanding the party. The Democratic committee maintained that the Mormon presidency was turning the election

against their candidates, and particularly against Moses Thatcher, candidate for United States Senator, and B. H. Roberts, nominee for Congress. Both were high Mormon officials. In support of their contention, the Democrats directed attention to the remarks of President Joseph F. Smith at the priesthood meeting, October 7th, in which he said that it was "the duty of every man holding high ecclesiastical office to consult with the men who presided over him before accepting nomination to office." Smith pointed out that Thatcher and Roberts had not done this.

Immediately afterward, a Salt Lake citizen had an interview with Wilford Woodruff, George Q. Cannon, and Joseph F. Smith, presidents, in turn, of the Mormon Church, upon church domination in politics. President Woodruff was much excited, and spoke with blunt earnestness and directness. George Q. Cannon was frank and composed. Joseph F. Smith (now president) was noticeably cautious. He interrupted President Woodruff at one time with the injunction, "Don't speak so! It would be awful if such remarks were ever reported, and would create more disturbance than has already been occasioned."

President Woodruff said that, before he had been elected, he had deemed it his duty to devote his whole thought and service to the church; that he never thought of doing anything outside of church duty without first consulting "authority"; that the lives of those high in the church should be consecrated to its service; and that it was the common understanding of the priesthood, from the beginning of the church, that, before assuming any public duties outside of church service, every official should consult the presidency. He further asserted with considerable vehemence that the political parties had tried constantly to drag the church into politics, often nominating unfit men, simply to enlist church influence.

George Q. Cannon said: "In the beginning of the 'division movement' [the alignment of the Mormon people in National politics] the presidency deprecated acceptance of public office by high church officials. Yet in Utah it has happened that the very men most conversant with practical affairs have been just such officials; for, in the Mormon Church, temporal and religious affairs are closely interwoven." He added that he had no political ambitions and had always desired to keep out of politics. He had accepted the position of Delegate to Congress reluctantly. "There was such a continual introduction and suggestion of bills in Congress, seeking to curtail our liberties as a free people, and to impose unusual conditions on our Territory," said he, "that I felt obliged to accept the office." He said further that while he was aware of the tendency to nominate high Mormon officials in order to "catch the Mormon vote," yet to shut out church officials from public office would keep out the entire Mormon population of Utah, because all the men of the church held some religious authority under it.

President Joseph F. Smith said that he had steadily refused to furnish any opinions for political purposes, and had unwittingly been drawn into the campaign, and that his words had been purposely misquoted and perverted, in order to make political capital for the Democrats. He said that he objected to acceptance of political office by the priesthood on the broad ground that they had consecrated themselves to church work, and should undertake nothing else without first learning whether it was agreeable to the presidency.

After the 1895 election, an "era of good feeling" descended on Utah. Statehood, which was established in 1896, united the Gentiles and Mormons for the time being in a movement for the common upbuilding of the State. Judge C. C. Goodwin, who, as editor of the Salt Lake *Tribune*, had been the foremost leader against the Mormons for a score of years, became a candidate for United States Senator, and—as is usual in Utah—his candidacy apparently eliminated his feeling against the Mormons. Instead of pouring shot and shell into the Mormon ranks, the *Tribune* became suddenly the apostle of peace, fellowship, and good-will. The utterances of the *Tribune* at this time are often quoted by the Mormons to substantiate the assertion that it was tacitly understood that the State government would not interfere with "existing relations" of old-time polygamists, and that polygamy was condoned by the people of Utah. Goodwin, however, was not sent to the Senate. The *Tribune* at once resumed its old attitude to the church.

The free-silver craze which swept the

mining States from 1896 to 1900 diverted public attention from the "Mormon question." During this period, the Mormons, as a rule, remained more loyal to their National parties than the Gentiles. The Gentiles made up most of the population of the mining camps and went over to Bryanism. Both President McKinley and the Chairman of the National Committee, Mr. Hanna, knew this, and suggested that the Mormons should receive liberal recognition. It subsequently transpired that several of the Mormons appointed to office were continuing polygamous relations. The discovery caused a National uproar, and the offenders were removed.

The rejection of Brigham H. Roberts as member of Congress is a matter of National history. The jingle, apropos of the birth of twins to the second Mrs. Roberts:

> "Ma, Ma, where's our Pa;
> He's gone to Washington
> But he won't take Ma,"

echoed throughout Utah during the campaign.

The next dictation of the church in politics was the most flagrant in Utah history. Thomas Kearns, millionaire mine-owner, had announced his candidacy as a Republican for United States Senator during the campaign of 1901. He had been an open and conspicuous Democrat—one of Mr. Bryan's most ardent admirers. His candidacy was not taken seriously. He had no recognized strength. But, after the capture of the legislature by the Republicans, his position was suddenly changed.

Two new forces appeared in politics. Lorenzo Snow, an aged man and one of the Mormon "Twelve Apostles," had come into the presidency of the church. About this same time, Richard C. Kerens, of St. Louis, and Perry S. Heath (better known to the country now than then) came to Salt Lake City as the representatives of the National Republican Committee, and had several interviews with President Snow. It was generally believed that they had been sent by Mr. Hanna to solicit the influence of the church in shaping the political affairs of several western States.

The two emissaries proposed the election of the business partner of Mr. Kerens, Thomas Kearns, as United States Senator from Utah. The Salt Lake *Tribune* made the direct charge that Mr. Kearns had bought the senatorship from President Snow, and challenged the parties to deny it. The charge was frequently reiterated by the *Tribune* and other papers. Apostles Joseph F. Smith (now president) and John Henry Smith were said to have protested bitterly against the transaction, but were sent out of the State by Snow. Kearns carried the Republican legislative caucus by the narrow majority of one, for many Mormon members refused to be guided by President Snow's wishes.

Kearns found himself suddenly elevated to the senatorship. He then bought the Salt Lake *Tribune*, and established Perry S. Heath as its manager. Later President Snow died, and Joseph H. Smith became president of the church.

The refusal of the new president, it is commonly believed, to promise Kearns the church influence for re-election caused a rupture between Kearns and the church. Reed Smoot, one of the Apostles, was then given permission to run for a United States senatorship and was elected. Finding his hold on Utah politics rapidly slipping, Senator Kearns is asserted to have repeatedly pleaded with President Smith to come to his aid. President Smith, it is declared, has replied that he will not interfere in political affairs.

It is also said that Senator Dubois solicited like intervention in his behalf for Idaho—for the church influence extends to the States adjoining Utah. Idaho has a large Mormon population, which is concentrated chiefly in the southwestern counties. For years, no senator has been elected in Idaho without taking into account the Mormon vote. Senator Shoup and Senator Dubois owed their election directly to the favor of the church, though Senator Dubois, as a member of the Senate Committee on Elections, has been leading the opposition to Mr. Smoot.

As in Utah, the situation in the last senatorial election of Idaho was peculiar. There were ten Mormon votes in the legislature, and by common report Hon. W. E. Borah was the accepted favorite of the church. Eight of these ten Mormons were supposed to be in his favor. Their votes, added to the Gentile votes he could secure, would have elected him. But, through the influence of Bishop Wooley, a Mormon representative, two Mormon votes were withdrawn from

Borah for Heyburn in addition to the two Heyburn already possessed. This gave Heyburn four Mormon votes to Borah's six, and assured him the victory in the Republican caucus. The Mormons here held the balance of power.

In Wyoming, Senators Clark and Warren have always maintained the friendliest relations with the church, though it has never been said that they were selected as the result of any bargain with the Mormon President. The western counties of Wyoming are largely Mormon, and every candidate for State office has to take the Mormon vote into consideration. In Colorado, the Mormon vote is much smaller, though of such importance that Senator Teller has assiduously cultivated Mormon influence, and, in turn, has been the favorite of the Mormon settlers of San Luis Valley and the western counties. There is a sprinkling of Mormons in Nevada, but not enough to command the attention of politicians, though the charge of church interference in politics is occasionally made by defeated candidates.

As this brief sketch indicates, "church influence" is mighty, but intangible. Moreover, clannishness in politics is not the monopoly of the Mormon Church. The "problem" would still be the "problem" if, instead of so many Mormons, Utah had an equal number of Germans, or Scandinavians, or Italians. Mormon voters will continue to favor their bishops, and bishops are not likely to fail to help their superiors, when these are candidates for office. It is simply human nature. In voting it is difficult for the Mormon to distinguish between Reed Smoot, the Apostle, and Reed Smoot, the man.

In Utah there are Mormons and Mormons. Some are blindly devoted to church interests; some are merely held by business connections; some are Mormon only in name; while certain branches of prominent Mormon families, like the Kimbals, the Rawlinses, the Ellerbecks, and the Nebekers, have broken away from the church entirely. Every "good" Mormon is supposed to give a "tithing," or one-tenth of his net earnings, to the church; yet many whose faith is not strong contribute their tenth regularly for the business patronage it brings them. Others who are conscientious followers of Joseph Smith are very slack in meeting the requirements of the tithing law. When, however, the church is attacked from the outside, or the Mormon people assailed, Mormons of all classes, often even apostates, rally to the support of the church.

In the last municipal campaign in Salt Lake City, Senator Kearns' newspapers began an attack upon the Mormons. As a result of the agitation, Frank Knox, a business and political associate of Senator Kearns, was nominated for mayor by the Republicans. Richard P. Morris, a Mormon of very liberal tendencies, was nominated by the Democrats. The Mormons, almost to a man, rallied to the support of Morris, as well as many influential Gentile Republicans who revolted at the methods employed in accomplishing Knox's nomination. Morris was elected by 2,500 majority; though the normal Republican majority in Salt Lake City is about 2,000.

Sometimes politicians raise the cry of "polygamy" when they cannot bring the church to their terms. The manifesto of 1890, however, set the ban of the church upon polygamous marriages. Those who have had an intimate acquaintance with Utah affairs since 1890 believe that no such marriages have been sanctioned since. On April 5th, of this year, President Smith made this declaration before the Mormon conference assembled in Salt Lake City:

"Inasmuch as there are numerous reports in circulation that plural marriages have been entered into contrary to the official declaration of President Woodruff of September 26, 1890, commonly called the manifesto, which was issued by President Woodruff and adopted by the church at its general conference, October 6, 1890, which forbade any marriages violative of the law of the land, I, Joseph F. Smith, President of the Church of Jesus Christ of Latter-day Saints, hereby affirm and declare that no such marriages have been solemnized with the sanction, consent or knowledge of the Church of Jesus Christ of Latter-day Saints, and

I hereby announce that all such marriages are prohibited, and if any officer or member of the Church shall assume to solemnize or enter into any such marriage, he will be deemed in transgression against the Church, and will be liable to be dealt with according to the rules and regulations thereof and excommunicated therefrom."

This was followed by the introduction of a resolution which was adopted by the unanimous vote of the conference, as follows:

"Resolved that we, the members of the Church of Jesus Christ of Latter-day Saints in general

conference assembled, hereby approve and indorse the statement and declaration of President Joseph F. Smith, just made to this conference concerning plural marriages, and will support the courts of the church in the enforcement thereof."

There is unquestionable evidence that, in a few cases, at least, young Mormons have in recent years, against the mandate of church and State, taken mistresses other than their lawful wives, but there is no evidence that the church has sanctioned or consented to such relations. Such practices have their parallels in communities not Mormon; so it is hardly fair to charge them to Mormonism. On the other hand, there has never been a pretense that old-time polygamists had abandoned polygamous relations, begun before the manifesto. The younger generation of Mormons would rebel against the restoration of polygamy as vigorously as would any Gentile community. The young Mormon wife would resent the intrusion of a second wife as bitterly as would any Gentile woman. The old generation in which polygamous relations are maintained is rapidly dying. As long as the practice is tolerated, however, even among this element, Utah will be an object of attack. The unscrupulous politician knows this, and uses charges of polygamy to bring the church to his terms. It is a bad condition of affairs, and the truth is not particularly creditable either to the church or to the politicians who, for selfish purposes, inaugurated the present crusade against it.

Moreover, in the recent Senate inquiry it is very evident that President Smith was not asked concerning political interference for the reason that discussion of it would have involved leading politicians of both great National parties. He would have been as frank in this matter as he was in regard to his family relations. If the Senate Committee had opened this phase of the Mormon question, it would have involved some of its own members. President Smith was examined as to polygamy and as to church influence in business. But the subject of the relation of the church to Senators Kearns and Dubois (representatives of both political parties) was, for manifest reasons, avoided. Both great political parties, it would have been found, had bowed low at one time or another before the church to further their own interests.

HOW JAMAICA SOLVES THE NEGRO PROBLEM

A BENEVOLENT DESPOTISM IN THE WEST INDIES, WHERE THE BLACKS FORM NINETY PER CENT. OF THE POPULATION—NATIVES ENCOURAGED TO BE LANDOWNERS—SOME MINGLING OF THE RACES INEVITABLE—DOES JAMAICA OFFER ANY LESSON TO THE SOUTH?

BY

WILLIAM THORP

THE problem of bringing the Negro into accord with modern civilization, and fitting him to play his part in the economy of a great commonwealth, may not be insoluble. The British have had some success already in working it out.

In the policy adopted toward the natives, the British West Indies is a type of all the British colonies mainly inhabited by Negroes, except South Africa. In South Africa, the traditional British methods have been abandoned by the local governments for something like the American procedure. The various British colonies in the West Indies have a total population of about 1,600,000; or, if British Guiana and British Honduras are included, nearly 2,000,000. The colored people number 95 per cent. of the total, the large majority of them pure-blooded Negroes. In Jamaica, the principal colony, there are more than 800,000 people. The British system has, therefore, been tested upon a large scale; and what is true of the West Indies, in this matter, is also true, generally speaking,

of other British colonies in the tropics. The West Indies are selected for the purposes of this article because they lie at the doors of the United States, and are peopled by Negroes drawn from the same West African stocks as those in the United States.

In showing how the Negro problem has been handled, I will deal mainly with Jamaica, where I lived for five years in close association with whites and blacks. But the problem of governing and developing the black race has been worked out in similar ways in the other colonies, with the same result.

In Jamaica there is no "color question" as it is understood in the United States, although the blacks outnumber the whites by at least twenty to one. Good feeling exists between the races. Lynching and the outrages which usually cause it are both unknown. During the five years that I lived in Jamaica there was not a single case of assault on a white woman by a black man, and I searched the criminal records for twenty years back without finding one. I worked in an editorial capacity on a Jamaican newspaper, and I read carefully all the other West Indian papers. I never read of a lynching or an assault on a white woman in any of the colonies. I never heard of one in Trinidad, Barbados, Grenada, or the other islands which I visited. It may be taken for granted, then, that the most serious and distressing feature of the color question in the United States is absent in the British West Indies.

Serious crime of any kind is rare throughout Jamaica. According to the latest annual report of the Inspector-General of Police, there were only seven convictions for rape during the year, the victim in no case being a white woman. There were only two convictions for murder. In both of those cases the death penalty was commuted, as there were extenuating circumstances. Only one crime—stealing growing crops—is common. On the whole, there is nowhere a more law-abiding country than Jamaica.

I remember how astounded we all were at the Legislative Council, two or three years ago, when a member introduced a bill to punish by fine and imprisonment the carrying of concealed weapons. "What a needless measure!" everybody said. "Who carries a revolver here?" The introducer of the bill explained apologetically that American tourists were beginning to visit the island in large numbers, and his measure was aimed at them. He feared that their racial prejudices might induce them to take a chance shot at the Negroes. The bill did not pass.

Why are the blacks so easily managed in Jamaica? Why do the two races live side by side so peaceably and happily? There are two main reasons: (1) the wise, just, and firm system of government; (2) the friendly and helpful attitude of the whites toward the blacks.

The policy of the government of Jamaica was defined by Mr. Joseph Chamberlain when he was Colonial Secretary. It is the same as that pursued in all other British possessions in the tropics. Mr. Chamberlain, in defining the policy, said:

"Wherever a great proportion of the population must be natives, the only security for good government and for the effective development of the resources of the country consists in providing the native population with white superintendence, and with rulers and administrators who will bring to their task the knowledge derived from the experience of a higher civilization, and, constantly changing, will be always under the influence of the standards and ideals which they have been brought up to respect. This is the root idea of British administration in the tropics. . . . Our primary obligation is to maintain peace and safety for life and property, and equal justice for all, irrespective of race and creed. Subject to these conditions, we interfere as little as possible with native religions, customs, or laws, and under this system we are successfully administering the affairs of hundreds of millions of people of almost every race under the sun, with trifling cost to the British taxpayers and with the smallest army of white soldiers of any of the Powers of Europe."

In a report to the Hon. Lyman J. Gage, Secretary of the Treasury, Mr. R. P. Porter, Special Commissioner of the United States to Cuba and Porto Rico, pointed out the success which has attended this policy in Jamaica.

"With the disadvantages of race, with the scars of slavery, and with the single industry of sugar and its allied product, rum," he said, "the policy set forth by Mr. Chamberlain has been successful in making habitable and law-abiding and measurably prosperous a tropical island which might have been in a condition little better than that of savagery. To be sure, England has not made Anglo-Saxons of these people, but it has made peaceful, law-abiding, and, in the main, self-respecting citizens out of them. There is little doubt that the bulk of the inhabitants of Jamaica are in a position

which compares not unfavorably with that of the peasants of most countries in the world."

Before the law, there is no distinction between the races. The excellent police and judicial systems penetrate to every corner of the sparsely settled country. The resident magistrates, who come closely into contact with the Negroes, are trained officials appointed by and responsible to the British Government. Judicial scandals arising out of racial favoritism are practically unknown.

In essence, though not in name, the government is a benevolent despotism. The idea is to give the natives, by slow degrees, as large a share in the government of their country as they are capable of wisely exercising, but always under strict white supervision and only after careful tests of their capacity. Every man who pays $2.50 in taxes has a vote, and the machinery of representative government includes a Legislative Council and numerous local authorities called Parochial Boards elected by the people. But the British Governor and his lieutenants, sent out from England, have, nevertheless, practically supreme power over legislation and even over the smallest details of administration. The members elected to the Legislative Council may always be outvoted on occasion by an automatic majority of officials and nominated members, who are answerable to the Governor and not to the voters. The acts of the Parochial Boards are subject to review by the government, and may be vetoed, if necessary, while the Governor may order them to carry out desirable works which they have neglected. Representative government in Jamaica, therefore, is not a success. The government is obliged to interfere with the Boards constantly in order to protect the taxpayers, prevent "graft," and force the towns and villages nominally under their charge to provide proper sanitation.

The black does not want representative government; he prefers to rely on the impartial, despotic rule of trained officials, in whose motives he has the greatest trust. "De King wouldn' send we de Gub'nor if him wasn' better'n anybody hyar"—that is the black's conviction. The formality of representative government is merely a concession to the wishes of a large section of the whites and the mulattoes.

The blacks seldom vote; in one hotly contested election only seventeen, out of 354, voted. Nor do they seek offices. When I was in Jamaica, there was only one black man among the fourteen elected members of the Legislative Council, and there were only a small minority of them on the Parochial Boards. The elections are not conducted on racial lines—which shows the good feeling between the races. The blacks, being in an immense majority, could elect all their representatives of their own color, if they chose; but they always prefer a white man, provided he is not a harsh employer of labor or notoriously antagonistic to the blacks. The whites are not usually anxious for office, and sometimes they unite to nominate a colored man—one of mixed blood—of proved ability, and even support him against a candidate of their own color whose claims to election are inferior.

The blacks and colored people have a very large share in the administration of the country in the civil service, but always under white control. Civil service clerkships and other positions are open to all classes by competitive examination, and a colored man can rise high in the government service. Sir Conrad Reeves, a mulatto, who started his career by selling newspapers in the streets of Bridgetown, died the other day Chief Justice of Barbados and a knight of the Queen. The Honorable S. C. Burke, lately Attorney-General of Jamaica, was a mulatto. So is the present head of the Treasury Department. Blacks and colored men are to be found in important positions in almost every branch of the government. But every one of these men has been carefully tested during long years of public service, and only promoted by slow degrees, as he proved himself in competition with white men. And always, at the very top, there is the white man watching and guiding.

Jamaica is a purely agricultural country; nearly everybody lives, directly or indirectly, by the sale of tropical products, sold, principally, in American markets. Sugar cultivation was formerly the staple industry, but it has not paid in recent years, and most of the large estates have been abandoned. The government, however, has made the mass of Negroes independent peasant proprietors. The officials who devised the scheme knew that nothing else would tend to uplift the Negro so speedily as ownership of his own

homestead and his own plantation, on which he might work for himself.

For many years the government has sold large tracts of Crown lands in small plots to the peasantry at a cheaper rate than a similar plot could be rented elsewhere, and roads are constructed to enable the small settlers, as they are called, to convey their produce quickly to the market towns and seaports. To encourage permanent tenure, the government returns one-fifth of the purchase money to any settler who, within ten years, makes one-fifth of his acreage productive with permanent crops, such as kola, coffee, and oranges.

Out of 16,735 acres allotted on one set of applications, only 323 acres reverted to the Crown through failure of the purchasers to pay their instalments. It is estimated that there are nearly 80,000 colored peasant proprietors in the island—about one in ten of the population. Of the 100,000 holdings in the island, 82,000 are of less than ten acres. Some men own more than one holding, but not many. In 1882, there were only 43,000 small holdings. More than 6,000 small sugar-mills are owned by the peasantry, and the area in coffee, which is mostly in small lots, increased in ten years from 17,000 acres to 23,000 acres. During the same period, the acreage of ground sold to settlers increased by more than 30 per cent.

The government sends experts into the remotest parts to show the small settlers how to grow their crops and ship them to market without damage. When Sir Henry Blake, the present Governor of Hong Kong, was Governor of Jamaica a few years ago, he built 140 bridges and 1,072 miles of good roads within six years, mainly for the benefit of these settlers.

Education has progressed remarkably. The number of people able to read and write has increased by 30 per cent. in ten years. Education is not compulsory. The number of children enrolled at the schools increased from 49,000 in 1881 to 85,000 in 1902, and the average attendance from 26,000 to 52,000. As fully 90 per cent of the children must earn their livelihood from the soil, agricultural subjects are prominent in the school work. Very many children walk five or six miles to school every day. I knew one who walked daily sixteen miles. The teachers, who number more than 10,000, are colored. They are trained in the island, and are efficient and of high character. Hundreds of the men have voluntarily given up their summer holidays during the past few years, to return to college and study agriculture, although they do not gain any extra pay by teaching it. What is the result of all this?

The men become good citizens, and are temperate and cleanly in their habits. The development of the Jamaicans may be gauged by the number of letters handled by the Postal Department, which increased from 1,167,000 in 1885 to nearly 3,000,000 in 1895. The number of small deposits in the government savings bank has nearly doubled within the last ten years.

The women do not wear gaudy dresses, but dress in white or in simple prints, in good taste. They show talent in many kinds of work. As trained nurses they are very capable. There is no better maternity hospital in the world than the Victoria Jubilee Hospital in Kingston. All the nurses are colored, but the matron is an English woman. In 1902, 785 cases of childbirth were admitted to this hospital, and only seven of the patients died, four of whom were admitted in a dying condition. The government medical service maintains a number of fine hospitals, managed in many cases by colored doctors, and always with a staff of colored nurses. In 1901-1902, there were 1,177 operations in these hospitals, and only two deaths resulted from them—.17 per cent. Out of 10,297 cases, there were only 273 deaths—2.65 per cent. In one hospital, the Lionel Town, the death-rate was as low as .67 in a total of 1,786 cases. The efficient work done here was mainly the work of trained colored men and women.

The Jamaica Presbyterians, who are almost all Negroes of the peasant class, send missionaries to West Africa and India, and the Baptists send them to Hayti and Central America.

All this shows how the government strives successfully to elevate the blacks by dealing justly with them, governing them firmly and impartially, educating them, and making them economically independent. There remains the most important question of the social relations of the races. Here there is a marked difference between American and British methods.

The view of the question generally taken

in the United States, by most Northerners as well as by all Southerners, is fairly stated by an English observer, Mr. W. Laird Clowes, in his book, "Black America," who says:

"Throughout the South, the social position of the man in whose veins Negro blood courses is unalterably fixed at birth. The child may grow to be wise, to be wealthy, to be intrusted even with the responsibilities of office, but he always bears with him the visible signs of his origin, and those marks condemn him to remain forever at the bottom of the social ladder. To incur this condemnation, he need not be by any means black. A quarter, an eighth, nay, a sixteenth of African blood is sufficient to deprive him of all chances of social equality with the white man. For the being with the hated taint there is positively no social mercy. . . . The white absolutely declines to associate with him on equal terms. A line has been drawn; and he who, from either side, crosses that line has to pay the penalty."

The crucial point in the race relations in the Southern States, therefore, is the white man's determination that there shall not be marriage between the races.

Social equality is undreamed of by either race in the British West Indies, as a general thing. While the great mass of the blacks and mulattoes are completely subordinate to the whites, many colored men of exceptional ability, character, and public position, like the late Sir Conrad Reeves, are socially recognized. Mr. Booker Washington is regarded as a very great man by the Jamaicans. If he visited their island, as it was often thought he would do when I was there, he would be entertained by his personal friend, the Archbishop of the West Indies, an Englishman; and dinners and garden parties would probably be given in his honor by the Governor of the colony and other leading English residents. But this does not imply a general social equality of the races. In Jamaica, the blacks do not try to obtrude themselves in white society. An Englishman generally prefers to do a thing himself instead of waiting to have it done for him, but whenever I tried to do anything that was regarded as servant's work at my home or office, some black would immediately take the task out of my hands and tell me reproachfully that it was not "buckra" (i. e., white man's) work.

The vast majority of whites think it is right to consider the feelings of the blacks. For example, the Negroes are not segregated in street-cars, theatres, churches, saloons, or other places; neither are they refused admission to any public resort on account of their color. Many of the best doctors and lawyers in the colony are colored men, and they enjoy good practice among the whites as well as the blacks. My own doctor in Kingston was a mulatto. He is the best physician in the place, trusted by the leading families. White men do not hesitate to call him in to attend their wives and daughters. There are others like him.

The great majority of the whites in Jamaica are strongly opposed to intermarriage between the races, holding the same views as the Southerners in the United States. Nevertheless, the white man in the West Indies does sometimes marry into the colored race, and there are many people there who hardly know whether they are white or colored. They are called "white by law" in Jamaica—that is, they are allowed to return themselves as white on the census papers.

This class arises mainly from marriages between lightly colored women and white men who come to Jamaica and the other islands from England, Scotland, the United States, and Canada, to engage in agricultural and commercial enterprises. Lacking introductions, they find it difficult to gain admission to the best white society, and the number of eligible white girls is small, anyway. They console themselves with the society of these people who are "white by law," and often end by marrying one of the daughters of the family who is pretty, well-educated, cultivated, and perhaps wealthy. Not infrequently they are deluded into the marriage, imagining that the girl is white. I have known several Americans who had that bitter experience. One thought the girl's father looked rather dark, but put it down to the effect of the climate. His suspicions were aroused when he saw her great-aunt, who was chocolate-colored, and verified when he met her grandmother, a coal-black negress, eating a horrible mixture of salt-fish and yam in the back yard with the servants. The girl herself, a golden-haired, blue-eyed beauty, received callers in the drawing-room. The old white families owning the large plantations never marry outside their race, and it would ruin the career of any British official to take a black or even colored wife.

Tragedies follow such marriages. The husband and wife seldom remain on friendly

terms, and the children are "neither flesh, fowl, nor good red herring."

Marriage between white women and colored men is practically unknown in the West Indies. I can recall only two cases. In the first, a black barrister went to England and married a white girl there. Of course, she knew nothing of the color question. Nobody does in England. Black men are so rare there that they are lionized in drawing-rooms, not in spite of, but because of, their color. When the husband and wife arrived at St. Thomas on the voyage out, they were hooted and hissed by the blacks in the streets; when they reached Jamaica, they narrowly escaped being mobbed. The blacks do not indorse such marriages. The whites, of course, would have nothing to do with the poor woman, whose life was miserable.

In the other case, an English woman married, in England, a light-colored Jamaican, supposing him to be white. He was a rich land-owner, a man of talent, prominent in public affairs. He had mixed with the best society in the island, but that marriage ruined his reputation. He was not received afterward.

Generally speaking, mixed marriages are approved of only by ambitious mulattoes and the people who are "white by law." The white officials and planters who strive to help the black man upward are most opposed to the idea of intermarriage, which they consider bad for both races. It is a moot point whether their policy of friendship with the blacks helps to produce these mixed marriages. They contend that it does not, and urge that a certain amount of intermarriage is inevitable under the prevailing conditions, when the large excess of the colored population over the white is considered. The great lesson, however, which Jamaica seems to teach—apart from the difficult question of intermarriage—is that it actually pays the white man to rule the black man justly, give him a fair chance, and help him on. Aided by a wise government and by the large majority of the unofficial whites, the advance of the colored race in Jamaica and other West Indian islands has, indeed, been remarkable. The question, however, is whether it could be adopted in the United States without the danger of a mingling of the races.

INDUSTRIAL LIFE IN RUSSIA

WORKMEN HIRE CORNERS OF ROOMS OR SLEEP IN FACTORIES — WAGES THE LOWEST IN EUROPE—STRIKERS CONSIDERED POLITICAL CRIMINALS AND ARRESTED — GOVERNMENT SUPERVISION OF INDUSTRY — A FIRST-HAND INVESTIGATION

BY

JOHN CALLAN O'LAUGHLIN

WHEN I first passed through the factory district of St. Petersburg, my eye was attracted by numerous signs announcing corners to let. "What does that mean?" I asked my guide. "A workman hires a corner of a room," he answered, "which he gets for $3.00 a month." When I arrived at a factory near-by, I asked the manager about this point. "A whole room is too expensive for a factory hand," he replied. "The room is partitioned off by curtains into four sections, and each corner is rented. You can understand that the ventilation is terrible, and the presence of four families in one room, where everything can be heard and sometimes seen, is degrading. Morality, in consequence, is very low. There are also cellars occupied by workmen, and in times of flood in the Neva three booms of a signal gun warn them to move." Personal inspection on a tour of investigation of Russian industrial conditions which I have made for THE WORLD'S WORK, in time of peace as well as in war time, verified these observations This condition exists not only in St. Petersburg, but also in other parts of Russia.

Russian factory workmen form less than

2 per cent. of the vast population They are descendants of the serfs, whose liberation occurred only forty-two years ago. Under the communal system, a peasant, no matter where he may go or what trade he may follow, must hold a passport from his commune and pay his share of the expense of its administration. "In order not to derange our business," said a St. Petersburg manufacturer. "we obtain the renewal of passports of good men. Sometimes it happens that the parents of a man wish him to return home, and they induce the communal authorities to refuse to extend his passport. Then we appeal to the police—a body with whom we find it wise to be in accord—and the passport is issued." The difficulty of forming a special class of workmen is explained by the communal system and also by the influence of heredity.

The Russians have always been agriculturists. It is not surprising, therefore, that the industrial workers are divided into two categories—those who labor in factories from October to Easter, when they return to the fields, and those who have entirely abandoned agriculture for industry. The operators find the withdrawal of employees for six months in the year embarrassing and expensive, and suffer from inability to maintain, or even to develop, a highly trained expert force. "How can a spinner," said a Moscow mill-man, "expertly handle thread when his hands have been roughened by toil in the fields. My men recognize the handicap, but, like all Russian peasants, they will do so much factory work and no more, and, besides, their communal duties n ust be attended to." A further embarrassment suffered by operators is the common practice among workers of shifting from one factory to another engaged in a different enterprise.

In no other country of Europe are wages so low as in Russia. American workmen earn twice and even three times as much. The average monthly wages paid in the departments of Moscow and Vladimir are as follows:

Men.....$8 to $8.50 a week
Women.....$6 a week
Youths between 15 and 17...$3.50 a week
Girls between 15 and 17.....$3 a week
Children of both sexes.....$2.50 a week

In the western section of the empire, wages are 50 per cent. higher than in the central section. As one goes farther eastward, wages progressively diminish, and in the extreme East they are at least 20 per cent. below those of the industrial region of the Centre. The number of days of work in the West is greater than in the Centre, and the number of days of work in the Centre is greater than in the East. In the Baltic Provinces and at St. Petersburg and neighborhood the working days number 290 annually; in the Centre they number 280, and in the East, 270.

The following average monthly wages are paid in the various important industries: to get the St. Petersburg scale, 30 per cent. should be added:

Cotton industry—men, $10; women, $9.
Linen industry—men, $9; women, $6.
Silk industry—men, $12; women, $5.
Sugar-refining industry—men, $7; women, $6.50
Glass industry—men, $6.50; women, $3.
Porcelain industry—men, $9; women, $6.
Steel industry—men, $12.

In the central provinces, many workmen inhabit the factories in which they labor, sleeping, when off duty, alongside their machines. Factories operating night and day cannot be ventilated, and some which shut down between six and seven o'clock in the evening are rarely aired. There are two important reasons why the workers sleep as well as toil in the factories; first, rent is seldom charged, and, second, the accommodations in the vicinity of factories are not adequate for all the employees. In Moscow, 57 per cent. of the operatives dwell in the factories, 25 per cent. have their own houses, and 18 per cent. live in rooms in hovels. Outside of the industrial region of the central provinces not more than 15 per cent. of the operatives work, eat, and sleep in the factories. St. Petersburg is free from this practice.

With the exception of Moscow, lodgings are not annexed to factories in the great cities. Rents are comparatively low. In the central provinces there is generally no charge; elsewhere it is from 1 to 3 per cent. of the wages, except in St. Petersburg. Here a man earning from $12.50 to $15 a month pays $3.50 a month for a single corner of a room. Usually, operatives live in huge barracks, in which swarm dozens of workmen and their families. These barracks are badly ventilated and not always sanitary. Yet in spite of these disadvantages, they are much better than

lodgings which workmen can obtain in private houses. One of the most effective disciplinary measures an employer can apply is to deprive an offender of the privilege of remaining in the barracks. There are so few small houses containing from one to four lodgings not "corners" that it is useless to speak of them.

But there is another side to the shield. The Morozov establishments, especially the Bogorodsk factory at Moscow, are models for any country. There the factory buildings and workmen's dwellings embody the most modern ideas of sanitation and comfort. Clean, well-ventilated barracks are provided for the men. The foremen have semi-detached cottages, and Queen Anne or Elizabethan cottages are allotted to the staff. There are schools, infirmaries, clubs, theatres, recreation grounds and fêtes for the men during their leisure hours and on holidays. At Jaroslav, a working population of 9,900 persons is lodged in six huge stone buildings and several wooden structures. Parks and gardens make the colony comfortable, and wise hygienic precautions assure healthfulness. Steam heat and good water are provided. A building is set apart for persons suffering from contagious diseases. Compensation amounting to almost $35,000 a year is allowed to about 4,000 workmen and their families who live outside the factory premises. The Zundel Society, of Moscow, has maintained schools which have taught 67 per cent. of its workmen to read. It supports a hospital and a pension fund. The annual cost of these institutions is about $7 a year for each workman. The company has also helped its employees to acquire land, and 1,213 of its total force of 1,335 are land-owners, and 937 families have cattle. Thus, the small salary of thirty-seven cents daily received by the workers enables them to live. The Jassunioski Company, of Kharkoff, has provided a hospital, baths, library, an infant asylum, funds for poor young married couples and for widows and orphans, and has organized a society to buy and sell foods. The cotton mill of Ramensk, Moscow, employs almost 7,000 workmen, who, with their wives and dependents, form a colony of about 10,000 people. For their use are operated a fine hospital of ninety beds and a lying-in hospital of sixteen beds, costing $18,000 a year. A St. Petersburg operator threw cold water upon the philanthropic plans of other factory owners. "I have tried to make the men contented by giving them all sorts of substantial advantages. A barracks was assigned to them. Various amusements were provided. But the men believed we were getting profit out of them, and they became dissatisfied. It is no secret that some of the mills which provide accommodations for the men charge them a certain sum and deduct it from their wages. Experience has taught me that the workmen in Russia are like those in the United States—they want every cent of their wages, and they want to spend it where and how they please."

THE ATTITUDE OF CAPITAL TOWARD LABOR

The development of industry in Russia has been accompanied by constant conflicts between employer and employee. The workmen do not have to contend with trusts, for the only combination like a trust is the paraffine syndicate, which closed most of the factories it acquired, but there are other sources of discontent. In the early '80's, riots broke out in the central provinces, and the military was called out to restore order. Some operators had been paying their hands at long intervals and requiring them to deal in company stores, and the men had protested.

No important labor legislation was enacted, however, until 1886. The law then passed sought to harmonize the relations of operator and man. It fixed three distinct forms of labor contracts: the first, for a determinate period; the second, for an indefinite period, by the week or month; and the third, by the piece. To break the contract, either party is required to give fourteen days' notice, except in certain specified cases. "We find it cheaper," said several mill-men, "to pay a man we do not want two weeks' wages and let him go. If we keep him at his machine, he does little; what he does is wasted on account of bad workmanship; and he stirs up the other workmen."

The number of working days and the wages fixed in the contract cannot be reduced during the life of the instrument, and the man may not demand an increase of wages until its expiration. The limit of the enforced idleness which the law allows is twenty days in a year. If an employer violates the contract, he is liable to a fine of 300 roubles ($150); the workman is punished for violation by a month's imprisonment. "The ope-

rator is punished, never the man," was the bitter complaint of an operator. "Everything for the man is the rule in Russia."

Indeed, should an operator violate the law three times, or be responsible for disturbances causing police intervention, he may be imprisoned three months and forbidden to manage a factory during two years. All rules for the regulation of a factory must be approved by the Factory Inspector. The workman has no voice in their preparation. They are frequently violated, sometimes with the knowledge of the Inspector, yet the operators are not punished.

"Are you compelled to bribe the inspector?" I asked a St. Petersburg factory owner.

"Undoubtedly there is a great deal of bribing," said he. "It is necessary, or the mill-man would be in hot water all the time. I have a factory inspector who is thoroughly honest. He requires that I shall do my part, and he sees that the men do theirs. For instance, if a man comes to me with a demand that I cannot comply with, I refer him to the inspector. The inspector telephones to me and hears what I have to say. Then he decides."

The Russian Government has legislatively suppressed the company-store system, but has encouraged coöperative stores which, with the consent of the operator, may be established on the factory premises. Only in case of necessity, when the men must be allowed to buy food cheaply, can the operator maintain a store. To protect the men further, the law forbids the sale of supplies to them on credit in stores in the neighborhood of a factory except at a schedule of prices approved by the Factory Inspector. The government is alive to the evasion of the law, and is seriously considering measures which will effectively abolish all operators' stores. The membership of coöperative stores is small in comparison with that of similar stores of France and Germany. In St. Petersburg such stores have failed because it was found that they could not sell cheaper than private competitors.

FINES IMPOSED UPON LABOR

Before 1886, many operators made no secret of the conversion of fines to their own use. It was an abuse which had become legitimatized by custom, and was looked upon as a proper source of profit. One operator is known to have paid his staff out of the fines collected. Fines are still permitted, and may amount to a third of the wages of a workman, but the operators usually prefer to dismiss a man rather than to fine him constantly. Under the law, they can be collected only in case of defective work, inexcusable absence, and infraction of factory regulations, and the proceeds can be used only for the benefit of the workmen themselves. In order to remove the temptation to fine employees excessively, the law requires that fines exceeding $50 in the aggregate must be deposited in the State savings bank, from which they can be withdrawn only on check signed by the manager of the factory and the government inspector.

This law, however, is not always observed. It was common report in Moscow that one operator made $500,000 a year out of fines. In this same city is a millionaire glass manufacturer who openly declares that the workingman is "just an animal and should be treated as such." I commend him to the Russian Government. The majority of operators, however, do observe the law.

In the North and West, the factories and works depend for profit upon their expert hands and modern machinery. Those of central Russia find it necessary in many cases to resort to evasion of the law in imposing fines, to longer hours of work, and to lower wages on account of the greater expense they are under because of their distance from the mines and cotton-fields and the higher cost of transportation of raw material and machinery. But the heavy dividends paid by most of these concerns show that there is no need of their exploiting labor.

THE ENFORCEMENT OF THE LAWS

To see that the laws are enforced, a special inspection service was organized under the law of 1886. The capitalists complain that the inspectors interfere too much. The men are not satisfied because some of the inspectors have proved venial. The inspectors make inquiries into accidents, supervise regulations regarding the hiring of workmen and the relations between employer and workmen, and intervene in disputes. They arrange for the opening of primary schools and manage those in operation. They supervise the administration of medical relief, and see that provisions are enforced to protect the life

and health of the work people. They are subordinate to councils of factories and mines, which exist in every government and every province, and in the four great cities of St. Petersburg, Moscow, Warsaw, and Odessa. The system works well in the large cities, where direct supervision is possible, but in the smaller towns and in the country abuses occur.

STRIKES

Strikes are looked upon as having a political character, and are consequently prohibited. Officially, strikes never occur. It has been legally provided that a workman attempting to strike may be imprisoned for from one week to five months. Every workman fomenting a strike may be imprisoned for a period of from four to eight months, and, if property has been damaged or persons injured, the agitators may get sixteen months. Strikers also see the inside of prison walls, getting from two to four months. The only strikers exempt from punishment are those who return to work at the first call of the police.

In spite of these penalties, strikes occur, though no statistics are kept of them. The circulars of the Ministers of Finance recommend the greatest severity toward strike instigators. The walking delegate has no chance in Russia, and agitators of all kinds have very short shrift. Even their literature is suppressed. The police have no difficulty in learning of a labor disturbance, for, as strikes are considered dangerous to public order, the police believe themselves justified in maintaining secret agents in every factory. A man at one machine cannot tell but that the man next to him is a government spy. The men, accordingly, are chary about confiding in each other, for sudden disappearance is sometimes the result of indiscreet talk. This feature of governmental procedure meets with the approval of operators. Its effect upon the men may be imagined. Happily, however, "disappearances" are infrequent.

When strikes occur, there is no delay in dealing with them. Troops are mobilized at once. The printers in Moscow, for example, struck last autumn. The strikers marched in procession along a few streets, clamoring for shorter hours. They complained that they had been compelled to work overtime and that no compensation had been given for the extra labor. General Trepor, chief of police, issued a notice that any man refusing to return to work would be excluded forever from Moscow. This stopped the movement. Such notices have stopped similar movements elsewhere.

There are no trade unions or workingmen's societies. The only trade societies are employers' organizations, called "corporations," and merchants' "guilds." Until last June aggrieved workmen could do nothing but bring their complaints to the attention of factory inspectors. Last June, however, the government gave official recognition to the community of interest which unites men in the same branch of industry by legally according them the right to confer upon general questions relating to their work. Under competent administrative authority, accordingly, the workers elect special delegates, bearing the title of Elders, through whom complaints are presented to the chiefs of the factories and to the administrative authorities. The law has not operated long enough to demonstrate its worth.

THE OUTLOOK

It is nonsense to suppose that the grievances of labor in Russia will provoke revolution any more than similar grievances in the United States will precipitate it. That a propaganda, directed principally from Germany, is in progress, is true. "Workmen, pray for Japan," read a printed bill that fell from nowhere in a St. Petersburg factory, "for in Russia's defeat you will achieve your rights." The workmen seem, however, to be too patriotic to take advantage of the embarrassment of the government. The great majority earnestly and sincerely wish the triumph of the Czar. The authorities are aware that the discontent of the men is due principally to long hours, excessive fines (which are pocketed by employers), and low wages. The first two grievances are based upon illegal acts, but the last is an economic condition which the Minister of Finance does not care to touch. Wherever the men are well treated they have never given trouble. They are good workmen, with little initiative. They possess elements of great conservatism, upon which have been grafted elements of ultra radicalism. The combination is an extraordinary one, but it is due to the observance of the commune system, in itself socialistic, by

their forefathers as well as by themselves, and to the conditions under which they struggle today. Russian capital is not always friendly toward labor, though many important reforms instituted and now projected are due to the initiative of employers. Labor is ignorantly floundering, seeking some way in which it can have a larger voice in its relations with capital. In this connection, the example of Germany, where the State is the natural arbiter of all the conflicts between capital and labor, strongly appeals to the thoughtful among the intelligent and progressive men of the empire.

THE GOLD RESERVE OF RUSSIA

A VISIT TO THE TREASURY IN THE IMPERIAL BANK OF RUSSIA, WHERE THERE IS $313,830,000 WORTH OF GOLD—THE RUSSIAN WAR FUND—THE QUESTION OF A LOAN

BY

HENRY NORMAN, M. P.

ONE question is of the greatest interest and importance in any consideration of the present war—that of finance. In connection with this, I am able to narrate a rather remarkable personal experience.

The great financiers of the world are always concerned about the Russian gold reserve. As about all things Russian, the most fantastic statements are current on this subject.

During a previous visit to St. Petersburg, I tried to obtain permission to see for myself this gold reserve. The request was evidently regarded as rather a curious one, though no objection was made in principle to granting it, but, as the reserve is technically known as "secret," I was told that my request would have to go through many official hands, and permission could hardly be obtained in less than a week or two. For this, the time at my disposal was too short, so I made no formal application. During the Easter Parliamentary holidays, however, which I spent in St. Petersburg, I repeated my request in another quarter, and it was instantly granted.

The *Gosudarstvenni Bank*—Imperial Bank, State Bank, or, by analogy with the Bank of England and Banque de France, the Bank of Russia—is a huge, circular building in the heart of St. Petersburg, near the Kazan Cathedral. In its mass of offices, public and private, it is like any other great institution, but marked by no luxury of appointments or decoration. Its most original feature is the very long circular corridor running round it. I was most courteously received by the Governor, and by him passed to the Vice-Governor, who was good enough to conduct me to the Treasury. After a long and complicated walk, we reached two great iron doors on the ground floor, before which was a group of uniformed officials. These doors have three locks, the keys of which are in the custody of three officials, and they are sealed by three seals, the originals of which are also in the keeping of three different persons. Before the doors is an armed sentry, and beside him an electric button, by pressing which he can, in a moment, summon the military guard from the guard-room close by. These doors were opened, and I found myself in a broad passage, on each side of which was a door of iron bars. That to the right showed a large apartment, the floor of which was covered with canvas bags. This, I was told, was the reserve of silver coin, which did not interest me. The door to the left was opened, and we entered a much larger room, of great height, and about forty yards long by fifteen yards wide. It was lighted by four high windows, barred and ordinarily closed by heavy iron shutters. A sentry with fixed bayonet was walking up and down in the yard outside.

The walls of the apartment were completely covered, up to a height of about eight feet, with shallow cupboards with doors of strong wire netting, leaving their contents plainly

visible, each door being both padlocked and sealed. About five-sixths of these cupboards were completely filled, on narrow shelves, with ingots of gold, the ends of which made a lining of gold for nearly the whole of the room. The light was reflected brightly from the shining metal, and the effect, needless to say, was highly impressive. I felt as if some fairy had conducted me to one of the caves of gold I used to read about with awe as a child. A partition of iron-work separated the room into two unequal portions, one of which, as the inscription about each cupboard showed, was used for gold of Russian origin, and the other for gold which had come from abroad. Near one end of the room were a heavy iron table and several iron chairs, and most of the remaining floor space was occupied by long rows of bags, ten bags high, two bags wide, and from fifteen to thirty bags long.

When I had made a general inspection, I was informed that I had only to indicate which of the cupboards or bags I desired to have opened, and it would immediately be done. First of all, therefore, I went in succession to three of the cupboards, the seals were broken and the locks removed, and I examined the ingots. There was no doubt about them—they were the real thing, as I have seen them elsewhere. Many of the French bars were stamped "A. C. de Rothschild" in a circle, and many of the English ones bore the stamp, "Sharps and Wilkins, London." Then I went to one of the rows of bags, walked down it to the twentieth vertical row, and pointed to the third bag from the top. It was at once carried to the iron table, the seal broken, and the contents turned out. There were several smaller bags, of which I selected one, which was opened, and out poured a stream of new five-rouble gold pieces. There were 30,000 roubles in each large bag, and the row from which I had selected one was thirty bags long, two wide, and ten deep. Thus, the calculation for this particular row was 30 x 2 x 10 x 30,000 = 18,000,000 roubles. Altogether, it was a remarkable and, indeed, unique experience.

Naturally, it did not occur to me to try and count the gold before me, but I made some interesting rough calculations. Of the cupboards round the walls, about forty were full and a number partly full of gold ingots. In each cupboard were twenty-five shelves, and on each shelf ten bars. That is, about 12,000 bars of gold were in sight. Taking the weight as, perhaps, 33½ pounds troy, and the value, therefore, about $7,830, this would give a total gold value of about $95,000,000. As a matter of fact, the bi-weekly balance-sheet of the Bank of Russia for March 29th, as shown to me by the Minister of Finance a week later, contained the item: "Bullion, 204,000,000 roubles," i. e., $108,500,000. So my rough reckoning, though, of course, of no value, was fairly accurate.

The balance-sheet of the Bank of Russia for March 29th stated the total gold reserve in the bank to be as follows:

Russian gold coin	238,000,000	roubles
Foreign " "	142,000,000	"
Bullion " "	204,000,000	"
Total	584,000,000	"

or $313,830,000. The gold reserve of the Bank of England is $140,000,000.

That I saw a vast store of gold, and was freely offered every opportunity of checking its amount, is certain, but for the above detailed figures I am indebted to his Excellency Monsieur Kokovtsof, Minister of Finance, who read them to me from the latest confidential balance-sheet furnished to him.

The above reserve, however, is very far, indeed, from constituting the total gold reserve of Russia. It is only what may be described as the reserve properly so called. There are in addition many other categories of reserve of gold: the stock of gold kept in the bank and at its hundred branches to meet the ordinary daily demands of commerce and finance; gold in transit between the head office and the branches; gold at the mint, in process of coining; and gold belonging to the bank (as distinct from the State) on deposit abroad. M. Kokovtsof gave me the following figures for each of these categories:

Gold for current purposes at the Bank of Russia and its branches	152,000,000	roubles
Gold in transit	4,000,000	"
Gold at the Mint	28,000,000	"
Gold belonging to the Bank abroad	125,000,000	"
Total	309,000,000	"

To this must be added the fixed reserve I saw, 584,000,000 roubles, making a total of 893,000,000 roubles. There are also one or two small categories, of which I have not the

details, making a total of 898,000,000 roubles. And to this M. Kokovtsof added the amount belonging to the State (as distinct from the bank) on deposit in London, Paris, Berlin, Amsterdam, etc., the exact amount of which, for reasons obvious to all bankers, it would be improper for me to repeat, but which amounted on April 4th to more than 100,000,000 roubles. Thus the total gold reserve of Russia reaches the imposing sum of 1,000,000,000 roubles, or more than $550,000,000.

It is, of course, only a comparatively small part of this vast stock of the precious metal that would be available under any circumstances for a war fund. This fund would come, in the first place, from the reserve of gold I saw. The currency law of Russia of 1897 prescribes that, up to 600,000,000 roubles, paper money may be issued with a gold reserve of only one-half its face value, but that all subsequent issues must be covered, rouble for rouble, by a gold reserve. Now, there is a nominal circulation of paper money to the value of 680,000,000 roubles, but, of this, there are always at least 30,000,000 to 50,000,000 in the bank: therefore, the effective circulation of paper money is not more than 650,000,000, and, of this, according to law, 350,000,000 must be redeemable by a fixed gold deposit. Deducting this sum from the 584,000,000 of the fixed gold deposit, we have 234,000,000 roubles immediately available as a war fund, and to this can certainly be added a large part of the gold on deposit abroad, belonging, as explained above, both to the State and to the Bank of Russia, the total being, say, 225,000,000—say, an available sum of 200,000,000, making a total war fund immediately available of 484,000,000 roubles, or $255,000,000.

And this war fund, let it be noted, may be taken without in the slightest degree encroaching upon the stock of gold (*a*) necessary for conducting the ordinary business and finance of Russia at home and abroad, and (*b*) imposed as a gold reserve by the currency law in force.

One other fact in connection with Russian war finance may be briefly mentioned. In this war, Russia is spending nearly all her money in her own country, and, therefore, a considerable proportion of it will come back to the State. To take one example: during the South African War, England spent $84,078,410 abroad for horses and mules alone; Russia will not spend a rouble outside Russia for horses.

It is obvious from the figures given above that, if Russia chose, she could, still without infringing or repealing her currency law, issue an enormous sum in paper; but it is equally certain to anybody who knows what almost fanatical importance Russia attaches to the maintenance of her financial reputation that she would not dream of taking a step that would deal so deadly a blow to her credit, unless, indeed, she were at her very last gasp —and that is not a state of health to which a war with Japan will reduce her. It may be taken as an axiom, in spite of the gossip so common among certain foreigners, who have not among them any exact knowledge at all of her finance, that Russia will not play tricks with her financial health. *Officiell wird nicht gelogen* applies, at any rate, to Russian finance.—"Official figures must not be belied."

All this being so, it may be remarked that there will then be no occasion for Russia to raise a new loan? The question may be answered to some extent by another: Why should not Russia adopt the convenient and, indeed, most helpful course adopted by every other nation, without exception, that has waged war in modern times? what imposes upon Russia a standard of national abnegation not observed by other nations? For it cannot be far from the literal truth to say that no nation in the last half-century has ever been at war for a month without raising a loan, unless she had raised one immediately before war broke out.

The truth is that Russia's financial position is so good that she can, if she chooses, or if necessity imposes such a course, make war for a year, at least, without being compelled to think of a loan. At the same time, a loan is obviously the cheapest and most convenient method of meeting the cost of military operations, and of diffusing their financial burden over a reasonable period. For that reason, I think that Russia will probably endeavor before long to float a foreign loan, but she can afford to await a propitious time, and she will certainly not accept such terms as will prejudice her existing issues or damage her credit.

A "CORN-GOSPEL" TRAIN

THE WORK OF PROFESSOR P. G. HOLDEN AMONG THE IOWA CORN-GROWERS—LECTURES AND PRACTICAL DEMONSTRATIONS FROM REAR-END PLATFORMS—A SIGNIFICANT LESSON IN THE NEW AGRICULTURE

BY

F. G. MOORHEAD

CORN is our greatest crop. Iowa produces more corn than any other State or country in the world, but its yield did not satisfy Mr. P. G. Holden, Professor of Agronomy at the Iowa State Agricultural College. In 1902, the average yield for each acre was thirty-four bushels; in 1903, the average yield was thirty-one bushels. Professor Holden said, "Why, with good weather, should the high yield not only be maintained, but increased?" An increase of only one bushel an acre, using last year's crop as basis, would mean an increase for 1904 of 7,398,320 bushels, worth $2,660,-395.20 at market price last December.

Professor Holden began to experiment with corn from Iowa and other corn-producing States. After a year of planting and growing, he found that, with proper seed-corn and right planting, the yield increased. These scientific tests, made at the State Experimental Station, showed that the increase would range from five to ten bushels per acre for the fertile fields and from two to five bushels per acre for the less-favored soil. The secret of the desired increase, therefore, was in the education of the corn-growers. Convinced of this fact, he continued his experiments and his comparisons. In 1903, Green and Winnebago counties had the poorest average of productivity to the acre—twenty bushels; yet, the year before, Green County had produced thirty-one bushels to the acre and Winnebago County thirty bushels. It was a significant change.

Iowa produces more than one-seventh of all the corn grown in the United States.

Professor Holden believed that Iowa could produce millions more bushels of corn than any other State without exhausting the soil.

He showed the Iowa State Agricultural College students how to select the proper seed-corn and how to plant it. But the students were only a small proportion of the vast number of corn-growers in the State. If his scientific experiments were to be of value, they must be generally known.

Professor Holden established corn-judging contests at the State Fair, annually held in Des Moines. Scholarships in the State Agricultural College were offered as prizes to the farm lads, within certain ages, who brought from their homes the best ears of corn and gave their reasons for the selection, together with information as to selecting and planting seed-corn. The contests quickly grew in favor, but the work did not reach the great body of farmers throughout the State.

Professor Holden then explained his crop-increase plan to the leading freight-carrying roads traversing the State. At first they doubted, then became interested, and finally entered into the proposition enthusiastically. The Chicago, Rock Island & Pacific Railway was the first to offer a special train and to guarantee the expenses of the trip. The offer was accepted by Professor Holden.

The "Corn-Gospel Train," as it was called, started in central Iowa, and it was run on time-table schedule. Two weeks before the train started, the list of all starting-places and the schedule time of arrival there was announced on hand-bills and by notices sent by the rural free delivery of mail to every farmer in territory contiguous to the Rock Island route. Half-hour stops were made for every town. Professor Holden was accompanied by Professor Sage and his assistants, railway officials, and newspaper representatives.

Attached to the special train was a large audience car, and in this Professor Holden lectured to the farmers who met him at every station. When the crowd was too large for the car, overflow meetings were held on the station platforms. Frequently, the assistants

would be called upon to repeat the message to those on the outskirts of the crowd who could not hear Professor Holden. The average attendance at the stations was 100. When a twenty-minute address was completed, Professor Holden conducted a short question parliament, specimens of good and bad seed-corn were exhibited, and, with a last farewell and a cheer from the farmers, the train departed for the next station. Often Professor Holden spoke from the rear platform of the train. At one of the stops he said:

"When we consider that more than nine million acres, considerably over one-fourth of the entire area of the State, is planted in corn each season, and that it requires more than 1,300,000 bushels of seed to plant this area; and when we realize that the character of the seed, its vitality, breeding, purity, adaptability to the soil and climate, and uniformity in both size and shape of the kernels, all exercise a great influence on the future yield, the great importance of paying the closest attention to the corn for seed purposes cannot be overestimated.

"It is well known that most of the seed-corn put on the market by seedsmen is bought of farmers in crib lots, shelled, screened, and sacked ready for sale, little or no attention being paid to the selection —in fact, it is generally handled with a scoop-shovel, and is known as the 'scoop-shovel method of selection.' The chances are that the farmer has in his own crib better corn than that which he purchases from seedsmen at four or five times the market price; and then he runs the additional risk that it will not mature in his locality.

"If it were simply a matter of losing the price of the bushel of imported seed-corn, it would not be serious; but when we consider that a bushel of seed-corn ought to produce 400 bushels of corn, worth from $130 to $160, the serious nature of the question is very apparent. If, for any reason, my own corn was not satisfactory for seed, I certainly would not send far south for seed-corn, but would purchase from some one in the vicinity whose corn has given good results during the past three or four years.

"In securing seed, the factor of greatest importance is the purchase of that corn which will give the largest yield per acre and of the best quality. The acre is the unit in corn production, and, therefore, that seed is the best which gives the largest yield per acre. Carefully selected seed of pure-bred varieties give the largest yields. Hence, the important question for the farmer who for any reason must purchase seed-corn this year is not one of cost, but of quality. It will prove far more profitable to pay three or four dollars for a bushel of seed-corn which will germinate well, and insure an even stand and a large yield, than to accept an inferior grade, even though the first cost be exceedingly low. Purchasing seed-corn in the ear offers the farmer the surest and safest way to secure seed which will prove satisfactory.

"Heretofore, the common practice among corn-breeders and seedsmen has been to send out shelled corn to farmers. This method of handling seed-corn can never, in any adequate way, really help the corn-growers of the State to improve their corn. This is true because much of this corn has been indiscriminately purchased from farmers who have paid no attention to the selection and breeding of corn. For this reason, this seed often proves no better than that which the farmer himself has been growing in years past, if as good,"

At the end of the third day of the trip, 450 miles had been traveled, fifty stations visited, sixty lectures delivered, aggregating eighteen hours of talking, fifteen Iowa counties had been crossed, and the message of proper planting carried to the tillers of 3,000,000 acres of Iowa farm land, of which fully one-third is devoted to corn-growing.

When the Rock Island tour was completed, another was immediately begun on the Des Moines, Iowa Falls & Northern Railway. The third trip was made on the Chicago, Burlington & Quincy Railroad. Nearly one-half of the ninety-nine counties, embracing 150 farming communities in the State were visited, and 15,000 growers—more than one-half of the corn-growers of the State—were personally interested. At the conclusion of his first trip, Professor Holden said that he believed the yield this year will be increased from five to ten bushels per acre in the districts traversed by him. When the last trip was completed, he estimated that the average State increase would be three bushels to the acre, which would bring the 1904 average yield up to the 1902 average, and increase the 1903 aggregate value of the corn crop, at the last year's figures, by nearly $8,000,000.

The greatest practical benefit of the tour resulted from the object-lessons as to the good and the bad seed-corn, which taught the farmer to judge his seed carefully, to know what to use and what to throw away. It was a simple lesson in good farming.

This fall, Professor Holden intends to travel over the entire State. Such a tour will not only help the farmer to test his corn, but to select it in the fall for spring planting, thus following the great Iowa crop from the very first steps to the last.

ALTON BROOKS PARKER

THE PROBABLE DEMOCRATIC CANDIDATE FOR PRESIDENT—HIS SINGLE-MINDEDNESS IN HIS SCHOOL-DAYS—HOW HE WON SUCCESS AS A POLITICAL LEADER—HIS LIFE AS FARMER, AS JUDGE, AS DEMOCRAT—AN INTIMATE STUDY OF A REMARKABLE MAN

BY

M. G. CUNNIFF

EVERY morning at ten o'clock, the seven judges of the highest court in New York State gather at a round table in the high-ceiled, red-carpeted consultation chamber, whose windows, high in the State Capitol, overlook the Hudson. In the oak chair before the red blotter which marks what, by courtesy, is the head, sits the youngest member of the court, a vigorous, broad-shouldered man, athletic at fifty-three, who looms ruddily to the eye. This is Alton Brooks Parker, who will doubtless be the Democratic candidate for President. His mustache is brown, with a tinge of red. His hair, turning a little gray, is a darker brown. His eyes, alive with light, are brown with hazel colorings. Morning plunges in the Hudson, horseback rides at dawn in winter snow-storms, and the August sun that beats on his hayfields have tanned his unfurrowed face to the lasting glow of superabundant health. Here, one would say, is a great, ruddy engine of vitality.

In the earnestness of conviction, his face exhibits the characteristics of intelligent energy. As he develops his thought in ready speech, colored by a magnetic, resonant voice, his eyes narrow, wrinkling at the corners, and he shoots an incisive, level gaze at his auditor, as if thrusting home his points with the power of his steady look. But as he rounds a sentence or reaches a climax his powerful chin begins to project, and the last word, bitten off, is emphasized with a grim, decisive locking of the jaw. This, with the utmost courtesy. There is no egotism in the manner, and no lack of restraint. But there is concentration, driving power, and the air of grim persistence.

Here, at this table, listening with courteous attentiveness, expounding clear thought with versatile power, is Judge Parker at his most active work. He gestures occasionally with a strong, white, well-shaped hand, and there is every now and then the play of emotion in his face, a wide opening of the keen brown eyes, a questioning uplift of the brows, the gleam of a smile, a wrinkling of the forehead. He has dignity without solemnity, humor without loss of poise, force without roughness.

From boyhood, the Judge has been a farmer, and today he lives on a farm and manages it, personally, with profit. As an active political worker, he became the head of his party in Ulster County shortly after his graduation from law school, later managed the State campaign that, after a hard, uphill fight, made David B. Hill Governor of New York in 1885; and even now, wrapped up as he is in his judicial duties, he knows politics better than a hundred men in the United States of wider repute. As a jurist, he has built up a body of conservative law so distinguishing him that the members of the American Bar Association hail him as an eminent judge whose opinions carry weight far outside the borders of New York. Indeed, before talk of a Presidential nomination was in the air, lawyers everywhere knew the mark Judge Parker had made in American jurisprudence. But the fourth phase of his personality is what strikes the mind with a significance that goes beyond the man himself.

For there is a clearly marked set of principles, a definite philosophy that, summed up, is Democracy, the Democracy of Jefferson, of Tilden, of Cleveland—an enduring platform of American ideas.

The widest possible liberty of the individual, no special privileges, conservatism, strict construction of the constitution, rigid observance of the checks and balances in the machinery of our government, so that executive or judiciary may not trench on legislative, or the centralized national government on the governments of the several communities, close responsibilities of legislators and executives

to the people, insistence on holding law-making strictly within that branch of the government which is closest to the people—the legislatures; these are the fundamental Democratic ideas that endure. And the result of a study of Judge Parker is almost startling in showing that this man, for twenty years out of politics, striving with uncommon industry to do the one work of dispensing justice, has grown into a living type of Democracy.

In habit of thought, in conversation, in public utterances, in decisions, he is essentially an embodiment of what the Democratic party means as distinct from the Republican party.

He was born in 1851, on a farm in Cortland, New York. His father was a practical farmer of Massachusetts birth; and his mother, now living in Derby, Connecticut, was also a New Englander. One day when Alton was a small boy, his father took him into court, and the boy, impressed with what he saw, declared on the way home that he would one day be a lawyer. So, attending the common school in Cortland, later the high school, and then the normal school to prepare himself to teach long enough to earn money for his legal education, he worked industriously at his studies and labored faithfully on the farm. Upon leaving the normal school, he sought a position as teacher. One was offered him in the little village school of Virgil, and he accepted. He told his father.

"Why," said his father, "I had a better offer than that for you today."

"Well," said the son, "I'll give up the place at Virgil and take the other."

"No," said the farmer. "You have made a contract; it is your duty to hold to it."

This is a type of the paternal lessons the youth received that bore fruit later in the upright judge. Off to Virgil he went, to teach for a year in the village school. The next year he secured a position at a better salary—a good salary for such work—at the school in Accord, in Ulster County, where he met Miss Schoonmaker, now Mrs. Parker, and where he taught until he had earned enough to pay his way through the law school. The mighty physique that helped him once to thrash a school bully he wrought into toughness of muscle and sinew in summertime work on his father's farm.

He had planned to enter Cornell University, but, after studying law for a short time with the firm of Schoonmaker and Hardenbergh, at Kingston, New York, he decided that he had not the time to earn money for a college course as well as a law school course. Accordingly, he entered the Albany law school. There he was an able, though not a brilliant, student. On graduation, he returned to Kingston, where, with a partner, he opened the law office of Parker and Kenyon. His life-work had begun.

He was now a young and very ambitious lawyer in a city on the Hudson midway between Albany and Newburgh, a city where he then continued to live for twenty years, until, notwithstanding that the city had grown to be the largest on the river between New York and Albany, every man, woman, and child in the city, Republican and Democrat, knew and liked him. His law practice at first was general. His political work was specific. His old friend, Judge Schoonmaker, had been defeated for County Attorney.

"You must run again and win," said the young lawyer to his old friend.

The Judge did run. Parker vigorously managed his campaign. It was successful. A new leader had arisen in Ulster County politics. The young lawyer had stumped the county, had met and talked with the Democratic voters, and had become so well known that, in 1871, he was nominated as surrogate and elected by a good majority. A double activity began at once. As a former Kingston lawyer said to me: "Surrogate Parker won an important case for the town, for which he received a fee of $3,000. Twenty years after, I still believe that I, as the opposing counsel, had the better case. But Parker had set out to win, and he won."

But, as the same lawyer, a Republican, declares: "As surrogate, Parker was the leader of the Ulster County Democracy. The county had been doubtful before—had even had a Republican tendency. While Judge Parker was the party leader it returned Democratic majorities with distressing regularity." Mr. Tilden observed. There was little in New York politics that Mr. Tilden did not observe. David B. Hill, his pupil, observed. There was little in New York politics that he did not observe. Surrogate Parker was making speeches throughout the county—there was nothing in the office to make political activity improper; he was organizing and marshalling the voters; he had the poli-

tical situation at his finger-tips; and he knew political conditions throughout the State. The same energy which, developed and strengthened, the dignified Chief Judge of the Court of Appeals today devotes to minutely investigating constitutional principles and vigorously striving to make them prevail, the dynamic Surrogate Parker of twenty years ago was devoting to the advancement of his party. As he is thorough today, he was thorough then.

In 1885, David B. Hill became a candidate for the governorship. He looked about for an able leader to manage his campaign. It was customary then, as it has been customary since—though again, this year, the tradition was disregarded—to choose the campaign leader, the chairman of the executive committee of the State Committee, from the committee itself. But the main point was to secure a man with the habit of persistence and the habit of success. Who had these qualities to a higher degree than the tall, broad-shouldered, ruddy giant who led the Democracy of Ulster County? Surrogate Parker, of Kingston, was made chairman. The story of Ulster County became the story of New York State. The Democrats pursued a steady, vigorous, persistent campaign. Chairman Parker traversed the State, became acquainted with the Democratic leaders, talked to voters, pushed home the Democratic arguments. Mr. Hill was elected governor by a plurality of 15,000. Parker had managed a brilliant, successful campaign.

There were few Democrats who did not know him then. Five years before, in the first years of his service as surrogate, he had attended the national convention of 1880 which nominated Hancock for President. A year before, he had been a delegate to the national convention of 1884, and had voted for the nomination of Cleveland. Less than a year before, President Cleveland had called him to Washington to offer him the office of First Assistant Postmaster-General. Surrogate Parker, of Ulster County, New York, courteously declined the place. As he and President Cleveland were discussing the matter, Postmaster-General Vilas, whose candidate for the First Assistant's office was Adlai E. Stevenson, entered the room.

"Parker says he does not want the place, Colonel Vilas," said President Cleveland.

Colonel Vilas looked at the young man.

"May I inquire why, Mr. Parker?"

"I cannot afford to give up a $5,000 a year position," said Surrogate Parker, "to take a $3,000 position."

"But I gave up a $10,000 practice," said Colonel Vilas, "to take an $8,000 position."

"Well, Colonel Vilas," said Surrogate Parker, "if I had been making $10,000 a year for ten or twelve years, I, too, might afford to accept the President's offer."

So, in the fall of 1885, the young man of thirty-three, who had declined the position of First Assistant Postmaster-General and had led the Democratic party of New York to victory, was widely known as a man on the threshold of political success. But, doubtless, if one were to ask Chief Judge Parker today what the climax of his dream of ambition was twenty years ago, he would say, the Supreme Court of the United States. At all events, his thoughts were turned wholly to jurisprudence.

A few days after Mr. Hill's election, in 1885—Mr. Hill then already Governor by virtue of Governor Cleveland's elevation to the Presidency—Judge Westbrook, of the Supreme Court of New York, died. Governor Hill at once appointed Surrogate Parker to fill the vacancy. Thereupon, Judge Parker locked away his unusual gift for political leadership, and swung all his talents to bear on the duty of becoming an unflinching, painstaking, equitable judge. He was but thirty-four, the youngest man, up to that time, appointed to the Supreme Court bench. There is a quick, alert conscience in Judge Parker, an unusually deep sense of responsibility, and a profound, enthusiastic conviction that no higher type of human opportunity exists than lies in administering justice. Justice is to him what beauty is to the artist or religion to the devotee. This spirit vitalized in him the habit of doing well what he did at all. Active politics could not mix with jurisprudence, and active politics must be abandoned. If it did not befit an unassuming, democratic citizen, whose relations were sincere, to do less than visit his Kingston office regularly and shake his old friends by the hand, and listen to the troubles of his townsmen, and stop a dozen times at greetings on his way from his office to his home, it did not befit a Supreme Court justice to give less than full measure of his time and abilities to his public duties. So he rose early and went to bed late. He worked

at the court in Albany, at his office, and at his home in Kingston—as he works today—under a head of steam that in a very few months would exhaust a man of less than remarkable vitality and robustness. He became a part of his profession. He remained a part of it. He has declined a nomination for Lieutenant-Governor, for Governor, for United States Senator.

Prior to David B. Hill's election as United States Senator, a party of the Democratic leaders of the State met in the executive chamber of the capitol. Judge Parker was invited to be present. The leaders canvassed the situation. The majority in the legislature was assured. The consensus of opinion was that Judge Parker should be the candidate. He was asked to consider. He left the room, but soon returned.

"Gentlemen," said he, "I have no wish to be a candidate. I beg you to choose another. My ambition is to serve my State and my profession on the bench of the court. And it is not seemly that a judge of that court should be a candidate for political office."

It is true that Judge Parker's positions on the bench have been elective, but he has sat aloof from electioneering. Often his office has needed none. It is an unusual tribute to a remarkable man that Republicans have joined with his own partisans at times to keep him on the bench. Indeed, in Ulster County his name is one to conjure with among voters of both parties. When Judge Parker's appointment to the Supreme Court bench ran out in 1886, he came up for his first election. The Republicans nominated no candidate against him, although a prominent Albany lawyer desired the empty honor.

When he had served two years longer in the Supreme Court, it was found that the higher court, the Court of Appeals, was 800 cases behind in its work. Seven judges of the Supreme Court were accordingly designated as the Second Division of the Court of Appeals. Of these, Judge Parker was one. In 1894, Governor Black appointed him judge of the General Term of the Court of Appeals, holding sessions in New York City. Judge Parker continued to live, however, at Kingston, returning there for Saturday and Sunday of each week. In 1897, the year after McKinley carried New York by 150,000, the Democratic State Committee nominated Judge Parker as Chief Judge of the Court of Appeals against Judge William J. Wallace, of Albany, Judge then and now of the United States Circuit Court. This was the only State contest of the year—no gubernatorial contest was on.

After the complete Democratic rout of the previous year, a Democrat seeking a high State office was apparently the destined victim of a forlorn hope. But, in the face of the logic of the situation, Judge Parker was elected by 60,000 majority.

As an Ulster County Republican has said to me:

"A plain destiny has governed Judge Parker's career. Each office he has filled he has gained at the psychological moment when he had just reached maturity for it. And he has grown in each office to the full stature required by the next one. His capacity for growth is remarkable; his habit of success has been equally phenomenal."

Even outside his judicial functions, Judge Parker maintained, while on the Supreme Court bench, the same steady effectiveness that marked the steps of his advancement from position to position. He was, for years, a trustee of the Ulster County Savings Bank in Kingston. News of the dishonesty of two of the bank's officials precipitated a run. Trustee Parker battled through the crowd besieging the doors of the bank, with a bag full of money he had borrowed on short notice. This he threw down on the counter. Then, vaulting up beside it, he addressed the crowd.

"The bank can meet all demands," said he. "If you wish your money, come and get it. But you will be wiser if you let it stay."

So he went on, counselling moderation, until, at his sober words, the panic spirit died. "I pledge you my own word," said he, and that was enough. The run was checked.

Forthwith, he set to work, with characteristic vigor, to rehabilitate the institution. It grew stronger and stronger. His associates asked him to become president, and he agreed on the condition that the salary be abolished. Thus he served the bank *gratis* until its deposits were doubled and its standing assured. Not until then would he resign. In business, as in jurisprudence, his passion has been for such constructiveness.

Upon his election to the Court of Appeals, however, he concentrated his attention on the two activities that, today, he carries on and converses about with enthusiasm—farming and the law.

Courtesy of Collier's Weekly

CHIEF JUDGE ALTON B. PARKER OF NEW YORK

The most probable nominee of the Democratic Party for President

With his brother, Frederick H. Parker, he has supervised the maintenance of the Cortland farm that was his father's, and he also managed another farm which had belonged to his wife's family at Accord. But, keen for a farm of his own, he bought at Esopus, ten miles below Kingston, a rolling stretch of sixty acres, sloping steeply down to the Hudson, one of the most beautiful places imaginable. Here he made his home in Rosemount Hall, as he called the commodious, old-fashioned mansion that tops the green lawn; and here he is a practical farmer, buying and breeding, with care, some uncommon red-poll cattle, rearing sheep, cutting great crops of hay, harvesting wonderful Newtown

Photographed by R. Lionel de Lisser Courtesy of the *New York Herald*

THE LIBRARY IN JUDGE PARKER'S COUNTRY HOUSE, "ROSEMOUNT"

pippins that remain crisp and juicy the summer after picking, even shipping produce to the New York market from the landing at the foot of his place, where the *Mary Powell* and the Newburg and Albany freight steamers stop on their daily trips. At the same time, he took a suite of rooms on the eighth floor of the Ten Eyck Hotel in Albany, half-way up Capitol Hill. Here, and at the chambers of the Court of Appeals in the capitol building, he has lived during the working days of the week, a genial, approachable, democratic citizen in his moments of relaxation, a studious and conscientious judge in the performance of his duties.

Every morning, winter or summer, he rises at half-past six, takes a cup of coffee and a roll, and then leaves the side-door of the Ten Eyck for an hour's ride on his favorite horse, Tom, through the suburbs of Albany. Usually, Judge Vann or Judge Werner accompanies him. On his return, he breakfasts with his associates at the "judges' table" at the Ten Eyck. He then walks briskly up the hill to the capitol, prepares his papers at his office, and then threshes over cases with the other judges in consultation. He lunches at Keeler's with one or two of the other judges. After another walk up the hill, he holds court until six o'clock. Returning to the hotel, he dresses for dinner—he is scrupulous about his apparel—and dines at the "judges' table." Then, for the first time in the day, he lights a cigar.

In one corner of the Ten Eyck lobby sits, almost every evening, M. Nolen, twenty-five years ago mayor of Albany. He is a patriarch of undiminished vigor. Judge O'Brien, of the Court of Appeals, strolls over after dinner and takes a seat beside him in the "M. N. corner." Then appears Judge Parker, looming above the crowd in the lobby, an erect, military figure. He has a word here and there with a friend, nods, smiles, stops a moment to chat, and then he, too, seats himself in a high-backed chair in the corner. Perhaps another judge strolls over. The conversation is general. Topics of the day are discussed; farming, perhaps, may be mentioned; a story is told. Judge Parker takes his part in the talk, genial, courteous, unassuming—but always with the glint in his eye and the firm set of the jaw that mark the distinction of the man. He spends perhaps half an hour in this social relaxation. Then he goes up to his apartments to work, sometimes until late at night, reading authorities, studying briefs, preparing opinions. The associate judges of the court, in turn, sit two weeks and then have a recess for a week. The Chief Judge sits all the time. In the regular order of the day's work, he must thus keep up with a mass of business the other judges may handle in recess weeks. So, when Chief Judge Parker starts on Friday night for his Esopus farm, he carries his tasks with him.

On Saturday morning, he tramps about his farm—in rainy weather in rubber boots and an old hat—giving directions to his men and examining his crops and his stock. Then he enters his pleasant library, and, sitting there with his secretary, amid the high shelves of legal volumes, and surrounded with portraits of eminent judges, he works out his opinions.

Sunday mornings, he drives Mrs. Parker,

Courtesy of the New York World

JUDGE PARKER AND HIS GRANDSON IN THE GROUNDS AT "ROSEMOUNT"

and often one of his grandchildren, over to Kingston to attend services at Holy Cross Episcopal Church, whose rector is his daughter's husband. Sometimes this trip is made up the river in the Judge's launch, the *Niobe*. On Sunday afternoons he would rest and read, but usually callers come to Rosemount whom the Judge welcomes with hearty hospitality. He is fond, on these occasions, of showing his friends over the farm. He may even tell them of the time he sent his prize-winning red-poll bull over to the county fair at Ellenville, when the powerful beast was so heavy that his hoofs could not stand an

Photographed by Lionel de Lisser — Courtesy of the *New York Herald*

"ROSEMOUNT," JUDGE PARKER'S COUNTRY HOME
Located on the banks of the Hudson at Esopus, New York

unbroken journey, and stops of a whole day were necessary to rest the animal in some soft pasture. Or he may talk of practical affairs, or of literature, or even of politics. There is nothing sphinx-like or palpably guarded in his conversation. He talks freely and frankly, as he always has done. That here at home or in Albany he does not issue public statements of his views on contemporary questions is not strange. If his candidacy is talked of, that fact does not make it incumbent on him—a judge concerned with his judicial duties—to take a deliberate pose as a candidate.

His home life is delightful. He is unusually fond of his daughter and his two grandchildren, who spend their summers at Rosemount—this is evident in his manner toward them. And the little granddaughter and his small brown-eyed grandson, Alton Parker Hall, are so fond of him that Rosemount is, in reality, one of their two homes. They like nothing better than a romp with their grandfather. Mrs. Parker is no less hospitable and no less fond of the children than the Judge.

But, after all, Judge Parker's significance as a citizen, and much of the interest attaching to him as a possible candidate for President, lie in the type of man he is as a thinker—in what he stands for.

About this there is no mystery. He has made addresses before bar associations; he outlines his ideas with explicit directness in his consultations with his associate judges; his decisions are widely known as betraying distinct lines of thought; he is sphinx-like in his ordinary conversation only in the matter of refraining from uncalled-for public utterances that might put him in the light of a seeker for the presidential nomination.

Primarily, he is a stickler for the rigid maintenance of the terms of the constitution. A few years ago, after vigorous argument in consultation, he prepared a dissenting opinion to his court's decision—reached by a vote of

five to two—that the New York statute, compelling municipalities to see that contractors paid workmen the prevailing rate of wages, was unconstitutional. He argued that the constitution gives each State a right to decide on what terms its business or the business of one of its parts shall be done. Two years later, a similar case was appealed from Kansas to the United States Supreme Court. The Supreme Court's decision followed almost exactly Judge Parker's reasoning. Again, a case almost similar arose in New York. Meanwhile, Judge Parker, with his characteristic perseverance, had worked day and night until he had collected all the decisions ever made in the United States on the question of the constitutionality of statutes. Some of these were copied from manuscript records, so that Judge Parker has now in his library at Rosemount the only complete collection of such decisions. When the second case came to the court, he was prepared. He quoted decision after decision, developed the whole theory of State rights under the constitution, and brought in, as a triumphant reinforcement, the Supreme Court's decision clinching his own former dissenting opinion. This time the vote was five to two again, and Judge Parker again read an opinion. But this time it was the court's opinion. Clear thinking and assiduous work had made his idea prevail.

The large fact underlying this was that Judge Parker believes that the constitution clearly marks the functions of executives, courts, and legislatures, and that no one of these departments of the government should trench on the prerogatives of the others.

There is a similar large fact underlying his labor decisions. In one, which establishes the right of men to strike, or threaten to strike, to secure the discharge of another workman, he declares, "What an individual may legally do, he may legally threaten to do." He reasons that, if a workman, or a body of workmen, were restrained from threatening to stop work for any reason that pleased them, the liberty of the individual would be unwarrantably restricted. He could find no sanction in the law for the prevention of striking, and he would be no party to a court's usurping a legislative function by checking the right to strike. Thus, he takes no note of labor unions —or of corporations, for that matter—as deserving of special attention in their capacity of economic combinations. He keeps his eye on individual rights.

He has no observable tendency, one way or the other—as many judges have—in negligence cases which affect corporations. He has no extra-judicial sympathy with corporations, no hostility to them. No lawyer has any sophisticated desire to bring corporation cases before him; no lawyer, to secure his decision on anti-corporation cases. He hews to the line of impersonal justice, and lets the chips fall where they will. He had no sympathy with the steamfitters' union when his decision was rendered in the strike case, no bias of any kind when David B. Hill argued before him the case of great corporations, which refused to pay a franchise tax imposed by statute. He affirmed the liberty of the individual in the one case; he affirmed in the other the right of the State under the constitution to impose a franchise tax if its legislators saw fit.

"Whatever government interference in the life or business of the community is needed," Judge Parker would say, "should be authorized by the people's legislators, who are responsible, at short intervals, to the people themselves." A young woman sought an injunction against a corporation for using her photograph in an advertisement. Judge Parker would not grant the injunction. As the publication of the photograph did the young woman no actual harm, the law, he maintained, had provided no relief to the plaintiff. At the next session of the legislature, a statute was enacted forbidding such use of photographs. Judge Parker's whole mode of thought argues his belief that this was the true method of relief. It follows his conception of the organization of our democratic government. As a judge, he does not consider whether the actual situation presented in cases before the court needs remedy; he studies indefatigably to discover whether the law provides remedy. Conservative, then, he believes that the legislative function belongs with the legislature. This is one of the essentials of Democracy, indeed, of Americanism.

A genial, companionable man in ordinary intercourse, he makes so marked a distinction between Alton Brooks Parker and Chief Judge Parker, that on the bench he is, without pose, without pompousness, a direct, sincere incarnation of judicial duty. His mind, illuminated with the light of Democratic phi-

losophy, holds a definite conception of governmental functions in a democracy, and these functions the whole man strives to maintain.

If nominated, he himself will be an issue, as the embodiment of an idea, and as a type of public man. He is not impetuous; he is deliberate. He is not rash; he is conservative. He is not blatant; he is consistently dignified. He has no hunger for usurpation: he has already made a record for keeping his own department of the government within constitutional bounds. He has no craze for militarism: his is the philosophy of constructiveness in peace. Labor unionists, in his view, should have all the rights of American citizens, but they must keep within the law. Managers of corporations share with other citizens all American rights, but they, too, must keep within the law. Never, since Jefferson, have the fundamentals of the Democracy changed, and, now that the party organization has cast overboard the heresies of the last eight years, no better sign of party health could be found than the growing desire to make Judge Parker the Democratic leader. A political campaign, a farm, a bank, a court have shown orderly progressiveness under this man's guidance. Under sane, assiduous self-training, Judge Parker has developed to an imposing mental and moral stature. The upright jurist from the Hudson would make a good President.

SOME RECENT BOOKS

A LITERARY CURIOSITY

Houghton, Mifflin & Company have published a literary curiosity with a story behind it. Professor Shaler, of Harvard, the eminent geologist, a few years ago fell into debate with Professor Kittredge and some other friends whose taste ran to literature. They maintained that scientific pursuits unfit a man for literary appreciation. Professor Shaler stoutly upheld that scientists—he, for example—had no such atrophy of the faculties.

"A scientist cannot, for example," said his friends, "appreciate Elizabethan drama."

"Appreciate it!" said Professor Shaler. "He can write it."

This heresy was met with amused consternation.

But Professor Shaler went forthwith and wrote at odd times, not one, but five plays after the Elizabethan manner—a five-volume metrical history of Queen Elizabeth. They were written simply to prove Professor Shaler's point, but friends persuaded him to publish them. Here they are.

They are a distinct success. Needless to say, they are very interesting and written with Biblical simplicity, they have power and sweep and directness, chastity of diction, and dramatic interest. Purely as literary imitation, they are worth the doing on their own account—indeed, they are somewhat remarkable. As evidence, they are quite convincing—as far as Professor Shaler himself is concerned. If he were to assert his ability to write Pindaric odes or Theocritan pastorals, it would be a rash man who would contradict him.

Prof. Shaler's success strengthens the proposition of E. E. Everett, in his "Poetry, Comedy and Duty," that the concentration of the mind on scientific research is a profound stimulus to the creative imagination.

FICTION

For two hundred years the Hudson Bay Company ruled intrepidly the Canadian Northwest; but, for thousands of years, wind and weather also ruled that territory. Between these forces—on the one hand, a relentless commerce that crushed all opposition, and, on the other, a still more unsparing vastness of frost-dimmed forest—move the characters of Mr. Stewart Edward White's new book, "The Silent Places." (McClure, Phillips & Co.) In a sense, "The Blazed Trail," "The Forest," and "Conjuror's House" were introductions to this heroic story of the great white land where men dwell with cold and hunger and the things that try their hearts. Two woodsmen go on a hunt for an Indian who has stolen from the Hudson Bay Company. Into their long journey through the silent places comes an Indian woman who loves one of the men, and her devotion and tenderness and, finally, her supreme sacrifice, invest the man-hunt with a touch of savage romance. But the men find their quarry, and it is yielded up to the Lord of the North. More than in any of his other books, Mr. White has here revealed his strength, his ability to interpret

keenly the big, elemental things that lie in the lone North, which is always patient, always hungry for the human prey fed to its white depths. He finds a vast field here for the enactment of this fierce conflict. The very crunch of the snow-shoe on the crusted earth sounds through this book, and the reader gets much of the vigor, the toil, and the achievement, too, of man's triumph over nature.

A book by Miss Mary Johnston that did not ring with sword-play, and was not softened by sentiment, would be strange indeed. Her new novel, "Sir Mortimer" (Harper & Bros.), is no exception. The heroes of "To Have and To Hold" and "Audrey" have a gallant and energetic colleague in the English soldier-sailor whose name gives this book its title. The new book posseses Miss Johnston's freshness and earnestness. It deals with the time when Drake, Hawkins, and Frobisher sailed the high seas, and when Elizabeth was queen of England. It is an active and entertaining story.

A novel with some distinction is "The Pastime of Eternity," by Beatrice Demorest Lloyd (Charles Scribner's Sons). It is a first book, but it shows no novice hand. The story deals with a man of genius, who is isolated by an unfortunate marriage with a worldly woman. His emancipation is accomplished through the love of two women for him. What might have been a morbid and depressing story is redeemed by the brilliancy of its style.

Quebec province and the far Northwest have hitherto been the novelist's happy hunting-grounds in Canada, but in her latest book, "The Imperialist" (Appleton), Mrs. Everard Cotes has demonstrated that Ontario, too, possesses elements of the picturesque, both in figure and in landscape. She has returned to her native province with an eye trained by long residence abroad into the discernment of its peculiar characteristics, and she portrays them with a concise, epigrammatic touch. While the average reader will enjoy the book chiefly for its romantic and convincing love story, those who are interested in the present social and political condition of Canada's richest province, and in the future of the whole Dominion, will regard "The Imperialist" as a serious and important contribution to contemporary literature.

BOOKS OF TRAVEL

Now that Colonel Younghusband's expedition is within striking distance of the Holy City of Lhasa, Dr. Sven Hedin's "Central Asia and Tibet" (Charles Scribner's Sons) is of timely interest. The journey, fully described in these two volumes, lay largely through those wilds that stretch for hundreds of miles to the north and east of India. They are so impassable that Great Britain seems about ready to choose them as a more effective bulwark for India against Russian attack from the Northeast than the giant ranges of the Himalayas. Dr. Hedin was scientifically trained to the life of an explorer, but he has here given us the story, and not the scientific record, of his latest wanderings in Central Asia. The narrative abounds in adventure and incident, and this gives life and vigor to the account. The downfall of thieving Islam Bai, the story of the Lama of Dogg-tsang Raspa, and the love-songs of the men of Lob Nor, show the author to be a man of wide sympathies and keen humor. Although Dr. Hedin made his journey of 6,000 miles without other company than that of natives and Cossacks, so perfectly is every obstacle foreseen and methodically provided for that the outcome seems as certain as one of Lord Kitchener's marches. The story lacks only the spice of unknown perils.

Few books are better named than Mr. Colquhoun's "Greater America" (Harper & Bros.). It is a study of the territorial expansion of the United States, of its imperial responsibilities, its problems of race and policy, of national defence and government of dependencies, of its resources and ideals. American evolution into one of the greatest of the world-powers is viewed from a frankly English standpoint. Mr. Colquhoun is a practical imperialist, free from sentiment. This volume is a fitting sequel to his "Mastery of the Pacific," and is one of the most important books of the year.

BIOGRAPHY

There has been a real want for a satisfactory life of Penn, and Mr. Buell has attempted to supply this in his "William Penn, as the Founder of Two Commonwealths" (D. Appleton & Co.). He has written a full and entertaining account of the founding of West Jersey and Pennsylvania, and has told the story of what Penn did. But he does not tell what kind of man Penn was. Mr. Buell has no sympathy with Penn's Quaker gentleness. He is frankly disgusted that so stalwart a figure should be a non-combatant to the point of martyrdom. He states at the very outset that he will discuss the religious side of Penn's life only as a necessary incidental. Instead, he devotes a large part of his book to the ridicule of Penn's religious belief and to abuse of the Quakers. The English Church, the Catholics, and the Puritans come in for almost equally bitter

attacks. Anti-religious bias is the one serious defect in a work which, in most other respects, is a model of what a popular biography should be.

Mr. Thorpe's "William Pepper" (J. B. Lippincott Co.) is a record of the fruitful life and public services of a great American doctor and educator, who attained so little popular fame that his name is unknown to the vast majority of his countrymen. Yet his medical research gave him the highest rank in his profession throughout the world. As an educator, he raised the University of Pennsylvania from a small local institution to one of the most important universities of the land. He founded the City Museums, the Free Museum of Science and Art, and the Free Library in Philadelphia.

OF POLITICAL INTEREST

"The Republican Party," by Francis Curtis (G. P. Putnam's Sons, 2 vols.), is a serious and important work of reference, and is published now because the present year is the fiftieth anniversary of the party's birth. In the first volume, Mr. Curtis explains the causes and movements that led to the formation of the Republican party, and sketches the political history of the country before 1854, and the history of the country since that time in so far as it is also the history of the party. The record volume includes the speeches of Republican leaders, the deliberations of conventions, party platforms, and bills that have become laws. The appendix contains much valuable information, with tables and statistics. There is a full and carefully prepared index.

Mr. Roosevelt's "Addresses and Presidential Messages, 1902–1904" (G. P. Putnam's Sons) are published as a substitute for the ordinary campaign life of a presidential candidate. Mr. Roosevelt's speeches have always been marked by sincerity and vigor, and, in their collected form, these qualities stand out. The reader can see what kind of man the president really is. These speeches show Mr. Roosevelt's extraordinary knowledge of local history and the conditions of the places in which they were delivered, as well as ability to adapt himself to the most varied audiences.

Mr. Chesterton's "G. F. Watts" (E. P. Dutton & Co.) is an appreciation of the most famous living English artist. As in all the author's work, there are passages of eloquence and beauty, of real illumination, and wisdom. He is robustly good-natured and irrepressibly optimistic. He blusters with strenuous and sometimes foolish preaching; he overwhelms the reader with paradox and epigram and startling comparisons; but his thought is always healthy and strong. "William Morris," he says, "wanted good wall-papers, as a man wants beer. He clamored for art; he brawled for it."

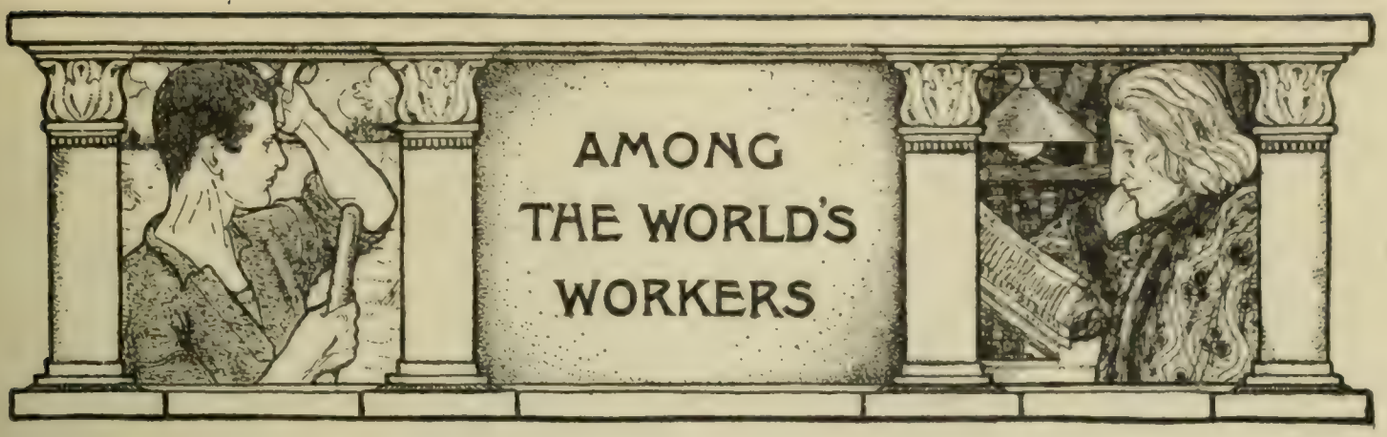
MISCELLANEOUS

An intimate view of a vigorous national development is obtained in Mr. Bradley's "Canada in the Twentieth Century" (E. P. Dutton & Co.). There are fresh side-lights on city and provincial life. Of especial value is the description of the forward movement in the great Northwest. The industrial growth is explained with many illuminating facts and figures. In essence, the book gives a clear idea of what Canada is and what progress she has made.

Professor Clement's "Handbook of Modern Japan" (A. C. McClurg & Co.) is a keen summary of condensed information, covering all the principal features of the national life of today. It contains good maps and tables of important statistics. A useful bibliography is added at the end of every chapter. No other book will answer so many of the questions that occur daily to those interested in Japan.

Mr. Montague's "Trusts of Today" (McClure, Phillips & Co.) gives in less than two hundred pages a concrete account of the development of the trusts during the last twenty years, together with a careful study of the economic advantages, and of the evils of monopoly and organization inseparable from industrial combinations. There is a very clearly written sketch of the history of anti-trust legislation. The book is free from the technical language that ordinarily makes works on economics difficult for the general reader. It is a well-informed and dispassionate statement of the whole problem of trusts. It is largely based on the facts collected by the Industrial Commission, and makes available in a handy form the chief conclusions of the Commission's very voluminous report. It is a useful and valuable book.

Professor Gilman's "Methods of Industrial Peace" (Houghton, Mifflin & Co.) is equal in importance with the author's well-known work on "Profit Sharing." But its value lies, not so much in the theories developed, as in the clear account of the many sides of the problem. The chapters on Combinations of Employees and Employers, Collective Bargaining, Aims and Methods of Trade-Unionism, and those on Trade and State Boards of Arbitration, are the most striking.



MOTORS SUPERSEDING HORSES IN BUSINESS VEHICLES

THAT the motor has passed the stage of being a pleasure car and become an efficient business vehicle was proved on the six-days' test of wagons held in New York under the auspices of the Automobile Club of America. Seventeen machines, ranging from light delivery-wagons carrying loads of less than 1,000 pounds to the heavy trucks carrying 10,000 pounds, were tested during their regular work. A member of the club accompanied each vehicle, making notes and observations. Fifteen vehicles completed the week's work in excellent condition. Slight repairs were made on the other two.

The average delivery-wagon horse travels twenty miles a day, with few stops. The auto vehicles averaged thirty-seven miles a day, with fifty stops sometimes. The vehicles in the tests included department store delivery-wagons, express wagons, and heavy trucks. Thus, the three kinds of deliveries most in use were employed. One department store gasolene-wagon carrying 1,000 pounds started at 8 A. M., made four trips, covered forty and three-eighths miles, made fifty-seven service stops, and returned to the store at 5:55 P. M. A horse delivery-wagon starting at the same time made half the distance and stops, and did not return until 10:30 at night. A gasolene delivery-vehicle carrying 2,000 pounds started at 8:05 in the morning, traveled thirty-nine and three-quarters miles, made fifty-three service stops, and returned at 5:20 P. M. An electric delivery-wagon carrying the same freight started at 8:35 A. M., covered twenty-eight miles, made thirty-seven service stops, and returned at 5:15 P. M. The same efficiency was proved with the big trucks. Carrying a load of 3,545 pounds of fish and five passengers, a gasolene truck left on the trip at 7:38 A. M., covered thirty-three and three-eighths miles, made nineteen service stops, and returned at 5:08 P. M. In the heaviest class, a motor brewery truck carrying 9,600 pounds of beer and four men covered twenty-two miles between 7:59 A. M. and 3:08 P. M. With all the wagons in the tests, the loads remained practically the same weight all day, by reason of frequent returns to the various establishments for new deliveries.

In the congested down-town districts, the auto vehicles moved easily among the crowded traffic, and only required half as much street space in loading and unloading. The drivers returned three and four hours before the men who had horse-drawn wagons.

What did these tests prove? Simply this—that the motor business vehicle can make more and quicker deliveries than horse-drawn vehicles; that they can cover a greater distance; that they are superior to horses on long runs; that they are easier to handle on crowded streets.

But business is not the only field of motor-car utility. In New York and elsewhere, fire chiefs go to fires in automobiles. They find that they can cover more ground and in less time than with horse-drawn vehicles. Inspectors of streets also are using the automobile on their tours of inspection. They find they can do more work than with horses. The tendency in business and in certain departments of public service is to supersede the horse by motor, whenever it is practicable.

ELECTRIC RAILWAYS HELPING THE FARMER MOVE HIS CROPS

LESS than ten years ago, Iowa farmers hauled their crops in wagons, and drove their live-stock over rough roads to railway stations, often eight or ten miles from their farms. Today, trolley freight and stock cars stop almost at barn-doors, and hurry the freight on to railways or to the markets. In Iowa, now, there are more than 1,000 miles of trolley lines connecting small towns and crossing large farms. New lines are being built, and what is happening in Iowa is happening in Indiana, Ohio, and elsewhere.

The development of electric traction power

has not reached the point where it is profitable to operate large systems. In Iowa, there are many small lines, started originally to connect pleasure parks in the country with the cities. The lines spread to productive agricultural districts. The trolley was within walking-distance from the farmer's house. When freight rates were advanced the farmers turned to the electric roads as an outlet to other railroads. The carrying rates on electric lines were less than the steam railroads. The electric traction lines began to extend their roads. One result is that a new trolley road from Iowa City to Cedar Rapids has been built to carry heavy stock and grain cars.

Roads like this benefit the whole farming community. The price of contiguous land is advanced, new fences and barns are built, and new country towns are started all along the line. Every point on the electric line can be a station because of the ease with which electric cars are stopped.

HOW A BUG BECAME NECESSARY TO THE CREATION OF AN INDUSTRY

MR. GEORGE C. ROEDING, whose home is in the San Joaquin Valley of California, grows figs. For many years he produced the common fig of American commerce, the White Adriatic, but he became convinced that it could not compete successfully with the larger and sweeter Smyrna fig. To compete with the foreign crop, he began, in 1888, a series of experiments in growing the Smyrna fig in Fresno County, which have resulted in the creation of an entirely new industry for the United States.

In 1880, a San Francisco newspaper imported and distributed to its subscribers a large consignment of Smyrna fig-tree cuttings. Many of these cuttings were planted and became fruit-bearing. But here a puzzling setback discouraged the growers. While the trees bore fruit of some promise, not one fig on one tree grew to full size or ripened. Instead, they shrivelled up and dropped from the trees at about half their growth.

Government fruit experts were appealed to, and this curious fact was found: the Smyrna fig is really only half a fig. That is, it is the female of a complete fig, for whose development it is necessary that it be fertilized with the pollen of the male, or Capri fig. This process of fertilization requires a third and most interesting element—a little bug, known to science as the *Blastophaga grossorum*, and to the lay world as the fig wasp. This microscopic insect is born in the Capri fig, and at the proper stage of its development issues from its home through the little hole in the bottom of the fig, passing, in its exit, through the blossom, where its body is covered with pollen. Led by instinct, the *Blastophaga* flies to the Smyrna fig and enters through the similar hole, where the Smyrna blossom catches the pollen from his body and is fertilized. From this stage, the growth of the Smyrna fig to ripe maturity is only a matter of sun and days.

Mr. Roeding had grown Capri and Smyrna trees, but had no fig wasps. Learning of the need of fertilization to produce the Smyrna fig, he made some experiments in artificial fertilization, using a wooden toothpick to introduce the Capri pollen into the Smyrna fruit. This experiment was so successful that he was convinced that, if he could use the means provided by nature for this purpose, he could make his orchard a commercial success. For several years from this time he annually received, through agents in Asia Minor, consignments of Capri figs containing the fig wasps; but, in every case, the insects had died in transit.

At last, however, in 1899, after eleven years of work, it was discovered that *Blastophagæ* in some of Mr. Roeding's figs were alive and were rapidly propagating their species. The following year, satisfied that he was near success, Mr. Roeding made the journey of 8,000 miles to Asia Minor, and in the orchards of Smyrna spent several months studying the methods employed by the original producers of the fruit.

He returned to California, where his crop was in fine condition. Since 1901, the Smyrna figs have been successfully grown in central California, and the industry is growing as fast as the trees can be planted. By the work of a patient man and a patient bug a new and profitable industry has been created in this country.

HOW JOHN ROSENE OF SEATTLE PERSUADED THE CZAR

THE story of John Rosene, of Seattle, who is now teaching Russia to develop Siberia, had a novel beginning.

"When a man takes $80 and comes back to you after three months' work and shows you $1,000," said he, "you get interested." This man of whom he spoke was a miner, who took $80 of his savings from work on the beaches at Nome, made a trip across to Siberia, and returned with $1,000 gained in trade. His tale turned Mr. Rosene's attention to the possibilities in exploiting Siberia.

In 1901, therefore, Mr. Rosene, who was born in Denmark, educated in Illinois, trained in the lumber and manufacturing

business of that State, and had been pushed by hard times and an adventurous spirit to venture into the coasting trade, went to St. Petersburg. He learned that a concession had been granted some years before for mining in Siberia. A company had been formed, financed by Russian and English capital. The London interests put their stocks on the market and speculated, thus bringing the frown of the Czar down on the entire concession. The Czar forthwith revoked the whole concession, shutting off the Russian stockholders who wished to do actual development work. Rosene was assured by the Russian representatives of this suspended company that no concession was possible in Siberia till that English half-interest in the old concession could be bought and brought home.

"And if I get that half?" asked Rosene.

"The concession will, undoubtedly, be revived and its provisions extended."

Rosene went to London. The English shares were worthless. He rallied the holders, bought a controlling interest in the English holdings, made a contract with the remaining English holders to accept new stock in place of the old, bundled the papers to the St. Petersburg men, and returned to the United States to study the Pacific coast phase of a possible trade with Siberia.

In Seattle, he was known as the head of the Northwestern Commercial Company, which had, from a small beginning, grown important in trade with Nome. He gathered his associates into a room and told what he had done. In a few weeks came word from St. Petersburg that the concession had been revised and revived by the hand of the Czar, who now desired the presence of the American to complete the contract.

Rosene at once returned to St. Petersburg with the Commercial Company backing him. This time there was no red tape. Mr. Rosene telegraphed ahead, naming the train on which he would arrive. His St. Petersburg friends informed the authorities, and the authorities sent a troop of cavalry to escort the American to the palace of the Czar's uncle, the Grand Duke Michael. There the American told his plans. He would operate from Seattle across the Pacific to Siberia. He desired the right to take American miners to Siberia, for they knew how to develop the resources of the country. The new concession gave the right to mine, to use timber, to fish, to take furs.

Russia was willing to have a few Americans teach her how do in Siberia what the United States had done in Alaska. The new company was called the Northeastern Siberian Company, Limited. The American was given his way in everything. The Governor of the far Siberian province was even called to the capital to meet the new operator and personally sign his passports. The American had proved himself.

John Rosene's enterprises in Seattle today are capitalized at $5,000,000. Nothing is for sale. Within a month the Northwestern Commercial Company has purchased the three Pacific liners recently operated from Puget Sound to the Orient by the Northern Pacific Railway. Gossips say that these ships will operate under the Northeastern Siberian Company's flag, and become Russian transports. Who can tell? The ramifications of American enterprise run to unexpected places.

AN IMMENSE ENGINEERING PROBLEM

IN boring the new Simplon tunnel, which when completed will be twelve miles long—the longest in the world—a new experiment is being tried. The engineers, instead of boring one tunnel, are boring two, in order to prevent such accidents as attended the building of the St. Gothard tunnel. In building this tunnel the workmen found it growing hotter and hotter as they proceeded, until at last both men and mules were scarcely able to bear the heat and the gases from blasting. Many of them died. Now, the summit of the Simplon tunnel is 705 meters above sea-level—that is to say, 450 meters lower than the summit of the St. Gothard tunnel. There are more mountains above it. The tunnel is longer. The temperature, therefore, will be much higher than it was in the St. Gothard tunnel before the workmen from both ends can meet, as they will within the fractional part of an inch.

But the obstacle in question was happily surmounted by an able and skilful engineer, since dead, who caused an air-channel to be cut, separated from the main tunnel by a wall about 17 meters in thickness. About every 200 meters these two tunnels open into each other by a cross-channel, which can be hermetically closed. At the entrance the ventilation operators drive the air into the tunnel and out again through the air-channel by the last cross-channel at the inner end, thus taking along the injurious gases. Not content with this triumph, the engineers are experimenting with liquid air as a means of blasting, instead of dynamite. A liquid-air blast, of course, would generate no pernicious gases.

The cost of the railroad through the tunnel will be about $1,000,000 a mile. The Jura-Simplon Railroad Company, which owns the new road, will pay $1,000 for each day gained before November 28, 1906. The contractors

will pay a fine of the same amount for each day beyond the time granted by the treaty of 1898 between Italy and Switzerland.

The construction of such a tunnel necessitated a great many buildings near its mouth. The workmen form a little army. The boring-machines had to be housed, and repair-shops for the tools and instruments and storehouses for the building-material, such as cement, sand, and blasting-powder, coal-sheds, car-barns, all these had to be built. And as the working-place is far from any village, dwelling houses, store-houses, bath-houses, and hospitals for the comfort and shelter of the workmen were put up and provided with water and light. Special car-tracks were laid for the quick and easy transportation of the thousands of employees, their building-material and other requisites.

SOME WOMEN AT WORK

SEVERAL years ago a New York woman born and bred to the enjoyment of luxury, was confronted with the loss of her fortune coincident with the death of her husband. She is closely related by marriage to one of the foremost railway magnates of the United States, and she had no lack of friends. But she determined to earn her own living. After anxious thought, she evolved an idea which has become worth from $10,000 to $15,000 annually, and which will increase in value as long as she wishes to use it.

Among her friends and acquaintances were many wealthy and fashionable people. First visiting a coal dealer of solid repute, who had few customers in the region of Fifth Avenue, and persuading him to promise her a commission on all orders obtained by her, she began to call on people she knew, explaining her errand thus:

"You use a good many tons of coal in a year, and it is not a vital matter where it comes from, so long as the price is fair and the coal the best in the market. Now, I'm in the coal business, and here is the address of my selling agent in New York. All I ask of you in a business way is that you order your coal from this dealer hereafter, and enclose one of my cards when you write him."

Her society friends were pleased to adopt this suggestion, for in her brave "business manner," there was no trace of asking a burdensome favor. It was a fair commercial proposal. The story went the social and business rounds, and she was soon receiving commissions from orders which she had not solicited. She made a living in it for the family during the first year, and the business grew with astonishing rapidity thereafter. In addition to supplying coal for city residences, she convinced her customers that it would be advisable to have their country places stocked for the year by carload lots, shipped through her chosen dealer. There were capitalists on her list of society friends who owned or were agents for immense downtown office buildings and apartment-houses, and they began to order coal for this use through her dealer. The commissions on such contracts were often in three figures.

She discovered after a time that it would be more profitable to take another dealer into the business, in order to get better commission rates by competition for her patronage, and then she was able to make the two dealers bid against each other. Last year this handsome business began to assume the aspect of a private "trust," when other and outside dealers were eager to get a share of the trade, and to offer her not only commissions but also bonuses to gain admittance into her exclusive and highly profitable coal operation. She has no clerks. Her office is in her own handsome library. She carries on her profitable business quite alone.

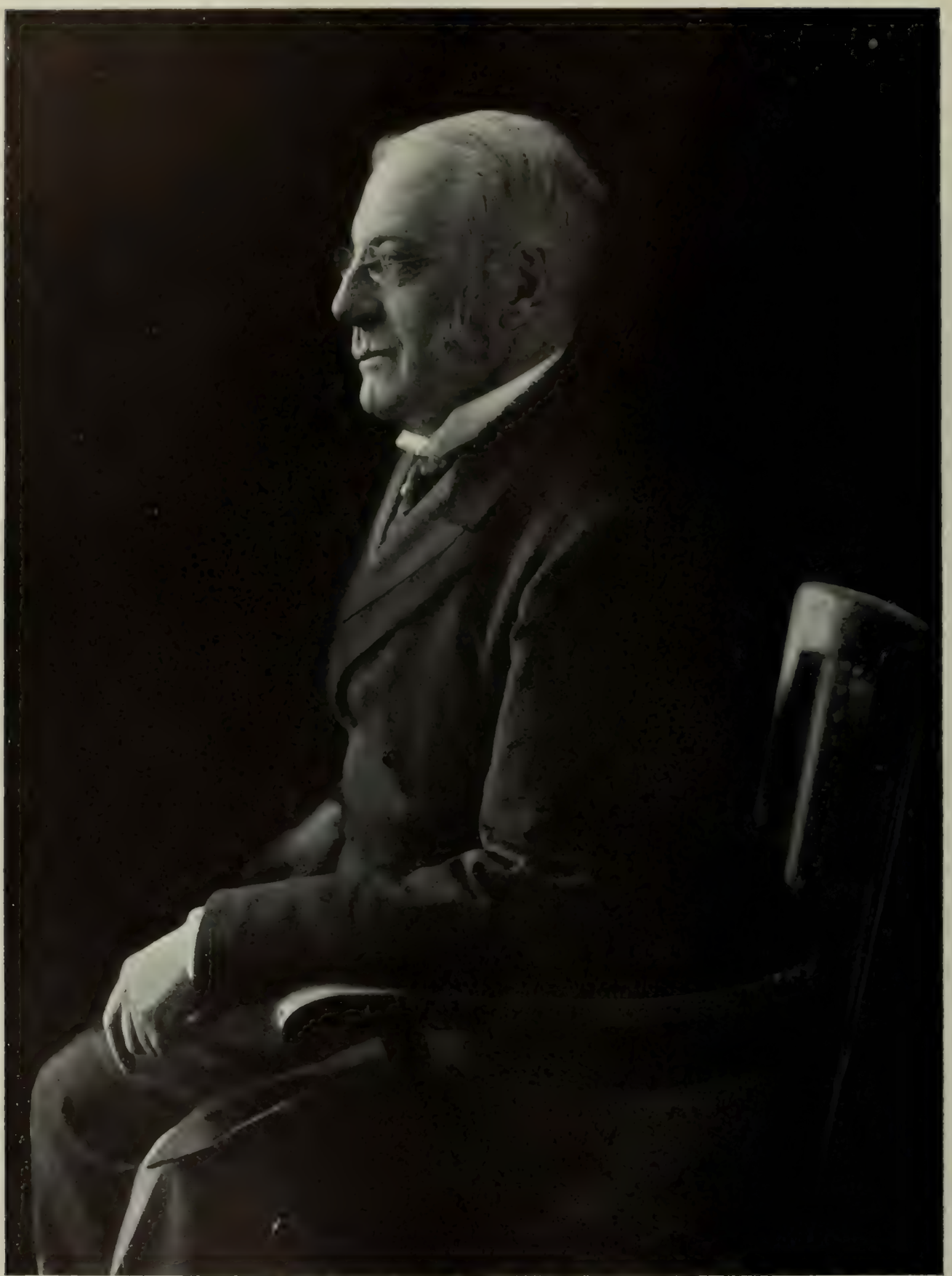
In 1900, according to census figures, there were in the United States: "Hunters, trappers, guides and scouts: male 10,020; female 1,320."

The same census reported: "Authors and scientists: male 3,442; female 2,616."

Hunters, trappers and scouts outnumber "literary persons" and scientific specialists in the ratio of two to one, and the fact that in these singularly strenuous occupations no less than 1,320 "females" are enrolled suggests further investigation of the place held by woman among the more arduous callings which have been considered as monopolized by men. The census summary reveals some surprising statistics on this point, as follows:

Stock raisers and drovers	1,947	Railway baggagemen	10
Lumbermen	100	Brakemen	31
Wood-choppers	113	Conductors	7
Civil engineers and surveyors	84	Switchmen and yardmen	26
Longshoremen	18	Ship carpenters	6
Stevedores	21	Masons	167
Watchmen, policemen	879	Plumbers and fitters	126
Boatmen and sailors	154	Fishermen and oystermen	1,805
Pilots	5	Miners and quarrymen	1,370
Carriage and hack drivers	43	Blacksmiths	196

Women as workers are, very evidently, versatile and ubiquitous.



PRESIDENT CHARLES W. ELIOT, OF HARVARD UNIVERSITY

(See page 5016)

THE WORLD'S WORK

JULY, 1904

VOLUME VIII NUMBER 3

The March of Events

ON the basis of a well-diffused well-being (for the masses in the United States are far more comfortable than they were ever before), our people are making remarkable social and intellectual and moral progress. It is more difficult to gather together the evidences of it than it is to set down the achievements that show material advancement. But, in this number of this magazine, many groups of facts are presented that are full of cheerful significance. The most significant of all is, that any trained student of the people may turn where he will—outside the slums and the little political rings—and he will find wholesome folk everywhere in the United States, living frankly, working cheerfully, full of ambition, lifting the level of life higher. Every generation is, in many ways, in advance of the preceding generation. A distinct uplift is visible even decade by decade.

And there is no other study so cheerful or so wholesome as the study of the people in our democracy. It is for this reason that it seemed well to make this number of THE WORLD'S WORK, not an "educational" number in a school sense—which is usual at this time of year—but a number in which the building up of the people is reported in a larger way. More gratifying or inspiring groups of facts were perhaps never put between the covers of any periodical. But no magazine can, of course, do more than to touch the fringes of so great a subject.

THE TRUE MEANING OF "YELLOW" LITERATURE

FOR very nearly the whole circle of the activities of the people is normal and wholesome. The part that is abnormal, morbid, or retrogressive is become so small that it can almost all be reported in the journals that exploit crime. There are so few burglars and murderers and scandal-makers that almost every one of them can have a column in a yellow newspaper, or even an article in a magazine. There is room for the portrait of almost every divorced woman, and for every municipal "boodler."

For the true significance of the criminal literature of our time is that crime and degradation are becoming uncommon enough to be reported and exploited. In communities where social misdeeds are very common, they are not "news," and there was a time, not long ago, when the morbid and abnormal part of society was too large to explore or to exploit.

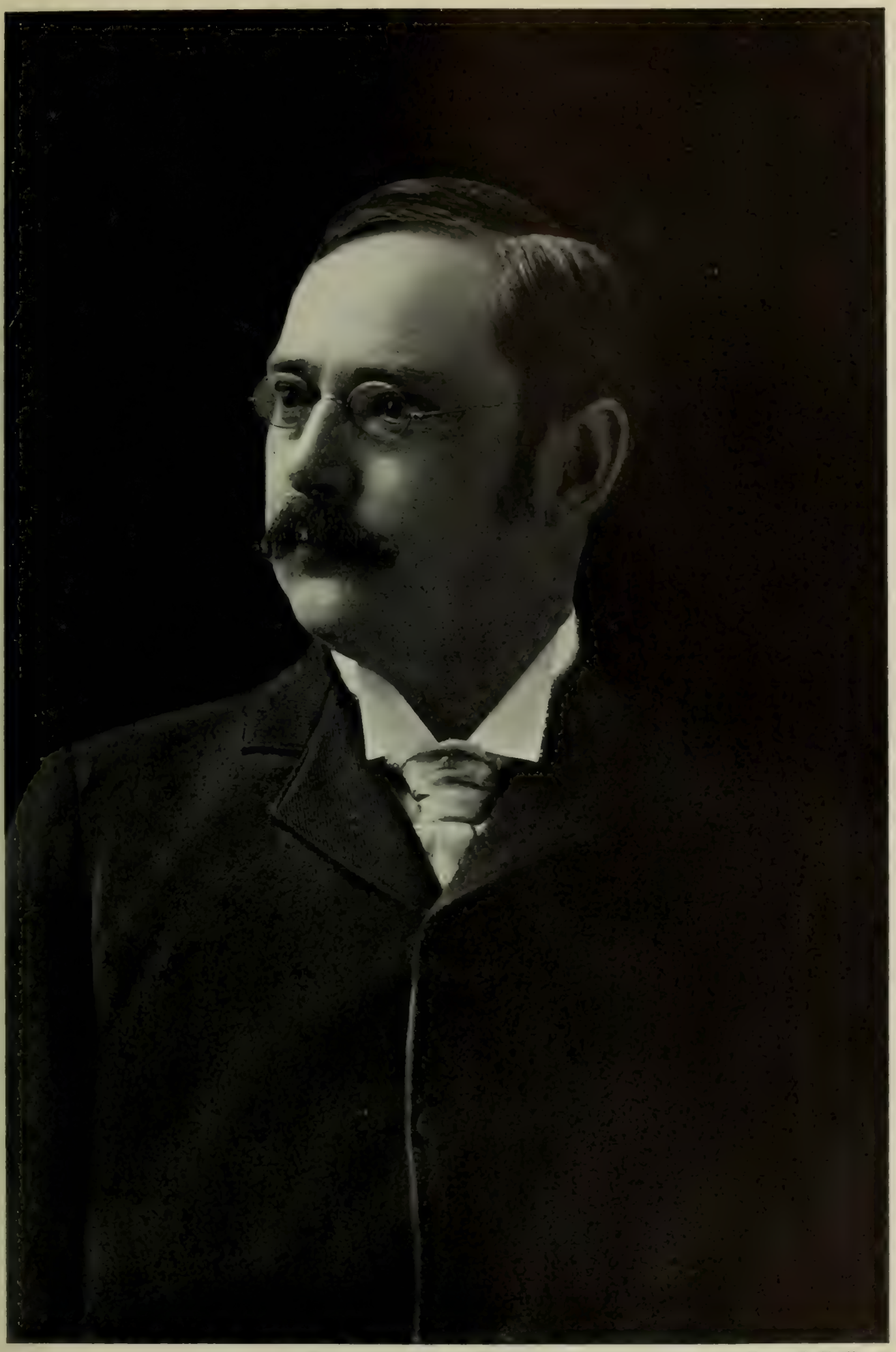
It is a very significant fact that our morbid and criminal literature can "cover" its subject. What, for instance, do the facts of municipal thievery signify in comparison with the activity reported in this magazine by Mr. McFarland, who shows that we are developing a civic consciousness and an ambition

Photographed by Davis & Sanford

PROFESSOR EDWARD MACDOWELL

AN EMINENT AMERICAN MUSICAL COMPOSER

(See page 4993)



Photographed by Varney

MR. JOHN FINDLAY WALLACE

CHIEF ENGINEER IN CHARGE OF THE CONSTRUCTION OF THE PANAMA CANAL

(*See "The March of Events"*)

for civic beauty that are fast transforming ugliness into a means of culture? Again, in one of the most corrupt cities in the Union, the man who simply did his prosecuting duty bravely—Mr. Folk, of St. Louis—is made the governor of the State; and, in the same city, a United States senator was recently convicted of selling the influence of his position. The true significance of these events (and of thousands like them) is not that there are not corrupt men—for there always have been corrupt men, and there always will be—but that society about them is not corrupted by them.

If any man who reads morbid literature and misinterprets its significance wishes to regain his moral health and cheerfulness, let him leave the childless neighborhoods of great cities, and see the daily life in any hundred or two of the millions of wholesome homes in the small towns, or in the country, in any part of the United States. He will become proud of his country, and fond of his countrymen.

A PROPER MEASURE OF A RISING PEOPLE

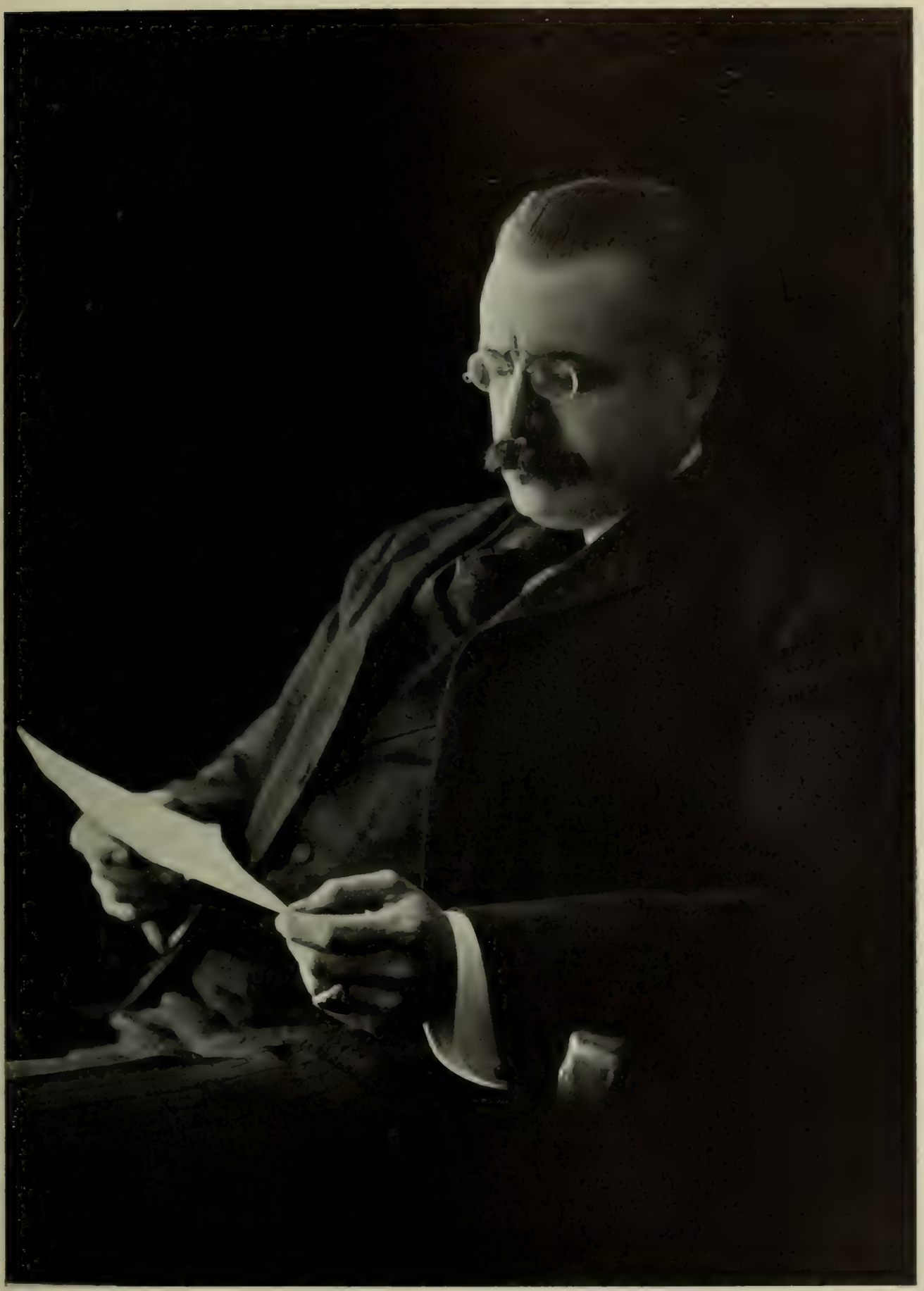
THE larger truth is, that a rapidly increasing number of people are doing positive and constructive work. An eagerness to learn, a healthful ambition to make life better living—this is the normal American state of mind. The people have the temperament of youth. One good example has an endless chain of imitators. One county consolidates its public schools, and makes two good ones where five bad were before. And this county and another does the same thing, till rural school consolidation becomes a national movement. One man or woman in one town will organize a choral society. Another town follows the example. Presently there are more choral societies in the land than the most hopeful a few years ago thought there ever would be; and, while the critical are smiling at the crude work of some of them, others are laying the foundations of sound musical education and appreciation. Reformers at a distance are bemoaning the fate of our neglected population in the Appalachian Mountains, and wondering what will become of them. Meantime, a woman of heroic earnestness in northern Georgia shows the way to solve the problem; and hundreds of others will follow Miss Berry's example, and many who cannot give themselves will give financial and moral support. A little while ago, we had one or two sculptors in the United States. Already, the history of American sculpture records remarkable achievement—some of it by men whose renown will become a part of our permanent history. We read of the dark illiteracy of the South. Forthwith, Dr. Bassett explains its easy and swift obliteration in one southern industrial community. There is complaint (well-founded, too) that our educational progress is hindered because there are not enough well-trained teachers—that teaching has not yet been elevated to a profession. At the same time, it is as the head of an institution of learning that Mr. Eliot has won the distinction of being the foremost private citizen of the Republic.

Facts like these—every sentence summarizing a prodigious advance that makes for our upbuilding—might be set down, page after page; for the education of the people goes on at such a rate, and in such a variety of ways, that this remarkable change has come in our thought. When men spoke of "education," a few years ago, they meant only the formal drill of the young in schoolrooms and laboratories; but they now mean all the great social agencies that build up community life. The school is only one of many such agencies at work in our democracy.

THE UPLIFT OF A WHOLE NATION

THE most important matter in the world to us—in fact, the most important matter to the whole world, for it involves the future of democracy—is whether the mass of the American people are keeping pace in the development of character and thought with their progress in material development.

Now, the study of the people is a difficult study. It cannot be carried on in libraries. It cannot be done with newspapers as data, for the newspapers must necessarily report the unusual, the abnormal, the accidental. The only way to make an accurate measure of the people's progress is to study them in their daily life—to study them in different parts of the country, to find out their normal activities and moods, to see them at work on their farms, in their shops, in their schools, to know their family life, to trace the history of many communities, and of many families, decade by decade, generation by generation. It has been the aim of this magazine to do this task, always reporting the normal and constructive activities of American life.



Photographed by Waldon Fawcett

HON. GEORGE B. CORTELYOU

WHO IS LIKELY TO BE THE CHAIRMAN OF THE REPUBLICAN NATIONAL COMMITTEE TO MANAGE THE REPUBLICAN NATIONAL CAMPAIGN

(*See "The March of Events"*)

From the painting by Mr. John S. Sargent

MISS M. CAREY THOMAS

PRESIDENT OF BRYN MAWR COLLEGE

(*See page 5033*)

The contents of the volumes of THE WORLD'S WORK, since its publication was begun, give conclusive evidence of the soundness of American character, and of the healthful ambition of the people. Their work is constantly undergoing better organization. They are becoming more accurate and more skilful. Their workshops are schools, and their schools are workshops. In educational method, we are having nothing less than a revolution. Country life is becoming more attractive—city life, too. There are a thousand towns in the United States where the physical and intellectual advantages that the young now have are such as their parents had no conception of. Parks, libraries, good roads, an improved social life, a higher level of cultivation tell the story.

In the highest activities of men—in the practice of the arts, in the applications of science, and in the broadest culture, our material prosperity has given us a new impulse. The cultivated man in an industrial era differs from the cultivated man of an earlier time in his breadth, not in his thoroughness. There is every reason to believe that as soon as we have had time to assimilate the many new materials of culture that the new era of industry has brought, we shall produce a type of cultivated man who will have as great an advantage over his predecessors in his balance of judgment as he has in the range of his information. There is no more reason to suppose that the American of tomorrow will be less cultivated than the American of yesterday was than there is to suppose that he will be made physically softer by prosperity. The facts all point the other way—the facts of normal, every-day, constructive work.

THE PROGRESS OF THE WAR

THE Japanese have been steadily pushing their lines down the Liaotung peninsula, and it seems certain, when this is written, that they will soon be in possession of Port Arthur. By the storming of Nanshan Hill, which really is a small mountain, for it is more than two thousand feet high, and at the summit is very steep, the Japanese overcame the most serious obstacle preliminary to the actual taking of Port Arthur. General Stoessel, the Russian commandant, had evidently regarded this hill, which stretches across the Liaotung peninsula at its narrowest point, near Kinchau Neck, which is less than two miles wide, as the most important of his defenses. By placing more than seventy cannon and rapid-fire guns at its summit, and erecting large permanent fortifications, he had sought to make it impregnable. But the Japanese troops, by one of the most magnificent series of charges in the history of warfare, in the course of which, time after time, the whole charging line was shot down by the Russians, finally swarmed over the crest of the hill, and drove the twenty thousand Russians back from their fortifications so suddenly and completely that the Russians lost all of their cannon, among which were a number of large guns from the battle-ships shut up in Port Arthur Harbor. The Japanese lost more than 3,500 men in this series of charges.

The Japanese navy, however, although it has not come into conflict with the Russian ships, has suffered its first casualties. The Russian *Petropavlovsk* was sunk by one of the torpedoes which Admiral Togo placed about the entrance to Port Arthur harbor. But these torpedoes went adrift and destroyed two Japanese vessels, the battle-ship *Hatsuse* and the cruiser *Miyako*. This was a serious blow to Japan, and seemed even likely for a while to embroil her with the other powers whose vessels were likewise endangered by the loose torpedoes which are said to be floating about in the Yellow Sea. And perhaps the last has not yet been heard of this, for it is the first time in history that a blockading squadron has mined the entrance to a blockaded harbor. It seems to be the consensus of opinion among the authorities on international law that such mining should not be allowed because it endangers the vessels of neutral nations. This incident has also given rise to a discussion about the propriety of changing the old rule that the open sea for three miles from shore belongs to the nation which borders it.

The same day that the *Hatsuse* was blown up with a loss of four hundred and fifty of her men, the cruiser *Kasuga*, in the fog, rammed the cruiser *Yoshino*, which sank immediately, drowning two hundred of her crew.

Both sides seem determined to fight their quarrel without interference, and have repeatedly said that all offers of mediation would be useless. Mr. Hay, however, after consultation with both Count Cassini and Mr. Takahira, sent notes to the two governments, declaring that, without the slightest intention of intervening, or even a desire to intervene,

the United States would be glad to offer its services as an intermediary whenever it should be intimated that such services would be welcome. Thus he has offended neither Russia nor Japan, and, at the same time, has insured, as far as he was able, that, when the settlement does come, this country shall have its part in the negotiations.

JAPAN'S RISING INFLUENCE WON BY WAR

EVEN yet, in spite of the degree of civilization that we have reached, there is no way for a nation, especially one of the smaller nations, to win the respect and fear of the others except by fighting. The world has not emerged from the warlike period. The continued success of Japan is provoking comment in every capital such as the triumphs of peace could not have provoked for many generations. Whatever be the final result of the war, she will henceforth command a degree of respect that she could have won in no other way so quickly. We had a similar experience after our little war with Spain. On the contrary, even if Russia should be victorious, she will not be regarded as so formidable or important a power as she has hitherto been regarded. Moralize as we may, we are not yet passed out of the fighting era of civilization.

It is now even more apparent than it was before the war that the Japanese statesmen are aware of this fact. They are fighting Russia, and they are fighting because of what they regard as a sufficient and definite provocation. But they are fighting also to win the respect of other powers as well. It was not many years ago when the general feeling in all the foreign offices of the great governments was a feeling of amiable tolerance of Japan. There was no thought that she would ever gain control of any part of the mainland. There was no feeling that she would ever become one of the primary powers in Asia. Nor was there any disposition to permit her to become politically great.

This feeling is rapidly changing, as the Japanese show skill and daring and high military and naval qualities. The discussion all over Europe now is of the "yellow peril"—what may we expect if Japan wins and feels the confidence that victory over Russia will give her? And the western nations are beginning to realize that, after all, they do not really know the Japanese character.

But among English-speaking peoples at least, and in countries where a liberal policy of commerce is preferred, there is a disposition to trust the future of any part of Asia that Japan may gain to her rather than to Russia. There is a directness and a frankness in the Japanese methods in war that give hint at least of fair dealing and liberality in peace.

RUSSIA AND JAPAN AS BORROWERS

BOTH Russia and Japan have been forced to issue bonds to raise money to carry on the war. Russia issued a loan of 300,000,000 roubles, or $160,000,000, in Paris, at a price of 95½, which was raised to 99 when the bankers who had taken the bonds offered them to the public. These bonds will be redeemable on May 14, 1909, at the issue price, and must be presented for redemption in Paris. On May 12th, Russia had at her disposal more than $150,000,000, and could draw on the State Bank for $250,000,000 more; but, as this last sum has always been regarded as a reserve that must not be touched except under the greatest necessity, she has thought it best to float a loan.

Japan has issued in London and New York, at 93½, a loan of $50,000,000, in $500 and $1000 notes, bearing 6 per cent. interest and redeemable in April of 1921. The bonds have been guaranteed by a pledge of the Imperial customs. This form of guarantee has been rather humiliating to the Japanese, as it is a condition that has hitherto been imposed by the bankers of the world only on minor South American and Asiatic states; but Japan had to take what terms the bankers would offer.

The Russian bonds brought more than the Japanese for several reasons: First, the Japanese have not made any large issues of bonds before this, and are unknown in the world's money markets, whereas the Russians are among the heaviest borrowers, always conducting operations in the international bourses without ever having shown the least tendency to default on their interest payments. Secondly, the French people have so many Russian securities already that they must take the new ones at a good price, to sustain the values of those they have. Indeed, Russian bonds and French bonds are the most stable in the world, because they are for the most part held by the French middle classes, who hold them purely as investments, and have no desire to sell so long as their interest

payments are regularly made. They are not in the hands of the bankers to any extent, as are the English bonds, and so, because of their ready sale in financial contingencies, do not suffer in price.

In London, the Japanese loan was oversubscribed twenty-seven times, and nearly as many times in New York. Many of the applicants for bonds were women, who asked for small amounts, buying because they wished to help the Japanese.

For us, the important thing about this issue of foreign bonds in New York, at a time when the prices of our own securities are falling—if they have not, as seems likely in some cases, fallen as low as they can—is that it shows the place we have now reached in the international money markets. It is the second foreign loan that has been issued in this country, the other having been a small English loan made during the Boer War.

THE GROWING TENDENCY TOWARD ARBITRATION

IT might be considered that, in forcing Japan to war, the Czar of Russia dealt a heavy blow to the International Arbitration Court at the Hague, since it was he who suggested such a court. But progress made in arbitration during the year has been notable.

Treaties have been arranged between Great Britain and France, Italy, and Spain; between France and Italy, Spain and Holland; and between Holland and Denmark—pledging the parties for five years to submit certain kinds of cases to the Hague tribunal. France is also negotiating with some of the South American countries for such treaties; Norway has approached ten governments; and several European nations have proposed arbitration treaties to the United States. The treaty between Great Britain and France disposes of all their existing difficulties.

Very quietly a great work is going on, which receives a fresh stimulus at every war. There are 450 peace societies in the world, doing all they can to foster arbitration; and abroad, as well as here, great peace congresses are held annually. By war, rather than by efforts at peaceful adjustments, do nations gain the respect of the world—witness the position into which Japan has suddenly leaped. But the world is growing saner, less ready than ever before to resort to arms on trivial pretexts, and nothing gives clearer evidence of progress than these concrete manifestations of pacific ideals. The Hague Court has become a significant international institution.

OUR PROBLEM IN PANAMA

THE Panama Canal has been at last formally transferred to the United States Government by the representatives of the French Company in Paris. Early in May, Secretary Shaw signed a warrant for $40,000,000, which was immediately handed over to the representatives of J. P. Morgan & Company, who acted in the transaction as our government's disbursing agent. The actual payment was so managed that it did not materially affect the reserves of the New York banks, but, since then, the shipments of gold to Europe have been among the largest in our financial history. This warrant was the largest that the United States Government has ever issued; the largest sum previously paid out at one time was in 1867, when a warrant for $7,200,000 was issued to pay Russia for Alaska.

Mr. John Findley Wallace, the general manager of the Illinois Central Railroad, has been appointed chief engineer for the construction of the canal, at a salary of $25,000 a year. He will be in complete charge of all the great engineering problems to be undertaken, and on him will rest the immediate responsibility, not only for rapid and efficient work in the actual construction of the canal, for the construction of the new harbors at Colon and Panama, and for the control of the Chagres River, but also for the sanitary condition of the isthmus, especially with regard to drainage and the supply of pure water.

The government of the canal strip and the building of the canal have been entrusted by the President to the War Department. The Commission will be under the personal supervision of Secretary Taft, who, although the Secretary of War, now finds that the greater part of his responsibility is as a secretary of the colonies, for the Insular Bureau, which has control of the Philippines and Porto Rico, and now the Canal Commission, are important bureaus in his complicated department. General Davis, of the Commission, has been appointed governor of the canal strip and has been given the power of pardon. The Commission has been instructed to make

the laws which shall govern the zone. The only limit to its powers, aside from certain rules about the admission of undesirable persons, is that it must make no laws which are not in accord with the Bill of Rights. The members of the Commission, it is understood, will be elected ex-officio directors of the Panama Railroad Company.

It is not expected that much actual work can begin until the surveys have been completed, which, it is thought, will take two years. The most immediate work which will be taken up is that of sanitation. This will have to be thoroughly and vigorously carried out, for we cannot afford to let our régime be darkened by the wholesale deaths that were the rule during the period of active work under the French company. When this has been attended to, we shall be confronted with our first real problem—the labor problem. The old company tried Chinese coolies, more than half of whom died before they had been on the isthmus two weeks. Then a ship-load of Welshmen were imported, but they were almost as ghastly a failure as the Chinese had been, and after a few months the remaining few had to be shipped to this country to save their lives. The only laborers—indeed, the only people capable of hard labor in the vicinity of the canal—are the Jamaican negroes. These eventually made up the army of workmen that the French employed. But, even among them, the death rate was very rapid. Many soon lost interest in their work and wandered away into the neighboring country, where they became menaces to peace and order, and, in most cases, public charges. So few of them returned, and the majority of that few were so unfitted for further usefulness, that the Jamaican Government, it is believed, intends to prevent, as far as it is able, any new emigration to the mainland. So it seems as if the nearest source of labor that can be economically and humanely used is in our southern States. Even there, however, there is a scarcity of really capable men. This labor problem will not only be the hardest to solve, but it is the one problem that places upon the United States a distinctly moral responsibility.

MR. HAY'S OPPORTUNITY IN MOROCCO

MR. HAY, with his customary skill, has been able to take a diplomatic advantage of the capture and holding for ransom of Mr. Ion Perdicaris, an American, by a Moorish bandit named Raisouli. The combined European and South Atlantic fleets, which were going to make a European tour, have been ordered to Tangier to coerce the government of the Sultan of Morocco into arranging with Raisouli for Mr. Perdicaris's release, but their presence did not affect Raisouli. Indeed, the situation began to look dangerous for Mr. Perdicaris, as Raisouli would not have hesitated to kill him if he deemed such a murder necessary to his safety. Morocco is so far away that it would be expensive, if not impossible, for us to inflict any proper punishment on its government. England and France had just completed their agreement by which England recognized the paramount interests of France in Morocco, in return for a similar recognition of her own position in Egypt. There had been some growling about this in Germany and in Spain, for both of these countries, though their commercial interests in Morocco were small, conceive that Morocco is necessary to them in a military sense. This gave Mr. Hay his chance, not only to do Mr. Perdicaris a good turn, but also informally to express our acknowledgment of the Anglo-French agreement without, in the least, giving offense to Germany. Moreover, his action gave France a clean-cut reason for interfering with an armed force in Morocco. He turned the negotiations for Mr. Perdicaris's release over to the French Government because of its great interest in Moroccan affairs, as he said, and Morocco will listen to France.

At the beginning of the last century, it was an American fleet that exterminated the Barbary Coast pirates and made the Mediterranean a sea where neutral vessels could go in safety. Now, at the beginning of this century, it looks as if, by sending our fleet and by a diplomatic combination with France, we are to be the cause of the extermination of the land robbers of Morocco, and perhaps even of the establishment of a civilized rule under European supervision in this last of the old African States on the Mediterranean.

A LABOR LEADER AS PRIME MINISTER

A POLITICAL novelty is presented in Australia in a new Prime Minister who is head of the labor party.

This Mr. Watson was the leader of the labor representatives and the socialists in the lower

house. Though in a minority, his party held the balance of power between the other two parties, and so successfully blocked legislation that he was finally called on to form a ministry.

Mr. Watson stands for advanced labor union ideas, and has laid out for himself a programme which, if he be not too soon defeated, will put industrial Australia wholly into the hands of the unions. Already he has passed a bill which creates a tribunal with power to fix wages, hours, and customs in all trades, and to make minute rules about the management of whole industries, without having had any qualified representatives of those businesses before it. Moreover, it can order an employer to hire union workmen, with or in preference to non-union men.

For a very long time Australia has been experimenting in special labor legislation. Now it has reached a position where the rules and regulations imposed on the employing and small independent classes are so stringent that capitalists, both large and small, are leaving the country. There is now so large an emigration of these upper and middle classes that the population is actually decreasing. The colonial and municipal governments have, in consequence, been forced to undertake tremendous public works, which in many cases have not been needed, to give employment to laborers. In New South Wales, this movement has been carried so far that all the railroads, street-railroads, and telegraphic lines are conducted by the State, and there are also State clothing shops. This State is now thinking about establishing its own steel and iron works and locomotive shops.

In order to carry out these public works, such large amounts have had to be borrowed that now Australia is approaching the end of its borrowing capacity, and is having difficulty in making fresh loans. This exhaustion of credit, coming, as it does, with the partial extinction of the local capitalistic classes, will undoubtedly bring hard times. This situation will have to be met by Mr. Watson, whose own constituents will be the heaviest sufferers. It will be interesting to observe what he does, for here is an instance of a labor party's meeting the consequences of the logical working out of its own programme. The outcome of his experiment will make a valuable study for economists.

STANLEY AS A CONSTRUCTIVE EXPLORER

IF romance is wanted in these prosaic days, we have it in the brilliant career of the greatest of African explorers, the late Sir H. M. Stanley. Beginning his life back in the early forties as John Rowlands, a poor ward at St. Asaph's Union Workhouse, Wales, he died at his London residence as Sir Henry Morton Stanley, K. C. B., D. C. L., LL. D., and M. P., famous in two worlds. For practical benefits to civilization, he stands in the forefront of modern explorers. While he left much to be done, it was of the nature of detail to fill into the great outlines that he sketched on the map of Africa. His was a conquest of peace, for humanity and science, the impulse for which, it may be said, he gained in the United States.

Stanley's great work began with his departure from Bagamoyo, in February, 1871, in search of Dr. Livingstone. This expedition fired him with the ambition to explore Africa. When he reached England, in July, 1872, he found himself famous, though some were inclined at first to cast discredit on what seemed like too brilliant a success for an untried man.

Not long after, Mr. James Gordon Bennett, of the New York *Herald*, who had sent him after Livingstone, joined the proprietor of the London *Daily Telegraph* in equipping him for his second expedition.

By the autumn of 1874 he was back at Zanzibar, ready to start inland. His objective point was Victoria Nyanza, which he reached in February, 1875, and which he found, after careful survey, to be a great lake of some 22,000 square miles in extent, instead of a series of lagoons, as was supposed by both Burton and Livingstone. To the west, he explored Lake Albert, and discovered that it had no connection with Lake Tanganyika, the true length of which he ascertained. It was at this time that he met the powerful and friendly King of Uganda, M'tesa, the number of whose warriors Stanley estimated at more than a quarter of a million.

Pressing westward, he reached the great north-flowing Lualaba, discovered by Livingstone and by him taken to be the upper source of the Nile. Cameron had correctly surmised that it was the Congo, but thought its exploration impracticable. Stanley determined to descend the stream, come what might. Leaving Nyangwe on November 5, 1876, he pushed down the stream through a thousand dangers

and hardships from disease, wild beasts and savage men, and after nine months reached Boma, near the mouth of the Congo, August 9th of the following year. He had left Zanzibar 999 days before, had traveled over three thousand miles, had explored and surveyed three lakes, discovered a fourth, determined the principal source of the Nile, had traversed, for the first time, the second mightiest river on the globe, and opened the heart of Africa to the world. "Through the Dark Continent" gives the graphic account of the undertaking.

The immense importance and possibilities of Central Africa were at once seen, and, as a direct result, the Brussels African International Association, with King Leopold II. as its patron, pressed Stanley into its service to develop the region he had traversed. From 1879 to 1884, he spent along the Congo, and established trading-posts from its mouth to Stanley Station, a distance of nearly 1,400 miles. Out of this work grew the Congo Free State, formally founded by the Berlin Conference (1884–5) and placed under international control, with Leopold as nominal sovereign. The explorer records his part in the matter in "The Congo and the Founding of Its Free State."

Stanley's fourth and last great expedition in search of Emin Pasha added much to the ethnological and geographical knowledge of Africa. Stanley offered his services without fee. The mysterious tragedy of the "rear column" left at Yambuya and the tremendously heroic struggle through the interminable, sunless forests took place on this expedition. At last, Emin was found. Nothing less than the iron soul of Stanley could have endured that three-years' struggle and carried it to completion. "In Darkest Africa" tells the story.

In 1890, after his return to London, he married Miss Dorothy Tennant. In 1895, he entered Parliament for North Lambeth; in 1899, he was made Knight Companion of the Bath.

The results of his work were these: He cleared up the great lake region in East Africa, settled the question of the Nile's sources, and opened up a vast territory along the Congo and across the whole continent, nearly as great in extent as the United States. His discoveries hastened the scramble of the European nations for a share in African soil, so that now, with the exception of the free Liberia and the sultanate of Morocco on the west and the kingdom of Abyssinia on the east, Africa is almost completely under foreign control.

France has something like 3,500,000 square miles, England, exclusive of Egypt, 2,600,000, Germany 1,000,000, the Congo Free State 900,000, Portugal 825,000, Italy 180,000, and Spain 154,000. By friendly treaty and convention, nearly all these regions and spheres of influence have been clearly delimited so that the possibility of future trouble is reduced to a minimum.

Victor Hugo said that Africa would be the continent of the twentieth century. If that be true, Henry M. Stanley did as much as any man to make it so.

THE PROMISE OF THE CAMPAIGN

THE presidential campaign gives promise of three most interesting results. First, it will subject Mr. Roosevelt's administration to searching popular examination and criticism. The criticism of the press and of party leaders is one thing, but the criticism of the public as shown in discussion, and especially at the election, is another thing. The people think in large units and make judgments on broad general principles. They care nothing for most of the petty subjects of complaint or of commendation that fill much space in the newspapers from day to day. The people consciously or unconsciously ask themselves only two or three large questions, such as these: "Is the President a representative man, representative of the best qualities of American life and character?" and "Is he an energetic and safe executive?" To these questions, the Republican masses add another: "Is the Republican party true to its professions, and are we content with it?" It is the answer to these questions that will decide the election. The hundred and one little "issues" that are formulated and repeated to weariness will never penetrate the consciousness of the voting millions.

In a similar way on the Democratic side, it is the large question of the proper mission of the party that will affect the voters of that faith. The return to conservative traditions will give new vitality to the party and new courage to the intelligent mass of its adherents. The rejuvenation of the party will be one result of this campaign. It will be a stronger opposition, in case of Republican success, which seems next to certain, than the

Republicans have had since Mr. Cleveland went out of power.

The third thing that the campaign gives promise of showing is not less interesting than its party effects. It will show that there is no longer any sound reason why business should have fear of a political campaign. The summer finds the commercial world quiet—in a conservative mood, but with no suggestion of panic. There is a deep-lying instinctive dread of political agitation in general rather than a fear of any specific bad result. While the summer will show diminished profits in many kinds of business, there is no reason to fear any permanent stagnation. When the whole people have a political campaign before them, they seem instinctively to defer strenuous endeavor till it is passed. It is a good summer for taking vacations. Every man whose affairs have been managed with some degree of wisdom has two good reasons for gratitude: that the period of great prosperity which he has enjoyed is not ended—there is only a lull; and that the quadrennial political earthquake will not shake the foundations of business.

COLLEGE MEN AND PRACTICAL AFFAIRS

THE season of college commencements when the annual crop of graduates is harvested after the usual four years of cultivation, calls to mind a noteworthy change that has taken place within a decade in the attitude of college-bred youth to the community and in the attitude of the community to college-bred youth. The mood of academic young men ten to twenty years ago was, in the main, the mood of men who, having had special opportunities, were entitled in some way to special consideration. A predominating proportion of them sought professional careers or work in soft places. There arose, therefore, in the work-a-day world, a prejudice against young men who were, in this way, to a certain extent set in a class by themselves. College education had not, with complete frankness and fitness, adjusted itself to life about it.

Now, the professions and careers which college-bred men enter have become so numerous, and so many of them take up what is usually called "practical" work, that great commercial concerns seek them for all kinds of work in preference to untrained young men. The idea has got abroad in the "practical" world that a youth who has worked systematically and energetically for four years in college is more likely to work systematically and intelligently at any task than a youth who has had no such training. This is only common sense; and it ought not to have taken so long a time for men of affairs to find it out. If a young man who has had college training is not better material to make a business man of or a professional man of, or a man of any calling, than a young man of the same capacity without college training, then there is something the matter with the training.

In the main, the training—training how to work efficiently, systematically, and accurately—that the colleges afford is such as to give their graduates a very decided advantage. This is not the same as to say that our collegiate training has been degraded to a mere practical training for crafts or callings or professions (for such training would not be education in a proper sense, but only a rude kind of apprenticeship), but the old false notions of work seem to have disappeared from college life, and the false conception of college life to have disappeared from the part of the community that was not college-bred.

THE WORLD'S FAIR AT ST. LOUIS

THERE is but one opinion held by those who make their judgments by large facts, about the World's Fair at St. Louis. It is a most instructive exhibit, practically world-wide in its scope; and, in many departments, it is the most instructive exhibit ever made. The attendance during the first month—a month of half-readiness, as is usual with great fairs—was large enough to indicate a great attendance thereafter.

There has been a feeling in the Mississippi Valley that the people who live on the Atlantic seaboard are too slow in visiting the Fair. Such a feeling is interesting as an evidence of sectional—jealousy, shall we call it? It implies a fear that the people of the Atlantic States are not as appreciative of the people of the Valley States as they ought to be. To what extent this feeling is warranted it would be a rash man who should undertake to say. But this much is true—those persons in the seaboard States who fail to see this World's Fair will miss an experience that would make them wiser.

Such interesting little jealousies seem likely,

long before the Fair closes, to be forgotten in a general congratulation on the instruction offered by it. As an evidence of the energy and of the masterful spirit of the people of the whole country—and of St. Louis and Missouri in particular—it does us so much credit that the people of every part of the land have a right to be proud of it.

A GREAT AMERICAN SHIP-BUILDING FEAT

WHILE we yet have recollection of the ship-subsidy agitation, it is suggestive to witness the launching, from an American shipyard, of the largest ships built in this country. The Pacific Mail steamship, *Manchuria*, and her sister vessel, the *Mongolia*, completed last February, are at once "record-breakers" and "dividend-payers"—the classes into which some steamship men have come to divide new vessels. Only one dry dock on the Atlantic Coast, outside of the Government Navy Yard, is large enough to handle the *Manchuria*. With about ten thousand indicated horse-power and a speed of 15 knots, her dead-weight-carrying capacity is 14,000 tons—only 4,000 less than the giant *Cedric*, and quite out of comparison with the narrow "greyhounds." These new ships are considered the most efficient and safest of their class; they have double bottoms and water-tight compartments, and all the newest devices for ventilation, refrigerating, lighting, making fresh water, and so on; they have been built especially with a view to the comfort of their passengers and to carrying large cargoes with the greatest economy. They represent, apparently, the practical limit of the big-ship idea, which seems to have been carried to excess in the seven-masted schooners.

These monster ships were built by a concern, the New York Shipbuilding Company, which was not in existence half a dozen years ago, and which, therefore, began operations at a time of depression in the ship-building trade; and they were built in the face of the advantages enjoyed by foreign competitors in the matter of cheaper steel and labor—in the face, too, of that almost greater obstacle, the uncertainty as to future subsidy legislation.

The cheaper labor abroad is somewhat neutralized by Yankee ingenuity in equipment and labor-saving devices: the yard which built these ships, for instance, is fitted up with an electrical system that is far better than anything to be found on the other side of the water. It has turned out, in its few years of existence, almost every type of vessel, and is now constructing a battle-ship for the United States Government; but its managers confront the fact that they are now in sight of a scarcity of work. Ship-owners and capitalists are ordering so few vessels that, in spite of the record made, it looks now as if the necessary "full productive capacity" could not be maintained in the near future—unless a change of conditions occurs.

It is a strange fact that the American, who is so often accused by foreigners of being eaten up by his own conceit, does not take anything like the pride in his ships which an Englishman would under corresponding circumstances. Outside of the trade and technical papers, the launching of these huge vessels, representing such a splendid achievement against heavy odds, attracted scarcely any journalistic attention. In England, the illustrated weeklies and newspapers would have been full of pictures and statistics, and there would have been a loud appeal to patriotic pride.

A small thing, too, with rather a large significance, is the name of this vessel—and the names of her companions. In 1902, the Pacific Mail launched the *Korea* and *Siberia*, then the largest ships built in this country; in 1904, they add the *Mongolia* and *Manchuria*, carrying the American record very much farther. On Long Island Sound are being built, for Mr. J. J. Hill, two vessels larger still, to engage in this same trade. The meaning of this is expansion in its truest sense. It is not a political theory, but a commercial fact. We are bound to Europe, South America, Africa, Asia, by bonds which grow and strengthen daily, and which cannot possibly be severed; and the part which the Far East is to play in our commercial future is hinted at in these preparations made by the great transportation companies.

THE WORLD'S FAIR NUMBER OF "THE WORLD'S WORK"

THE WORLD'S WORK for August will be a double number. It will be given to a description and interpretation, by pen and by camera, of the World's Fair at St. Louis. The aim will be to make it a guide, philosopher, and friend for those who go to see the Fair, and a well-proportioned, per

manent record of it for everybody. There will be approximately two hundred photographs, and many articles by competent writers on every important part of the Exposition. A reader may, by the help of this magazine, more intelligently study the Fair; for it will tell him what is best worth seeing in each great department; it will tell him how to find what he wishes to see, without waste of time; how long it will take him to see it, and how much it will cost.

And the progress that has been made in the several great departments of work—such as transportation, electricity, agriculture, education, and the like—will be explained as fully as they can be in a single volume; for the August number will be a handsomely illustrated and plainly written magazine worthy of a permanent binding—worthy, too, we hope, of the colossal display of the arts and utilities of the whole civilized world that are shown in such a prodigal way at St. Louis.

THE UPLIFT IN BUSINESS

A MARKED IMPROVEMENT IN MORAL TONE IN THE LAST TWO DECADES — HOW METHODS IN RAILROAD FINANCE HAVE CHANGED FOR THE BETTER—INDUSTRIAL ENTERPRISES NOW IN THE LIGHT OF PUBLICITY—A KEENER PUBLIC SENSITIVENESS

BY

THOMAS F. WOODLOCK

EDITOR OF THE WALL STREET JOURNAL

[THE WORLD'S WORK publishes every month an article in which some timely and vital subject of the financial world is taken up]

FINANCE consists mainly in the manufacture and sale of securities to the public for money, and the financial community, commonly known as "Wall Street," is dependent upon this art for its livelihood. Can "Wall Street" be said to have made moral growth in the past generation? I think the unprejudiced observer who looks a little below the surface must fairly answer "Yes." Not a little evidence exists to show very satisfactory progress in the past twenty or thirty years toward a clearer view of right and wrong.

Consider, first, the case of the railroad companies. It is hardly a generation from the iniquities that marked the railroad industry in the days of the old Erie, the old Wabash, and a score of other less shining instances. We have seen, however, the disappearance in that time of—

1. Fraudulent issues of securities;
2. Wholesale discrimination in favor of the large shippers;
3. Dishonest accounting.

Moreover, we have seen, in the same period, a marked advance in the general efficiency of the machinery of transportation.

Twenty or thirty years ago, the reputation of American railroad securities among foreign investors was distinctly bad. A few of the bolder ones bought our bonds, and made large profits by doing so. Speculators in London and Amsterdam bought our stocks, made large profits on some and lost heavily on others, but never at any time deluded themselves with the idea that in buying them they were anything but speculators. Nowadays, foreign investors realize that all our railroad securities cannot be included in one category labeled "Highly Speculative," and most of our large railroad systems have established for themselves a reputation for honesty and fair dealing and a stability that twenty years ago would have seemed unattainable. In the Standard Oil rebate days, a certain amount of indignation was created, no doubt, by the preferential freight rates given to the trust and the consequent discrimination against its competitors. The disclosure of rebates given by the Atchison, Topeka & Santa Fé Rail-

road in 1894, however, attracted almost as much attention, and created practically as much indignation, as did the Standard Oil disclosures, although comparatively a most trifling matter. The scandals in connection with Erie securities in the days of Daniel Drew and Jay Gould caused considerable commotion at the time. Even in that day, methods such as these were not countenanced. But some of the expert reports made on various systems in the reorganization period of 1893–96 developed evidence of a much higher degree of sensibility on the part of the public, and of the financial community in particular.

It was in that reorganization period of a decade ago that the financial community made, perhaps, its greatest progress toward a higher ethical standard in financial matters. The principles of finance that were then applied were evolved in the hard school of experience, and summed up what had been learned. The powerful banking interests which had the various railroad organizations in charge realized at that time that honesty was always the best business policy. The first thing they did, accordingly, was to get at the actual facts, and then to suit the capitalization to the facts—providing, subsequently, honest management and a system of frequent and full reports. Then came the time when railroad managers found that it was possible to keep one's word in the railroad business, and that, on the whole, it was more comfortable and profitable to do so than not to do so. "Gentlemen's agreements," which had been very fragile, came to mean something. The piratical freight agent found his employment gone; the railroad auditor found his position immensely increased in responsibility, dignity, and power, and the railroad president found pride in acting fairly by his stockholders and directors.

Compare, for instance, the Erie fight, with its law-suits thirty years ago, and the sober, orderly discussion with respect to the Erie voting-trust this spring. The story of progress is contained in those two pictures. The railroad business is clean today, where it was begrimed a generation ago. We have no more railroads existing solely on paper, with millions of their bonds in the hands of the public. We have no more blackmailing railroad schemes started merely for the purpose of being bought out. In a word, we have a condition of affairs in a business with a total investment of, probably, $12,500,000,000 par value, which is, in the main, marked by honesty and fair dealing in principle and in practice. Railroad controversies of late years have arisen, not upon matters of plain morality, but upon matters of public policy.

This is a very important step in advance. What is the cause of it? The answer is plain—better knowledge of the facts on the part of everybody. The average man is honestly minded, and prefers the straight course when he sees it. Show him plainly where he is wrong, and he will alter his course. Systematized publicity, and a general understanding of railroad facts and figures, are the main forces that have purified the railroad industry.

The Inter-State Commerce Commission, had it never done anything else, did the country a magnificent service in developing the science of railroad accounting, which was an indispensable preliminary to the science of determining railroad values. Fifteen years ago, directors and managers of railroads first really began to understand what they were doing, and the science of the analysis of railroad figures first began to receive their attentions. A flood of daylight was let in on the whole subject, and the reorganizations of 1893–1896, based, as they so generally were, on the reports of expert accountants, gave an immense impetus to study of this matter. This study presently made it practically impossible for the old forms of swindling in capitalization and the old methods of dishonest bookkeeping to pass without detection. The result was, inevitably, a recognition that the shortest line between two points is a straight line, and that it paid to be honest.

In a sense, therefore, the higher moral standards in the railroad industry have come from motives of self-interest, but the self-interest has been enlightened. Moreover, a community in which it pays to be honest is on a higher moral plane than is a community where there is enough profit in dishonesty to keep many people always dishonest. There was plenty of profit in dishonesty in railroad finance twenty to thirty years ago; there is none today, or practically none.

The last ten years contain the period of great industrial company developments, and will undoubtedly go down into history as the era of company promotion in the United

States. The period, short as it is, has brought into being thousands of corporations of all kinds and sizes, with a total capitalization of close to $10,000,000,000, according to the face value of their securities. The corporations formed since 1895 are as the ocean to a pond, compared with the corporations formed prior to this. The record of progress is not superficially as plain in industrial corporation finance as in the case of the railroads, but it is possible to observe some progress.

Industrial finance had hardly begun to develop when the greatest industrial corporation the world ever saw was conceived, and successfully floated in less than six months. The history of the United States Steel Corporation illustrates very clearly, though it be only about three years long, the growth that has been made toward better things. The formation of this company was undertaken at the close of a period which had given birth to a tremendous number of corporations. The Steel Corporation was itself made up of a dozen companies, any one of which would have been considered huge five years previously. Yet it presented itself to the public in such fashion that its absorption was more rapid than that of any other single industrial company floated in the industrial "boom." Its directorate contained representatives of most of the great banking interests known to the public. One great thing distinguished it from previous large corporations; and that was, publicity. Compare, for the instance, the frankness shown by the United States Steel Corporation in all its dealings with the public with the policy of secretiveness that marked the history of the Amalgamated Copper Company, floated but a little while before. A whole world of progress is marked by that contrast: quarterly statements of earnings, elaborate annual reports promptly prepared and promptly presented by the Steel Corporation, as against absolute secrecy on the part of the Amalgamated Copper Company. Apart from the actual merits of both corporations from a dividend-paying point of view, it is certain that the dealings of the United States Steel Corporation with the public, as compared with the dealings of the Amalgamated Copper Company with the public, reflect almost as great an advance toward higher standards in industrial finance as the advance made by the railroads which I have noted above.

Fearful errors of judgment were made in connection with the United States Steel Corporation in financing and in paying dividends. They were, however, errors of judgment, and not deliberate moral lapses. It is easy to see now that the United States Steel Corporation ought not to have paid dividends on its common stock, and it is easy to see now that the preferred stock conversion plan was a mistake from every point of view. It is impossible, however, to discover evidence of any deliberate attempt to mislead the public in either case. It is but fair to say that the organizers, promoters, and managers of the United States Steel Corporation failed to exhibit the foresight that might, perhaps, have been expected from them, and that they failed in their judgment of financial conditions, and of the probable effect of their financial plans. It is equally fair to say that they cannot justly be accused of exploiting the public for speculative purposes and their own profit. Later, when the wounds caused to investors in the company have become cicatrized, it will be admitted, I think, that the fault was one of head rather than one of heart.

Even the very thing that has, for twelve months, been an offense to the public, the United States Shipbuilding collapse, holds out evidence of a well-grown sense of responsibility. The surprise and indignation called forth by this incident, which, after all, exhibited methods that, twenty years ago, would have been passed with a shrug of the shoulders, indicate a sensitiveness on the part of the public much more intense than formerly existed. The disclosure of what was apparently a deliberate attempt to float and sell properties for very much more money than they were worth resulted in the crystallization of a sentiment the extent of which had not been expected. The whole country rang with the details of the miserable affair, and denunciation in every mood and tense brought home to the public a fuller knowledge, and consequently a fuller disapproval, of the old-style methods of company promotion.

It is impossible, in narrow space, to describe in detail many smaller instances of the same general development of a sound public sentiment with respect to industrial companies as took place with railroad finance. The process has been vastly more rapid with the industrial companies, first, because of the vastly greater number of people interested, but also

because of the vastly greater publicity that has been rendered possible. Knowledge of misdoing is the first step toward repentance. Public opinion can be made only by publicity. It is, after all, to the spread of publicity that we must attribute the higher basis upon which the financial community is now doing its business.

It may be added that nothing has done more to lift the moral tone of business than the healthful criticism of the press. Twenty years ago, the state of financial journalism—not merely the purely financial press, but also that portion of the daily press devoted to finance—was not extremely good. Such journalism was marked by much ignorance, with, unfortunately, at least some dishonesty. Apart from this, the theory upon which it was mainly based was not sound. The people who "made" most of the financial news seemed to think that they were entitled to control, in large measure, its publication, both as to matter, time, and manner. In those days, the principles of corporate finance were very imperfectly understood, even by the financial interests, so called. They were even less understood by financial writers, and they were not at all understood by the public. Given considerable ignorance with the best of intentions, the product would have been of doubtful value; but ignorance with moral weakness was worse. Happily, there were always in financial journalism men of absolute honesty and full intelligence; but the "court circular" theory was far too widespread in its application. Even at this day, it is difficult to convince some otherwise highly intelligent bankers, directors, and managers that the public has a right to knowledge. A case occurred within a month that illustrates very well the point of view obtaining in some circles of the financial community. A certain corporation undertook to make an issue of securities. This fact was developed and published. A financial writer called on one of the directors, showed him the news as published, and asked if it were true.

"Yes," said the director, "it is true, but it is pretty hard that two or three gentlemen cannot discuss their private affairs without a reporter breaking in."

Until quite recently, it was usual for people at the head of corporations to feel that they had a right to supervise a matter before publication, when that matter concerned their interests. Nowadays, this view is rapidly passing away, and the instances are very few and far between where any one has the temerity to demand the right of "revising proof" before publication. It is simple truth to say that financial journalism in the United States has never been so clean or so intelligent as at the present time, and that in no country in the world has it reached so high a level of intelligence and honesty as here. We still have the "court circular" journalism with us, but its day is rapidly passing, and the time is not far off when it will be extinct, so far as the principal journals are concerned. There have come a freedom and an intelligence of comment that would have been considered revolutionary twenty years ago. I do not believe, for instance, that the time will ever come again when a great daily newspaper will accept $5,000 from a railroad company in payment for a series of attacks designed to destroy the credit of a competing railroad. Yet it is not ten years since this thing happened in New York city.

Human nature is very much the same from generation to generation, in its springs of action. The men of today in the financial community average better than the men of thirty years ago, because they see more clearly the right and wrong of things financial, and because the public generally has a clearer vision of these things. It all comes back to one thing: namely, a better understanding of the truth of things, for the generality of men will, in the long run, embrace the truth when they see it. Daylight is the one thing that destroys the germs of disease—all of them—and publicity, bringing with it irresistible public opinion, is the great cure for social unrighteousness. A shining example is furnished by the recent experience of the Western Union Company in connection with the collection and sale of racing news in New York city. The public realized and the directors of the Western Union Company realized what the company was doing, and immediately the transmission of racing news to pool-rooms was stopped.

Daylight, and yet more daylight, is the surest guarantee of continued progress toward better things everywhere, but especially so in the financial community. Indiscriminate publicity has its faults, and, at times, works hardships and injustice—but it is better than secrecy.

CONTENT IN WORK

A NECESSITY FOR AN INDUSTRIAL DEMOCRACY—THE PLEASURE OF EXERTION AND ACHIEVEMENT—PLAY FOR INTELLIGENCE AND JUDGMENT IN ALL EMPLOYMENTS—A DURABLE SATISFACTION IN RISK—A MENTAL UPLIFT THE RESULT OF THE USE OF MACHINERY—THE IDEALS OF UNIONS AND EMPLOYERS

BY

CHARLES W. ELIOT

PRESIDENT OF HARVARD UNIVERSITY

THE winning of satisfaction and content in daily work is the most fundamental of all objects for an industrial democracy. Unless this satisfaction and content can be habitually won on an immense scale, the hopes and ideals of democracy cannot be realized. Therefore, joy in work should be the all-pervading subject of the industrial discussion; for it is at once motive, guide, and goal. It is only in the less skilful employments of mankind, which are also the commonest, that any question arises concerning the possibility of satisfaction and content in daily work. All the nobler employments give much pleasure. Every professional man, every business man, and, indeed, every person in whose occupation there is free competitive play for intelligence and judgment, takes pleasure, or joy, or satisfaction in his daily work; and his interest in his work does not depend principally on the amount of pay he receives for it. He gets from it a large satisfaction independent of, and in addition to, its pecuniary returns. The real question, then, is whether the satisfactions of the higher employments can be measurably obtained in the lower. On the right solution of this problem depends the whole future of the industrial democracy; for there can be no public happiness without content and satisfaction from the daily work of the masses of mankind. Let us then inquire what the sources of satisfaction in work are and must be.

The first source is the pleasure that the natural, healthy man takes in exertion—in using his bodily and mental powers. There is, undoubtedly, a real pleasure in the mere use and exercise of one's powers. All the active sports illustrate this fact. In many of them, the exertion is great and prolonged, and one might almost say that, in any one sport, the pleasure or satisfaction was proportionate to the exertion. In rowing, cycling, "hare and hounds," and the competitive games of ball, including all the varieties of tennis, the effort of both mind and body is strenuous; in hunting and fishing, the effort is not only strenuous, but is apt to be very prolonged; and yet nobody doubts that these sports are enjoyable, or that it is the effort which is in large measure the source of the interest and satisfaction. What is true of the manly sports is true also of manly labor. The next source of genuine satisfaction lies in achievement—that is, in doing and accomplishing something worth while. The satisfaction in having done something well is universal, and comprehends absolutely all kinds of employment. It is not at all necessary that the achievement should be a great one, or that its quality should be fine or artistic. There is satisfaction in digging a ditch and seeing the water of a stagnant pond or meadow drain off through it. I lately saw a group of laborers dig up an elm tree thirty-five feet high, wrap its roots, get it on wheels, carry it a quarter of a mile, and plant it again in a big hole which they had previously dug with much hard work. The job was intelligently and carefully done, and that large tree is now leafing out, though no earth was brought with its roots. Every man of the group that did the digging looks at that tree with hearty satisfaction. Its safe transplanting was an achievement. Competitive achievement is more pleasurable than achievement without competition, as all the sports prove, as well as all the competitive industries. Competition needs liberty and hope, and a determination toward progress. Therefore, competitive achievement is a precious reward. Even the defeated are glad to have been in the race.

Thirdly, the coöperation of a few or of many persons in achieving, as, for instance, in successfully making a valuable product, is a legitimate source of constant satisfaction, particularly if the coöperation have an element of rhythm or harmony. The industries, like the sports, afford innumerable instances of the satisfaction which naturally springs from such coöperative effort. This is one source of the pleasure a sympathetic boat's crew take in their laborious and somewhat monotonous rowing. This is one source of the satisfaction with which all hands on deck will pull together on the braces or the mainsheet. In a higher form of intense and difficult coöperation this is the source of pleasure in the hard work of an orchestra or a great chorus. Human nature responds with joy to coöperative effort toward any productive or creative end. Again, the exercise of intelligence, judgment, or skill in any labor gives satisfaction. Putting one's mind into one's work, so that attention is keen and every effort well directed, is a prime source of joy in work, no matter what the work may be. It is the fashion, particularly in labor unions, to complain that, in many kinds of work called "manual," there is no joy. That can be the case only in labor of a kind which precludes the exercise of the mental faculties, because joy in the exercise of those faculties is absolutely inevitable. I have been unable to discover any modern employments, even those called the lowest, in which there is not large play for intelligence, alertness, and good judgment. I have never yet observed men seriously and honestly at work who did not seem to me to have ample opportunity for the exercise of both intelligence and judgment. Of course, one often sees in these days men nominally at work who are not using their minds or their wills any more than they can help; but it is not their occupation which deprives them of the satisfaction of working with intelligence and judgment. It is their characters, their personal quality. I have lately received a considerable number of letters and newspaper cuttings, calling my attention to specific employments which the writers supposed to be destitute of this source of joy, and I have been urgently advised to make trial of some of these employments. Every one of them, without exception, seems to me to provide amply for the satisfaction now under discussion. The last comment of this nature, received this week, related to the occupation of a motorman on an electric car. This strenuous, open-air occupation seems to me to afford a perfect illustration of the high satisfaction or content that may be derived from an employment which, at first sight, seems to need muscle rather than mind. The motorman must, indeed, be strong in body; but he must be much more. He must be always observant and on the alert. He must be steady, cool, collected, and ready to meet, with instant decision, a new condition or an unexpected event. He handles a fine machine for which he is responsible, and he must be incessantly watchful for the safety of his machine and of the people in his car and on the street. There is much for him to learn about his machine and the right management of it. If that occupation, under those conditions, and calling for those qualities, cannot yield the fit man satisfaction and content, there is no human occupation that can yield content. In many occupations, another element, which proves a source of frequent satisfaction, is risk, or danger. This is a characteristic of all the manly sports and of many of the fundamental industries, like mining, sailing the ocean, handling domestic animals, quarrying, and lumbering. The danger must be visible and open, not hidden or mysterious, and it must be avoidable by the exercise of foresight, courage, and skill. Probably, it is the successful avoidance of the danger which gives the pleasure; although there is an unquestionable pleasure in looking back at some perils which were not altogether avoided, though survived. The natural, human pleasure in adventure is a combination of the pleasure in novelty and the pleasure in risk. The satisfaction in having successfully encountered danger is, for most men, a durable one. It is experienced when the danger is fresh, and it is always looked back upon with satisfaction, even though extreme labor and hardship accompanied the successful encounter. Any occupation that combines avoidable risks with uncertain productiveness has in it two large elements of interest, and, therefore, of possible satisfaction. Thus, the miner's occupation, in which it is uncertain how much coal or ore a given expenditure of labor in drilling and blasting will produce, has these two elements of satisfaction. Every trading operation has in it the interest of adventure. Finally, those occupations which, like the

building trades, present from day to day, or from year to year, new materials, processes, designs, and products—and, in these days, what occupation does not offer many elements of novelty—give to the life of the workman the interest of variety, with new things always to learn. The higher employments all offer a large variety from year to year, and even from week to week; but the lower employments, too, offer to ambitious and alert workmen a large variety of mental and bodily occupation. A middle-aged printer lately said to a friend of mine, "I have been thirty-five years in a printing-office, and still I learn something new about printing every day." Indeed, it has been characteristic of the last thirty years that all the main industries have been made over, root and branch.

The principal sources of satisfaction and content in daily work are, then, the active exercise of one's powers, achievement or the getting well done something worth doing, harmonious coöperative effort, putting mind into work or using judgment and skill, successfully encountering risk, making adventures, and mastering novelty and variety.

It is, unquestionably, easy to have all satisfaction in daily work destroyed by the imposition of conditions which make satisfaction impossible. If labor is pressed beyond the limits of strength and health, content in it is impossible. Any overwork destroys the physical basis of satisfaction in toil. If the hours of labor are exaggerated, so that reasonable time for meals, family life, recreation, and sleep is not to be had, the due satisfaction in toil will not be realized. The conditions of modern urban life tend to develop in the American population an unreasonable haste and stress in both work and play. This haste and stress are quite as highly developed in the higher employments as in the lower; and, relatively to numbers, over-work now prevails in the higher employments more than in the lower, probably because there is more and keener pleasure in the former, and they are, therefore, more liable to be pursued with an inordinate zeal.

For a hundred years there has been going on the substitution on an immense scale of manufactured, mechanical power and machinery for human muscle. The individual workman has, therefore, more directing work to do and less bodily labor to perform. In the modern quarry, or mine, a machine does the drilling; on a large vessel, the sailors no longer hoist the sails or weigh the anchor; the halyards and the anchor-chain are wound up by a donkey-engine, and the cargo is put in and taken out in the same manner. The laborer's function is more and more the function of directing and watching machines. His responsibility has become greater; his product, multiplied through the machine, is larger; and his need of sound judgment and intelligent decision has become more frequent and imperative. In short, his opportunities for the use of his mental faculties, as distinguished from his bodily, have greatly multiplied; and hence his chances of winning daily satisfaction in the methods above described have greatly increased. Greater responsibility of course brings with it higher wages. Large-scale agriculture exhibits these changes in a striking way.

On the other hand, there are two tendencies in the organization of modern industries which are distinctly adverse to the winning of satisfaction in daily toil. The first is the minute division of labor, which, in some industries, reduces the variety, and therefore the interest, of the workman's occupation; and the second is the monotonous character of the work of tending, day after day and year after year, the same machine making the same product—a monotony which is, however, comparatively rare, inasmuch as, in most industries, machines change frequently, and process and product more frequently still. In general, the variety in the labor of the individual workman has undoubtedly been diminished by the transfer of a large proportion of the population from farm work to factory work; for none of the ordinary occupations in mills or shops afford such variety as farm work affords. The work of the farm-hand changes with the month and the season, and with the hour of the day, whereas the weather, the seasons, and the time of day have comparatively small effect on the work of the mechanic, the operative, or the salesman. The trade-unions are apt to object to piece-work, because it develops in the work-people a rapid rate of work, a rapidity from which the employer may, in the long run, gain an undeserved advantage. A much more sensible objection to piece-work would be its greater monotony, and its tendency to substitute the good-enough for the excellent as its ideal. So far as piece-work becomes by repetition automatic, it reduces the satis-

faction in the work itself to that of competitive achievement, and makes the wages earned thereby the chief reward.

If this description of the sources of joy in work is correct, it follows that several of the doctrines and policies of the trade-unions are not intelligently directed toward increasing the well-being of working men. Let me try to enumerate some of the wrong directions in which the unions are pressing. In the first place, uniformity in the conditions and rewards of labor cannot be an end desirable in itself. The conditions in different industries ought to differ with situation, climate, and the nature of the work. Not only should variety be welcome among the industries, but in any given industry variety should be welcomed in different places and at different stages of development. The uniform wage, whether called minimum or maximum, is a direct interference with the real sources of satisfaction in daily work. Each individual workman should be free to do his best, both in quality or quantity, and so to win the natural satisfactions which come from the exercise of skill and judgment, and from competitive achievement. The doctrine of minimizing the day's work through defining it by an inadequate number of bricks to be laid, ems to be set, lead joints to be wiped, or glass bottles to be blown, saps the very foundation of both efficiency and happiness in daily labor. That American labor remains as efficient as it does, even in many unionized trades whose trade agreements contain such unhappy limitations, proves that thousands of union men do not carry into practice this debilitating doctrine. Again, promising novelties in any industry should be welcomed, not hindered. Thirdly, competition, instead of being treated as an evil, should be welcomed as a source of liberty and progress, both for the individual workman and for the different classes and grades of workmen, competitive achievement affording a wholesome satisfaction in all occupations. Fourthly, the opportunity for zealous, hearty work, with excellence as its ideal, should be earnestly sought by the individual; because with this opportunity comes a keen satisfaction in all the higher employments, and in all the lower employments which, by development and improvement, can be brought to afford such opportunities. This would be the importation into common, productive labor of the artist's motive and method.

Turning now to the employer's side of the industrial situation, and applying to his function the principles herein laid down, we find that the intelligent employer will best promote his own interests by so conducting his industry that the people who work in it can win natural and wholesome satisfactions in their daily toil. He will, therefore, take every precaution against overwork, and for the preservation of the health and strength of his employees. He will try to diminish monotony and anxious stress, to secure liberty for the individual workman, and incite him to personal growth and progress, and to promote throughout his establishment competitive achievement, harmonious coöperation, the exercise of skill and judgment, and the introduction of novelty and variety.

For the carrying out of these purposes on both sides of the industrial strife, the new tendency toward small industrial establishments scattered wherever mechanical power is electrically distributed is greatly to be welcomed, because such small establishments, when numerous, promote the independence both of small employers and of small groups of workmen, and easily unite, in the pursuit of a common interest, the employer and the employed, the capital and the labor.

Finally, happiness is a state of mind much more than a state of body, provided that the elementary necessaries for the well-being of the body are at hand. The causes of the prevailing discontent are not in the circumstances of the people, but in the minds and hearts of the people themselves. Good-will is only a state of feeling: yet if good-will could be established throughout any industrial organization, its economic effects would far transcend those obtained by collective bargaining and arbitration, useful as those methods of combat have proved to be. The industrial democracy needs to rectify its aims and its ideals, not confining its efforts to improving physical conditions or to raising wages. To promote this rectification, it seems to be essential that both employers and employed should come to understand much better than they do now the conditions under which satisfaction in daily toil becomes not only possible, but, even more than this, natural and inevitable.

THE ENTRANCE TO HIGHLAND PARK, PITTSBURG, PENNSYLVANIA

A place of beauty in an industrial centre

THE UPLIFT IN AMERICAN CITIES

GREAT FORCES AT WORK FOR CIVIC BETTERMENT—STREETS KEPT CLEAN EVEN IN SLUMS—ADMIRABLE PROVISIONS FOR HEALTHFUL RECREATION IN BEAUTIFUL SURROUNDINGS IN BOSTON AND OTHER CITIES—THE SPREAD OF LIBRARY FACILITIES AND FREE LECTURES —THE MOVEMENT FOR BETTER BUILDINGS—CITY ADMINISTRATION IMPROVING — AN INSPIRING SURVEY OF NATIONAL ADVANCE

BY

J. HORACE McFARLAND

PRESIDENT OF THE AMERICAN LEAGUE FOR CIVIC IMPROVEMENT

AND

CLINTON ROGERS WOODRUFF

PRESIDENT OF THE AMERICAN PARK AND OUTDOOR ART ASSOCIATION, AND SECRETARY OF THE NATIONAL MUNICIPAL LEAGUE

WE submit a brief of uplift and of optimism for better living in America, dealing principally with achievements and advances since 1890, and we present two contentions:

1. That, in all parts of the United States, there are at work, with increasing efficiency, great forces for civic betterment, for a truly "beautiful America."

2. That, with this present awakened condition, and with the existence of efficient organizations for its guidance, further advances depend upon each individual citizen—man or woman, boy or girl, rich or poor, famous or unknown—to the full limit of the opportunities apparent.

In support of the first of these contentions, we present a few evidences of endeavor and achievement, out of the many accessible. To enforce the second statement, we shall propose simple things to do.

All this statement of uplift, it should be noted at once, is independent of any direct connection with church or religious effort, save as the church has broadened into practical and institutional effort in some cases.

Further, this statement is fragmentary and incomplete, passing untouched far more

Photographed by Detroit Photographic Co.

THE PUBLIC BEACH AT ROCKAWAY ACCESSIBLE TO NEW YORKERS

items of uplift than those of which it barely hints. Merely to catalogue the efforts for good, without a word of comment, would fill a half-dozen magazines like THE WORLD'S WORK.

In the "good old days" of King Arthur's Round Table, the floors were covered with rushes, we read, and "fresh rushes were strewed" on top, to conceal the accumulated filth. Magnificence and filth were close together, and it has been the lesson of the centuries to set cleanliness next to godliness. Therefore, the uplift of the last dozen of years toward cleanliness and sanitation may well be first touched upon.

In forty-two clubs, more than thirteen hundred boys of the East Side of New York have been gathered to form the Juvenile City League. Each club represents a city block, and each boy pledges himself to abstain from littering the streets, while he also promises to persuade others to do as well. The striking and simple cards used by these boys are

Photographed by J. Horace McFarland

A PRIVATE BEACH AT SAVIN HILL, IN BOSTON, MADE PART OF THE PUBLIC PARK SYSTEM

reproduced elsewhere, and this incentive toward good citizenship cannot but be influential for great gain and for much help to the authorities.

But, without the first official step toward cleanliness, made when, under Mayor Strong, the New York streets were freed from filth, the work of the boys would be in vain. All honor to America's martyr to the public health, Col. George E. Waring, whose devotion, persistence, and energy set the pace for sanitation, and whose "white wings" make for him a daily remembrance in many cities that have followed the street-cleaning example of the metropolis.

Not only cities clean up. Villages feel the impulse. A letter from a good woman of Florida asks how the authorities of her home town of Chipley may be made to "pass a law to keep the swine off the streets." Surely, the beginning of cleanliness is here—but it is the same Waring impulse.

The smaller cities also have been moved, and one, Pennsylvania's capital, sets a notable example of clear-cut preparation and work that has made "the Harrisburg plan" a model of encouragement for all cities. One woman, Mira Lloyd Dock, gave the impulse and kept alive the spark which, when the time was ripe, sprang to a flame of intelligent and enthusiastic effort. Sewers, paved streets, water-supply, parks, to the extent of two millions of dollars, are placing this little and long backward city of sixty thousand well toward the model class.

Photographed by J. Horace McFarland

THESE TENNIS-COURTS IN FRANKLIN PARK, BOSTON, ARE OPEN TO ALL WHO CHOOSE TO USE THEM

The regeneration begun in St. Louis by the Civic Improvement League of that great city is most notable, for, among other things, the unique spectacle has been presented of organizing the women of the slums to clean up about their homes and streets themselves. Thus the chief offenders are made the enthusiastic improvers

The office of the American League for Civic

Photographed by J. Horace McFarland

FRANKLIN PARK, BOSTON, IS IN USE BOTH SUMMER AND WINTER

Improvement has received, in a single week, six requests for information as to how to obtain and place receptacles for waste-paper, etc., in public places. The movement is general, and we venture to assert that, even in the dirtiest and most unkempt communities of America today, some good citizens are worrying and working toward that action which will bring better conditions.

Until Boston, in 1866, instituted a public bath, no one seems to have thought of this vital adjunct to good citizenship. Indeed, thirteen years elapsed until another city, this time in the West, needed water for her people to get into; and Milwaukee, in 1889, established her public baths. New York has followed, but not so adequately as she will. Perhaps the most significant of all these beneficences is that of Brookline, Massachusetts, by reason of its motto of "The Health of the People the Beginning of Happiness."

When we come to consider the advance in parks and playgrounds, the achievements of the past few years seem almost overwhelming in their breadth and extent, but they are fully indicative of the fact that the public conscience always responds to the striving of an individual at the right time.

Dr. Justus Ohage became, a few years ago, health officer of St. Paul. He noticed a bit of sl oal in the Mississippi, visible only when the river was low, but accessible within ten minutes' ride from the City Hall. Securing possession, by gift, of as much as he could, and by purchase of what he could not beg, he had the city's clean wastes dumped upon this little island, thus rapidly bringing it above high-water mark. On the four-and-a-half acres thus ingeniously wrested from the "Father of the Waters," the city of St. Paul now maintains, within easy reach of a majority of its population, a children's playground, a small "Zoo," a vegetable garden (to support the forty uniformed attendants), public baths, with a modern sterilizing plant for the bathing suits, a day nursery, a boys' gymnasium, and a girls' gymnasium—and all united by a small but satisfactory park. Surely, this is a striking example of uplift, of advance, and, more than all, of the high character of one city

Photographed by J. Horace McFarland

THE CHARLESBANK OPEN-AIR GYMNASIUM FOR MEN AND BOYS

A public institution of Boston

Photographed by A. Hedley

EVERYBODY'S PLAYGROUND IN CENTRAL PARK, NEW YORK

Photographic by J. Horace McFarland

WHERE PUBLIC SENTIMENT IN MASSACHUSETTS HAS BORNE FRUIT IN PERMANENT FORM

official—typical, we believe, of many others. It is the rascally officials we hear of and celebrate; the quietly efficient efforts of many pass with little or no comment.

So much has been said of Boston's great park system that it is hard to realize how recently it has really become a system. The census of 1880 credits Boston with 106 acres of park space, or one acre for each 3,424 inhabitants. At present, the various parks available under coördinating systems to the people of Boston, aggregate some 17,000 acres, and, if the population were to be equally distributed over the whole system, but fifty-eight citizens would need to stand on each acre. Here, again, a tremendous achievement is placed fairly to the credit of the efforts of but two far-seeing and truly imaginative citizens, Sylvester Baxter and Charles Eliot, the latter of whom especially embraced in his broad vision all the provision requisite for the health and comfort of a larger population.

So much for the grand system with Boston as a centre and including towns which are in themselves parks in effect. The separate municipalities have, in their own capacities, wonderfully advanced the standard, and the parks and playgrounds of Boston are likely to stand long as a model of far-seeing provision for those features which so greatly tend to the better citizenship.

It is an inspiration to visit, on a half-holiday, the great Franklin Park playground, and to witness a dozen games of baseball proceeding

TREMONT STREET, BOSTON, A NOTABLE ACHIEVEMENT OF CIVIC REFORM

A few years ago unsightly poles and surface tracks marred the beauty of this street. Only the decorative subway entrances remind one of the street-cars

simultaneously on the "diamonds" provided by the city of Boston. "Forty-four regularly equipped diamonds were maintained by the department," reads the succinct report of the Park Commissioners. And, think of it! this without interfering with those who desire the gentler game of tennis, for whom "we now have over one hundred courts in operation, which, on Saturdays and holidays, are all in use." More, the aristocratic game of golf belongs to the humblest citizen of the Hub, if he so elects, and "the total attendance at the Franklin Park links was 47,469," in 1903.

The children, too, are provided for. Playgrounds, with apparatus and sand-boxes and wading-pools, are thrust right into the factory sections, and garden-spaces for the children are part of the beneficent scheme. In winter, skating, curling, and tobogganing provide freely the outdoor life of good health and good citizenship. The friendly coöperation of Harvard University opens to all the Arnold Arboretum, that place of continually proceeding tree marvels, enjoyable alike to the student and to the chance observer.

The first public playground in the United States, we read, was set apart by Brookline in 1872. Boston followed with the Charlestown playground in 1891, and now more than a score of spaces for growing, lusty young Americans are provided. The totals are dramatic: Five miles of ocean front taken for all the people; fifty-six miles of walks maintained, as well as thirty-four miles of perfect parkway; seventeen and a half millions of dollars expended in twenty-seven years by Boston alone for her system of parks, playgrounds, and connections! Note it, oh ye pessimists; set it over against the "graft" that blinds your eyes to the good! And this

Photographed by William B. McCormick

ONE OF THE CHARMING SCHOOL-HOUSE ENTRANCES THAT MARK THE PROGRESS OF MUNICIPAL IMPROVEMENT IN NEW YORK

Photographed by Detroit Photographic Co.

WHAT A CITY STREET MAY BE
A New York slum

is one park of one city only, and it has arisen only and solely because one or two citizens saw their duty and did it.

But parks have place now in most American cities. Here is Chicago with her great and connected system; Milwaukee with a jealously guarded lake-front of scenic glory and public good; Buffalo and Detroit and Kansas City, the latter with two thousand acres; St. Louis with its enlarging park borders and its historic Shaw Garden. Come east again, and Hartford shows a superb system of twelve hundred and fifty acres. New York, water-girt, razes tenements to make breathing-places and playgrounds, and holds with firm grip, against the greatest money pressure of the world, her Bronx Park unspoiled. She takes dock property of great value, and establishes thereon the noble and notable recreation piers, of which eight now give fresh air to countless thousands. Brooklyn's Prospect Park is almost a model; Philadelphia's Fairmount is a beneficence; Baltimore and Savannah follow with squares and avenues of beautiful design, as well as parks for their populace; Rochester gives us Highland Park, almost as fine as the Arnold Arboretum; iron-bound Pittsburg provides an Easter show of beauty to fifty thousand people in a day in one of her parks.

Again, ye pessimists: We record a total of twenty-eight hundred and sixty parks and open places in the United States today, and fully seventy per cent. of them established and worked out within barely a decade. And the people use them and love them, and will maintain and increase them.

Sad, we must admit, are the surroundings of many school-houses in our America that should be the most beautiful land on the earth. But here, too, there is hope, for there are the achievements of good citizenship to record. No more hideous school-buildings, as ugly as factories ought not to be, are being erected in New York. Crowded in, alas! by the cramp of the island; but look at the dignified and uplifting architecture of Public School No. 153, in Manhattan, and note the improvement. In St. Louis, see the Wyman School, with its terraced approach of greenery, and the superb Cote Brilliante school; in Brookline and in Montclair, the fine high-school buildings. Note the requirement of the New York State law, that every school-

WHAT A CITY STREET MAY BECOME
Commonwealth Avenue in Boston

house *must* be equipped with a playground. Realize also the recent attention to the improvement of curricula, the introduction of manual training, and the attention paid to school hygiene. In New York, Dr. E. J. Lederle, Health Commissioner, reports the examination, by a corps of 150 physicians, with a band of trained nurses in attendance, of over 900,000 children in one year, of whom 57,000 were excluded and treated for disease.

As to school work, it is significant to record the words of President Eliot, of Harvard, who commends the schools of St. Louis as "the best in this country."

Indeed, the advance in schools and in school surroundings is too great to be itemized here, and it is the advance of a decade, mostly. Within another ten years of uplift, the country school-houses, we believe, will become a proper part of beautiful America, and will educate the eyes as well as the minds of the children to perceive the things of good citizenship. For final examples, the teaching of municipal government in high schools, as maintained in Detroit and elsewhere, and the establishment of "school cities," of which twenty-two were organized in Philadelphia in a few weeks by Wilson L. Gill, the originator of the system, will be paralleled the country over.

The impulse to provide education for the adult who has not had full school advantages is an achievement of a few years only. Fourteen years ago, the "Free Lectures for the People" began in New York city under the far-seeing and devoted supervision of Dr. Henry M. Leipziger. The first year, six centres were served, and twenty thousand people heard about a hundred lectures. For the winter of 1903–4, the work covered 146 centres, and nearly twelve hundred thousand people heard over two hundred lecturers deliver addresses on more than three thousand separate occasions. The foreign populations are instructed in their own languages; dangers to health are described; travel, poetry, song, and story relieve the studies; technical instruction not found in the best universities is provided; and, although New York city pays for this work, it is made possible only by the acceptance of a merely nominal stipend by the gifted lecturers. These good men and women do the work because they love their fellow men.

This beneficence is spreading, by the force of example, to other cities. And it will continue to spread; for the people want it, and use it, and are moved and uplifted by it, right in the midst of the territory said to be given over to evil.

A CONGESTED CITY THOROUGHFARE—MULBERRY BEND, NEW YORK

Photographed by Detroit Photographic Co.

A RECREATION PIER PROVIDED BY THE CITY OF NEW YORK WHERE THOSE WHO INHABIT THE SLUMS ENJOY FRESH AIR

Photographed by Detroit Photographic Co.

THE DEWEY ARCH IN NEW YORK

An example of a high form of public art

Of libraries, space permits little to be said. They are growing everywhere, and they are being used. On a recent morning, in the midst of a rain that had prevailed for days, the writer reached the entrance to the Boston Public Library three minutes before the opening hour. Nearly twoscore of people, of all walks in life, were there waiting for the doors to open. Do the people want libraries? In Erie, Pennsylvania, a room is set aside for children, and they come there continually. Their judgment is keen, too.

"I don't like that book; it has too many words in it!" said, in this Erie library, a fifteen-year-old miss of a recent "nature book," redundant and sentimental.

A decidedly unique method of education, applied when most needed, is that given by the traveling libraries of the Seaboard Air Line, a southern railway. As usual, a God-inspired woman started the work. Mrs. Eugene B. Heard originated and has supervised this effort, which is responsible for a wave of improvement on many lines. The

Photographed by Detroit Photographic Co.

THE WAYNE COUNTY BUILDING IN DETROIT

Adorns a spot which was one of the city's eyesores

Photographed by Cmedinst

A BEAUTIFUL ARCHITECTURAL AND ARBOREAL EFFECT IN WASHINGTON

disinterested support of that spectre of industrial life, a railroad corporation, does not prove the truth of the pessimistic whine as to the absence of souls in aggregations of citizens and capital for business.

We are prone to say that our cities are horribly ugly, and, as a whole, the statement is true. In the 150 years of progress and endeavor that have set the world at our feet, we have not had quite time to reach the ripeness of municipal art shown forth in the thousand years of work in Europe. But we are improving. School-buildings have been mentioned, and there is little cause for shame in regard to the appearance of recent erections. Other public buildings are sometimes as misplaced and ineffective as Philadelphia's City Hall, but we must set against even this

memorial of graft the more recent accepted and authorized plan for a magnificent parkway or boulevard, cutting across Philadelphia's gridiron streets for more than a mile, and connecting with the great park at Fairmount—with yet another similar great highway projected.

No American is other than proud of his national capital. Long beautiful in plan, it is now beautiful in fact, and a renewed and extended scheme, sure of execution, bids fair to place it at least even with the most beautiful of the autocratically directed capitals of Europe. Meanwhile, we observe a street and park plan of varied beauty in Washington, and a treatment, most admirable, of its grove of trees and shrubs, all under the control of a commission operating with fidelity and intelligence.

Boston's public buildings; some in New

Photographed by Detroit Photographic Co.

FAYETTE PARK, SYRACUSE, NEW YORK
A beauty spot set in the city's heart

York; the splendid arch in Washington Square, New York, and the no less splendid arch that gives entrance to Brooklyn's Prospect Park—all these are in the very heart of capital. But here is Texas desiring to slough off the meretricious art that has barnacled upon the walls of her really noble capitol building; and here is the superb conception involved in Cleveland's group plan—can we avoid the feeling that there is marvelous progress?

Barely ten years ago, Chicago taught the world a lesson of beauty in the White City, and the St. Louis Exposition is driving home the conception of noble beauty for public structures that was fully upheld at the Buffalo fair.

An instance of endeavor and of success:

Photographed by Detroit Photographic Co.

THE ENTRANCE TO PROSPECT PARK, BROOKLYN
A majestic public memorial

in Boston a railroad would erect an iron bridge over a parkway; but the foresight of

Courtesy of Charles N. Brown

TENNEY PARK, MADISON, WISCONSIN
An achievement of a coöperative park association

A NEW YORK VISTA IN NEED OF BEAUTIFYING

Drying clothes in the rear of large apartment-houses

A NEW YORK VISTA BEAUTIFIED

Morningside Heights, New York City, was, a few years ago, a dumping-ground for the city's trash

the park men gave halt until the city had provided $63,000 additional, to put a dignified and permanent stone structure in place, to be always beautiful.

Think of it, ye pole-begirdled people of America. There are no poles in all Manhattan, nor in all Washington. Yet every imaginable electric utility is served in both cities. What the metropolis and the capital have, the whole country will shortly demand, and get.

Railroad terminals are properly public buildings, and it is inspiring to consider the erections of the past dozen years. The St. Louis and Boston terminals are a foreshadowing of the great structure coming at Washington, and the Pennsylvania station in Manhattan will undoubtedly be followed by an imposing Grand Central station.

Other pages could be filled with concrete evidences of physical betterment, as proof of our first contention, but it seems best to speak briefly of the forces of uplift in America—the powers that *pray* instead of those that *prey;* and to allude also to the status of administrative work in civic life.

Everywhere there are societies and organizations for helpfulness and uplift. The greater the need, the more of them; and it has been well said that a young man is surer of being invited into right ways in the "wicked" metropolis than in the country village. In this same metropolis, there are, according to "The Better New York," 308 places of helpfulness, excluding churches, within the island limits of Manhattan alone. Less than a score of years have most of them been at work, too!

National betterment is served by many active associations. Even the maligned city officials have their "League of American Municipalities," meeting for conference and progress. A significant State organization of mayors and officials has recently been formed in Iowa, and there is one in Pennsylvania.

THE MUSIC PAVILION IN GOLDEN GATE PARK, SAN FRANCISCO, WHERE PUBLIC CONCERTS ARE GIVEN

Of local bodies, dealing with good government, there are many, and some with great victories to their credit. Chicago's Municipal Voters' League has provided the city of "I will" with an incorruptible council. The system of municipal accounting proposed by the National Municipal League, and applied to the lack-of-system methods previously characterizing the conduct of Chicago's finances, resulted in a saving, the first year, of a clear million of dollars, as reported by Mr. Grosser, the accountant.

The Merchants' Association of San Francisco is responsible for the introduction of the merit system into the appointments of that city, as well as for other notable advances, including a model charter.

One body, the Taxpayers' League of St. Louis, has suspended operations for the present, giving as its reason "that, owing to the high character of the men now in charge of our city government, there is little or no work for the league to do within the scope of its charter."

Smaller cities are following suit. Under Mayor McCormick, of Harrisburg, the capital city of Pennsylvania is no longer "wide open." In Scranton, a larger Pennsylvania city, the Municipal League, under President E. B. Sturges, has brought about a similar condition of affairs. The capital city, too, has furnished an example, in addition to its wisely considered scheme of improvements, of how to deal with a traction company; for Mayor McCormick, notwithstanding unlimited franchises obtained previous to his incumbency, has taken occasion to secure a proper tax on gross receipts, instead of a trifling car-tax.

In Massachusetts, by the way, no railway franchises are perpetual; all are revocable at the will of the people. Further, the ingenious cumulative taxing method makes it impracticable for a railroad to turn the hose into its capital stock. Chicago, as is well known, has fought its fight, and now has its transportation companies entirely at its mercy. The citizens are on top.

It is most interesting to note that we are learning how to get good laws. The League of Iowa Municipalities recently presented twelve bills to the legislature, to assist simpler and better government. Ten of these bills were passed.

All these recent advances betoken one thing—that the people, who are the taxed, are taking vigorous hold of the taxes, whether paid to corporations or to municipalities. They want their money's worth, and there is hope that they may shortly even attack that stronghold of conservative antiquity and official defense of monopoly, the United States post-office, in demanding facilities at least equal to those enjoyed by Europe, even if such facilities would reduce the dividends of the express companies.

Within a decade, the United States has undertaken colonial government. Right along with the beginnings of that government have been instituted its safeguards. There is a Municipal League in Hawaii, and there is a Civic Federation in Manila.

In presenting concrete instances in support of our first contention, we have left untouched a great array of uplifting movements. During ten years, advances equal to any we have cited have been made in forestry, for good roads, for factory betterment, in nature study movements, in arts and crafts. The press has helped mightily and most efficiently. Thousands of women's clubs have been organized for good; effective work has been carried on in great cities in supplying free ice and pure milk to the poor, and in providing vacations, which have meant life to those thus helped. But why multiply? We submit our brief—have we made out our case? Is the finding for the plaintiff's first contention?

Given that it is, what then? That depends on the individual who reads—let him raise no umbrella to shed the rain of responsibility. All the way along, it has been one man, one woman, one boy or girl, to start a movement. As Professor L. H. Clark, of the University of Chicago, effectively says, "You needn't write to the secretary of the league; clean up your own yard!" Each one in his place has work to do, whether to pick up a bit of waste paper, or to help an appealing organization needing funds to spread the civic gospel. And that highest of civic responsibilities, the casting of the vote, let it be undertaken in the feeling that prompted the Freeman's Oath of 1634, taken even now every year in Faneuil Hall in Boston, at the Voters' Festival, when, with uplifted hands, the young voters stand and repeat:

"I do solemnly bind myself that I will give my vote and suffrage as I shall judge in mine own conscience may best conduce to the public weal. So help me God!"

THE CULTIVATED MAN IN AN INDUSTRIAL ERA

WAYS IN WHICH PROSPERITY BROADENS CULTURE—
THE EDUCATED MAN OF TO-DAY COMPARED WITH
THE EDUCATED MAN OF A GENERATION AGO

BY

WALTER H. PAGE

THE most impressive social fact in modern social history is the industrial development of the United States. In our more prosperous States, there are perhaps forty millions of persons more comfortable, better fed, better clad, better sheltered, more healthful, more economically efficient, and with a higher level of intelligence, than any solid mass of forty million persons that ever before dwelt contiguously.

We have proved that, in a mobile social condition—a society in which men are free to choose their work and to develop their personal aptitudes—men find their highest economic development. From mechanics to great industrial organizers, we have, in this generation, bred men that are the first of those that make things and the ablest of those that organize things. Thus has democracy justified itself industrially, and it has made a new chapter in the history of mankind.

Now, we have gone upon the theory that, in culture also, as in industry, the best way to produce men of a high type is by natural selection. The son of a butcher may turn out to be a poet—perhaps a better poet than the son of a bishop. A merchant may become a statesman. We have kept our faith in the doctrine that culture will, with a fair chance, take care of itself in a democracy; and it has been our boast and expectation that with industrial leadership will come leadership also in the arts and in the intellectual life. But we must, at every turn, face the question whether this supposition be true. Can a people that gives itself unremittingly to industry become a cultivated people?

Not long ago, an American of great learning sat in a luxurious club-house in New York, and said to a little group about him: "All this rush, and noise, and madness for money—what a Babylon it makes of this vast city! Millions of men running over one another to get rich; highwaymanship without chivalry, robbery reduced to a science. I sometimes think that the level of the world's culture would be raised, and not lowered, by our utter annihilation."

A little while ago, one of our principal journals, in discussing the rise of Japan, read us this homily: "What makes Japan particularly valuable as an exemplar for us is that the virtues in which it specially excels are precisely those we most lack and need. Among our most unpleasant traits are the worship and display of wealth, the lack of general courtesy, the insensibility to the charms of art, the feverish absorption in needless work, and the consequent inability to enjoy elegant leisure."

There are many obvious facts that seem to support such a conclusion of despair. Every cultivated man has seen the deadening, leaden touch of commercialism on much of American life; and we probably have more vulgar rich people in this generation than any other nation has, or than we ever had before.

Let us see, then, what chance a cultivated man has in an industrial era as compared with other eras.

To make a fair answer, we must get a standard of judgment. Let us assemble a group of cultivated men—a New Englander and a Virginian of half a century ago, who will serve best as examples of the culture of their day, and another man of the present who belongs wholly to our industrial era. They will at least make an interesting company.

The old-time, cultivated New Englander knew his Latin and his Greek. He quoted Horace with aptness and sometimes with ostentation. He knew his Shakespeare, too, but he found Pope as handy a poet as Shakespeare himself; and he was fond of reciting

Scott's poetry. He read French, but not German. But, so far as literature goes, he was entitled to be called a cultivated man. He read and loved, and profited by most of the best books in three languages. He used language well himself, too; and to use language well is no small part of the highest cultivation. If he spoke and wrote with a certain self-consciousness, yet he spoke and wrote well. Of public affairs, also, he was well informed; the better informed because there ran through his whole period the controversy about slavery and the nature of the constitution. He got much cultivation from intelligent and earnest discussion.

But of the other arts than literature, he knew little. The best music that he heard was, perhaps, the singing of the congregation. Unless he had been in Europe, he probably never saw more than a dozen paintings that were worth living with; and most sculpture would simply have shocked him. He saw the Bulfinch State House in Boston and a number of fine specimens of colonial residences; but he was not sufficiently appreciative of them to refrain from building his own house after some barbarous pattern.

Of science, of course, he knew next to nothing. To him, the earth and the universe were not living things, controlled by great laws of growth. To him, all things were created full-grown by the goodness of God, and died because of God's displeasure. Such a man gave much time and thought and learning to discussing mere formulas—religious formulas in particular. Half his thought was about what he called philosophy—abstract imaginings that touched life nowhere. But he was a gentleman and a scholar, and an interesting man. As we look back at him, he makes an admirable figure as a grandfather. He was a good ancestor; and, if a man stand this test well, I do not know what more we have a fair right to ask of him.

The Virginian of the same period had more polished manners than the New Englander. Perhaps it is better to say that he had more manners. He lived out-of-doors a large part of his life. He rode and hunted, and indulged in more manly sports. He talked loud. He was very sure of himself, and very proud of his kind. His manner toward women was effusive. A fine quality of robustness he had, too, and a touch of the romantic. He was the kind of man that women admire; and it would be a grave mistake in judging of his cultivation to value this quality lightly.

He, too, knew his few authors. He at least could read his Horace and his Shakespeare and his Pope. He had Addison in his library. When Scott's novels came out, he had read them with eagerness. But his primary interests were not in books nor in learning, nor in any of the arts. Of music he knew nothing; nothing of painting, except such suggestions as the portraits of his ancestors gave him. He, too, had a few fine specimens of architecture—the little court-house at Williamsburg, designed by Sir Christopher Wren, and the old colonial residences along the James. But they had little effect on him. It was from his association with other men that he acquired his best cultivation. He talked well. He had distinguished manners. His attitude to life was sane and cheerful. He was physically impressive, too. Measured by any fair standard, he was a cultivated man—a man who is not only a satisfactory ancestor, but who was also a satisfactory companion. He had a largeness of mind that perhaps unfitted him for scientific investigation, but it made him an inspiring personality. He knew little of science, but he loved nature, and he had caught something of nature's largeness of manner. He, too, rode theories hard—especially political and social theories. Perhaps his chief pleasure was got from political oratory; and he had a habit of orating even to his wife and children.

Before going further, let me remark that American society in general in our pre-industrial era, as represented by these men, we find lacked culture in one respect—at least, as seen from our point of view. Our grandfathers had not discovered the resources of childhood. We may almost say that the child was hardly known. True, he was not the tyrannical animal that he has since become; but he was too often a wretched member of society. He did not contribute his full share to the gayety and to the pleasure of the home. Any child who wishes that he had been born fifty years ago sadly needs instruction in social history.

We hardly dare say that we have in our generation discovered womanhood as we have in our era discovered childhood. But our era has made life far more comfortable by making our homes more comfortable, and it has thus given to a greatly increased number of

women advantages that only rich women formerly had. We have lifted the level of culture in the household, as we have lifted the level of the household's comfort.

A man, fifty years ago, got his cultivation in the United States chiefly from books and from political and religious discussion, and his culture was derived almost wholly from the past.

It can hardly be denied that our industrial era has made some very important additions to these sources of cultivation. But, before considering them, let us look at a typical cultivated man of our own time, who has grown up under the influences of modern industrialism.

I shall describe one such man directly from life. After a conventional education, having his own way to win, he began a business career. While he was thus engaged, he decided to become a lawyer. After the usual apprenticeship, he began to practice; and, as a method of broadening his acquaintance, he sought an appointive public office. By reason of his business training, he made an important reform in the work of this office, and wrote an instructive little book about one department of government. By this, too, he won an influential acquaintance. Among his clients now were his former business employer and associates. He served them so well that he became associated with them in certain large commercial undertakings, which were successful, and he became rich. At forty-five, he practically retired. He yet gives some time to his commercial interests and some time to the law. But he has, in great measure, detached himself from both. In other words, by means of modern industrial organization and modern methods, he won fortune and leisure while he was yet in the prime of life—his best working years ahead of him.

He has read widely in economics and history. When in his early life he took up certain studies in French history, he engaged a French master to talk with him for two or three evenings a week, so that he might speak the language without shame. The next year, he spent his vacation in Paris. He learned German, but less well, in the same way; and one summer he dabbled, by the same method, in modern Greek as a pastime. At another period, he read many good books of travel, from Hakluyt to Nansen. Not many years afterward, he became interested in international politics. He has now a large and well-read library on this subject, and he has the acquaintance of many foreign statesmen. But, after all, his special subject is commerce. He knows it as a master. He has gone on commercial errands to many parts of the world, and he has got knowledge from observation as well as from books. I had not seen him for a long time till two or three years ago, when I met him by accident. In less than five minutes he had confided to me—as if it were a secret—that he counted it a bad day when he did not get six hours in his library.

Here, then, is a man who is a product of our era. He still makes excursions into commerce, and now and then into the law. He lives in touch with his fellows. He enjoys intelligently a fortune of his own making. His name never appears in the newspapers. He belongs to no learned societies. He is democratic in his habits. He spends most of his leisure with his family, and has given much time to the education of his sons. He talks as well about the diplomatic successes of Secretary Hay as about the stock market. From his library, he will telephone his opinion about preferred steel, or he will give advice to an old client about the cotton market. If you are interested in cotton, he will tell you, not only the production of Egypt and India, but the area in Africa and Asia where cotton may be grown to compete with our cotton.

He loves good music, too. He has some ideas about architecture, for, when he came to build a house, he practically lived with the architect for a year, and read a score of books on architecture. He boasts of several happy adaptations of unusual ideas in his residence. He has a few pictures in his house, and they are good ones. All the arts have contributed more or less to his cultivation, and all the world to his information. His mind, his manners, his talk, and his tastes are cultivated; and he is a product of our industrial era.

Now, in the range of his culture, the industrial man has a decided advantage. An American of half a century ago looked to England, perhaps to Paris; and, if he were a classical scholar, to the region of the Mediterranean. It was a small arc of a circle that his vision took in. Now such a man looks to all the capitals of the world—east and west; and his horizon is incalculably wider. He may get cultivation from many arts, instead of from one or two. His equipment includes

not only new subjects, but a new coördination of the old subjects. He has not only books, but music, painting, sculpture, architecture—all the arts, besides the rich stores of science.

Again, the modern man is interested in the present as well as in the past, and more interested in the present than in the past. The old type of cultivated man was more interested in the past than in the present.

Another great difference between the two eras of culture is a result of this first difference. The cultivated man of a half-century ago, as a rule, lacked not only adjustment to life about him in general, but he lacked specifically an economic basis of life. He interpreted most things by outworn standards.

There are, then, I venture to say, three positive great additions to culture that we owe directly to our industrial era: the broadening of its range, the gain got by living in the present instead of in the past, and an economic balance of judgment which is an addition of common sense.

Let me draw a parallel: The evolutionary philosophy that began to affect men's thought about half a century ago, in a single generation radically changed our relations to one another and to the universe. We think in different terms from the terms that Emerson and Carlyle thought in. The world is become a different world to us. Now a revolutionary influence like that, if smaller, is taking place in the economic attitude of men toward one another and toward society; and this is a direct result of the industrial influences that are shaping us. It is coming to be a part of every cultivated man's equipment and habit and thought, and a part of his way of looking at human society, that he shall have an economic view of it and a better economic adjustment to it.

It is interesting, for example, to observe the difference between Thoreau and Mr. John Burroughs. These two men had the same initial impulse—to live close to Nature and to interpret her. Thoreau took to the woods and practically cut himself off for long periods from his fellows. His friends regarded him as an eccentric and "unorganized" person, and he accepted this status himself. Mr. Burroughs also retired to the woods. But he lives in a good house, which was built mainly with his own hands. He, too, has given himself to the study of nature all these years, and to the interpretation of it. But he has also regularly sold his grapes and his celery in the market at the highest price. A man of better "horse sense," or franker converse with his fellows, it would be hard to find; and, I suppose, more persons probably visit his home, as a sort of shrine, than go to the home of any other living writer in our country. They see not an eccentric man who has separated himself from his kind, but an interesting, frank philosopher who, if he seem an organic part of his garden and vineyard and woodland, is a part of human society also.

A corresponding change has taken place in the attitude of literary men to society. Think of old Fenimore Cooper's continual quarrels and lawsuits and exhibitions of sensitiveness. Think of poor Poe's uneconomic career. Think of the relation of literature to life when N. P. Willis was a court poet in New York. Think of the loneliness of Hawthorne, and what might have become of him but for Franklin Pierce's friendship. Grub street has been cleaned out by the sanitary forces of our industrial era. Educated society in general has accepted the arts and the artists on an economic footing. The effect, on real estate, of a literary man's residence in a neighborhood is now reckoned on by landlords. All these things mean that the material of cultivation has become economically adjusted, appraised, valued, accepted. Even a poet is now expected to have common sense and to pay his bills. While we yet see arts and artists sometimes degraded to commercial uses, as they once were to personal dependence, we oftener see the elevation of the commercial world to the level of appreciating arts and artists. All this is saying only that the economic organization of society is a steadying influence, a balancing influence, and that the whole social body is saner.

But these are not all the benefits of the industrial era. It has made more men cultivated. Before the diffusion of well-being, the proportion of men of culture to the whole population was very small in any country. With the growth of industry and the coming of physical comfort, this proportion has grown beyond calculation. We are within sight of a time when a majority of well-to-do persons will become, to some extent, cultivated.

It has brought physical comfort, for the first time, to a large mass of mankind; and there is much cultivation in sheer physical comfort. The most pathetic chapter in human expe-

rience is that long chapter which tells of men's trying to thank God because He had deprived them of ease, and had made life hard and insanitary. It was equivalent to thanking God for bad food and dyspepsia, for bad beds and rheumatism, for foul air and tuberculosis. When we first got running water in our houses, a great impulse was given to culture.

The industrial era has brought greater activity. Activity, in turn, has brought a wider acquaintance with men; and the best means of culture is association with the right kind of persons. To make instinctive acquaintances is easy with the machinery of our era. It is the distinct contribution that industrialism has made to society. The comparative isolation of the pre-industrial era was a state of life that we should not like to go back to. Before our industrialism is hanged for the murder of culture, let us at least give it credit for the widening of our horizon by travel and communication. We hear from Port Arthur more quickly than the English heard from Waterloo. We thus gain time, at least, and get somewhat more experience crowded into the same number of years.

There has come with our industrial era, whether it be a part of it or not, a better appreciation of the out-of-door world. It is to science, perhaps, that we more directly owe the realization of our close kinship with all things that grow. It is an enormous gain in the materials of culture.

It would be hard to exaggerate the culture-value of this growing love of the outdoors; it means the adjustment of ourselves to nature in a very literal and healthful way. Out of it is coming, too, a new art—an art that appeals instantly to a democracy. I mean the art of making the earth beautiful by landscape architecture, by tree-planting, and by the culture of flowers. The most healthful æsthetic and physical pleasure comes from this increasing culture. The time will come when our continent from ocean to ocean may thus be made more attractive to cultivated minds than any other part of the earth's surface is.

We may now take a view of culture as applied to our whole nation; for the industrial period is more than a period of mere work. It is a period of a wider humaneness. National actions reflect the culture of a people. The high and humane culture shown conspicuously by two recent acts in our national life makes them stand like stars of hope for the continued elevation of mankind. By these two acts in particular have we set the selfish nations a new example of humane culture. We freed Cuba and gave it to the Cubans; and we have used the power won by our industrial strength to keep the hungry governments of Europe from dismembering China. There are no nobler actions than these in the dealing of nations with one another; and they belong to the credit of American culture in its industrial era. And we have several similar tasks now in hand which we are solving in the same spirit. Men who think in large units will think twice before they despair of the true culture of any country whose government is making such history as this.

In the presence of this long chain of benefits that come from organization and industry, it is impossible to be seriously frightened for the future of culture in America. For what do these criticisms come to at last? That wealth is rotting us, and that the scramble for wealth is vulgarizing us? Let us see:

The money-making—or the money-saving—faculty is an important one in the economy of society. But it is not a high faculty, and it is not so rated by us. I doubt whether there was ever a time when mere wealth gave less distinction than it gives now. We do not especially honor our rich men. The poor sometimes envy them. The well-to-do use them, and otherwise pay little heed to them.

Nor ought we to forget that the more wealth there is in the world the wider the opportunity that it will bring to somebody. It gives us great colleges and museums and parks and libraries and good roads. Every poor man is, in some way, made richer by the rich. And we have this consolation—it is not we, but the rich man himself that runs the risk of being ruined by his riches. And not even in our industrial era are very rich men yet common enough to frighten us unduly for the foundations of society.

More important as an absorbent of men's energies than the love of wealth is the excitement of the game that we call business. Men spend themselves at it for the exercise and for the exhilaration of success. Such exclusively business careers do not add to culture; but they do give power to men. They develop the fibre of the race. In great commercial organization, men get the same exercise that

they once got at playing at kings and warriors. Such expenditure of energy brings its benefits. It at least keeps it fashionable to work.

In our groping after a large principle governing the cultivation of men, let us tarry here long enough to consider this principle. The highest faculty of the mind is the constructive faculty—the faculty that builds.

A man who builds an industry is a strong man. If he takes a constructive pace in industry, he suggests to us the benefit of a constructive pace in culture. The man that builds something is not to be feared. He is helping the better to organize the world for our benefit, and he is keeping our building faculties in practice. The trouble with the old and narrower culture was that it was receptive rather than constructive.

We cannot afford to stop too long to pity those that get wrecked on the road—whether they were wrecked by riches or by a foolish race for them. A really cultivated man must, in any period, be a strong man. A man who now wears the vulgar livery of wealth in any other period would have worn the vulgar livery of some other master; a man whose mind is now given wholly to gain would have given his mind to intrigue or to war, or to low enjoyments in any former time; a man who is submerged by the currents of one era would have been submerged by the currents of another era. What I maintain is, that it is easier to be a free-minded man now and in our country than it ever was before in any other land; and in free-mindedness culture has its beginnings.

In very general terms, we may divide American culture into three eras. In the early days of our history, we produced men of a very broad culture—a culture that had the quality of constructiveness. Jefferson was such a man. Dr. Benjamin Franklin was such a man. Theirs was, like ours, a building era. Men built government rather than industries. But there was a similarity of activity then and now, and a largeness of mind characterized both periods.

Later, there came a time when the dominant type of the cultivated man in the United States was a college-professor, or a literary man, or a preacher. Washington Irving and N. P. Willis were types of these—men of real cultivation, but of somewhat weaker constructive faculties. Along with them and after them came the professional scholar. He despised the practical life. He had slight knowledge of men. His judgment was not always sound. This we might call our pedantic era. Now, a cultivated man of the pedantic era was not a building man. He acquired learning, and he did little else. Nor was he interesting, and it is hard to call an uninteresting man cultivated.

The third era is our own maligned time of industrialism. We have the pedant yet; for a man may become a scholar, a specialist, by sheer industry. We make them by machinery, both in our own universities and abroad. But, when we have a cultivated man at all in our industrial era, he is more like the men of our first constructive epoch than he is like the pedant. Industry calls into action the constructive qualities, as statecraft called them into action a century or more ago.

When Huxley visited the United States, now nearly thirty years ago, he pointed out the great change that was taking place in education—the widening of its scope by science; and he gave a new definition of an educated man, based on a knowledge of science. Last year, President Eliot, of Harvard University, elaborated the same thought by declaring that there are now not three learned professions only, but seven or eight. To the preacher, the lawyer, and the physician we have added the engineers of several sorts, the architect, and other skilled men of high training. In other words, one of the great changes of our era is the broadening of education—its emancipation from medievalism. This we owe partly to science; but we owe something of the change to our industrial life also. The additions to culture-material implied in the mere mention of this change are great enough to suggest that we are undergoing a wholesome reorganization of our whole intellectual life. The larger truth is, we are, for the first time, so organizing human society as to make a rounded and balanced culture possible and general. The cultivated man in a perfected, democratic industrial life will be the most widely and sanely cultivated man that has been evolved. He will, of course, still have the roots of his culture in the past—you cannot make a cultivated man wholly out of contemporaneous material—but his chief interests will be in the present; and the great forces of our industrial time will make him saner, broader, and wiser.

UPLIFTING BACKWOODS BOYS IN GEORGIA

HOW THE POOR WHITES IN THE PINES WERE AWAKENED TO THE NEED OF PROGRESS — CHILDREN TAUGHT TO SCRUB, TO COOK, TO FARM, TO BUILD HOUSES, TO SAVE MONEY — BOYS WHO BUILT AN INDUSTRIAL SCHOOL AND WHO LEARNED IN IT HOW TO LIVE — A RECORD OF EXPERIENCE

BY

MARTHA BERRY

I HAVE always lived on a plantation in the northwestern part of Georgia. The poor people of the neighboring hills and piney woods had often appealed to my sympathy, but I had never thought seriously of their condition, or really tried to do anything for them, until one Sunday afternoon in the spring, about six years ago. On this particular Sunday afternoon, I was in a little cabin which I had fitted up as my "den," enjoying, all alone, the freshness and delight of the spring beauty and blossoms by which I was surrounded. I suddenly became aware of three little faces peering in at me from the window. They were bright faces, and the unspoken longing that I saw in them caused me to throw aside my book, to go forward, and to speak to them. But they were very shy, these three little "poor white" children, and it was only by tempting them with apples that I could coax them to come into the cabin and talk to me. After I had gained their confidence, I remembered that it was Sunday, and I began to tell some Bible stories. They had never heard any of these stories before, and they listened with an almost pathetic eagerness. Their bright faces, their keen interest, and their need of knowledge so touched my heart that I told them to come back again the next Sunday, and to bring all their brothers and sisters, and I would tell them more stories out of the Bible.

My own interest was now keenly awakened. After this, the children came regularly to my little cabin from Sunday to Sunday, bringing not only their brothers and sisters, but their mothers and fathers as well—often with an accompaniment of dogs, and of babies in arms —all gathered together in the one room, shy, but eager to listen and to learn. The only music that we had at our meetings, besides our own voices, came from an antiquated little melodeon, which, while I played it, was held up by several of the small, bright-eyed, barefooted children, whose interest was so great that there was usually a scramble to hold the broken pedal, or to support its feeble frame. These exercises were exceedingly simple. One song-book was enough for us all. So few of them could read or write that it was necessary for me to "line out" every hymn until it became familiar. My congregation grew so rapidly that soap-boxes, skins, shuck-mats, and even the doorsill, were all used as seats. The average attendance was from thirty to forty every Sunday. The shuck-mats were made by the country people, and brought as gifts to the cabin.

I took long walks with these children in the piney woods, told them about the different varieties of plants, mosses, ferns, and wildflowers, and the names and habits of many of the birds, insects, and butterflies. Their interest in everything that I told them, and their quick intelligence, encouraged me to continue the work. Very soon they began to bring all sorts of things to decorate our cabin, such as grasses, leaves, ferns, and even wasp-nests and colored stones, which they would arrange according to their fancy.

It was not long before I began to visit these people in their homes. I would ride my pony for miles through a zig-zag path in the resinous woods, leading up to some isolated little cabin. The whole family would come out to welcome me. And these words grew quite familiar:

"Yonder comes the Sunday Lady! Hitch yo' nag and 'light—'light and come in. We-uns be pow'ful proud to see you!"

It was not always easy to "'light and come in," because the doorway was usually blocked with dogs, cats, chickens, and a tow-headed baby, lying serenely happy in the sunshine, in a rude wooden box which did duty for a cradle. My appearance among the children was always the signal for a rush, pell-mell, to the dilapidated old well. This pleased me very much, as it showed that my admonitions to wash and be clean were literally carried out. There was always a scramble among them to get possession of the family tin basin. Then, after a hasty dip, they would come forward, one after another, to give a loving greeting to the "Sunday Lady," their bright little faces and caressing hands shining and dripping with water.

THE SCHOOL BUILDING IN WHICH MISS BERRY BEGAN HER WORK

These cabin homes are built of rough logs, and the interiors of most of them are smoked and dark, and, of some of them, none too clean. They are usually lighted by one or two small window-openings, but with cracks and crevices large enough for a dog of fair size to leap through. An old musket, strings of red and green peppers, and a miscellaneous collection of herbs decorate the rafters, and pots and pans are usually scattered about the floor of the one living-room. The only other room is a small "lean-to," adjacent to the cabin proper, used as a bedroom. As the cabin door always stands open, there is, fortunately, plenty of ventilation, and the children live in the open air all the year. But the people are poor—some very poor; and they have no money to educate their children, or to have them trained to useful work or remunerative labor, even when both parents and child are willing and know the value of training.

During one of these visits, my simple desire to do something for their betterment became a determined resolution to devote my entire time and means to teach them the way to help themselves. I saw that they needed only opportunities and a guiding hand to make them useful and successful men and women. They needed to know how to scrub, to cook, to care for their rooms, to dress neatly, to farm, to build houses, to save money—in short, to do the practical things of life in the best possible way.

From the little cabin school on the plantation, which had had its beginning in my "den" on a sunny Sunday afternoon, we moved to a place half a mile away, which my father had given to me when I was a child. Here we built a house of one large room, the rough lumber from the mill costing me $100, the men and boys doing most of the work. When this was finished, the county gave me a teacher for five months, and I paid the teacher to stay another month. I paid the teacher something extra to visit the pupils, to investigate the needs and condition of each family, and their ability to pay for books and old clothing; and, also, to lend books from house to house, and to see that they were returned in proper condition. I even supplied the school with umbrellas and wraps, so that the children could come in bad weather. The school soon

STUDENTS PLOWING CORN IN THE FIELDS OF THE INDUSTRIAL SCHOOL

so increased in numbers that the one-room frame building had to be enlarged. As the work increased in a corresponding measure, my sister, Miss Frances Berry, helped me in the sewing-school for the girls, in a debating-club for the boys, and in training the pupils to sing. It took all of the teacher's time and a great part of the time of my sister and myself to manage this school, to visit the sick, the tardy or the offended pupils, and to stimulate and to keep alive their interest and attendance.

Some of our pupils living eight miles away from the schoolhouse begged us to come and start a Sunday-school at a place called "'Possum Trot." Encouraged at this show of interest, we found an abandoned schoolhouse at "'Possum Trot," and we immediately took possession, and opened a school. The first Sunday that I taught there, the roof leaked so badly that my muslin dress was wet. I told the people that we must have a new roof by next Sunday. Some of them answered that "it mought not rain for a month." I said "yes—but it 'mought!'" I then told the men that, if they would get the boards, I would bring the nails, and that everybody who worked on the house would be treated to lemonade. The house was covered and ready for use by the next Sunday.

CLOSING THE DAY'S WORK AT MILKING TIME

In the same way, we opened a day-school; supplementing the five-months' term by an extra month, and supplying the school with an organ and a library of fifty books, requiring the teacher to hold a meeting on Saturday afternoons to introduce the people to the books. As our efforts were now meeting with so much success, we decided to open another school at a place called Mt. Alto, where we repaired an old house, whitewashed it, and made it attractive with photographs, an organ, and books. My friend, Miss Elizabeth Brewster, a graduate of Leland Stanford University, now offered to give me her services in the furtherance of my work, and, shortly after the school was in progress at Mt. Alto, we opened still another twenty miles away, at Forster's Bend. This was a very isolated spot, but as the needs of the people who lived there were so much greater than in our other fields of effort, we soon built up a fine school, which reached many more people in the surrounding country than we had antici-

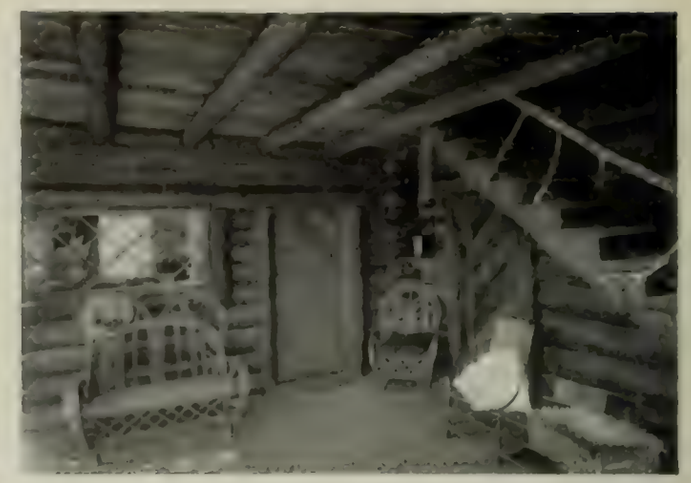
ONE OF THE SMALLER BOYS WORKING IN THE FIELD

pated. After four years of work and effort among these poor white people in the schools and in their homes, the results, while gratifying and hopeful, were still not what I desired. Their home influences were not always in sympathy with our school work; and the vacation was so long that they lost much of what we had given them.

With the schools that I have described all organized and in good working order, there was still a need which I wished to meet—the need of helping the condition and the restricted advantages of the poor white country boys. To do this, in January, 1902, I deeded a plot of eighty-three acres of ground near Rome, Georgia, and erected a two-story building at the cost of $1,000, and, with the assistance of Miss Brewster, opened an industrial school for the boys of the surrounding rural districts. We built a modern dormitory, a kitchen, a dining-hall, and a library. These were soon followed by a workshop, a laundry, a dairy, and an additional dormitory, built by myself and a few friends. Every boy was required to pay $5 a month for his board and tuition, or its equivalent in work or farm produce. He was required also to work two hours a day, doing any kind of work that he was called upon to do. They scrubbed, cleaned, cooked, washed, farmed, and did carpenter's work, much of which was new to them, and it took much patience to teach them to do all this with thoroughness and promptness. A neighboring carpenter was engaged a few days in every week to come and to direct the boys in putting up a workshop, a laundry, and a barn. We have no hired help, the boys doing willingly and cheerfully everything about the place, such as building fences, grading roads, and clearing land. As an example of sincere industry and real interest in their work, the following incident is an excellent illustration: Having an invitation to attend a Sunday school several miles from the school, one of the boys asked me to take dinner with his mother, who lived near. On Saturday, Ben came to me with a request to go home on that day. When I asked him why he wanted to go then, he said, "Well, you know, I wrote and asked Ma to have the house

THE LOG CABIN BUILT BY THE BOYS

THE DORMITORY



A NOOK IN THE CABIN

all cleaned up when you got there, but I'm afraid she don't know how, so I want to go and get it all scrubbed up before you come." When I arrived the next day, Ben had scrubbed with so much vigor that the floors were quite damp, and his mother told me that since Ben had been going to the industrial school "he'd ruther scrub than eat!"

As a result of what they have learned, several of our pupils are now working at the carpenter's trade, and receiving $1.50 a day, while others are doing more intelligent farm work. The fence-corners are cleaned out, the fences are repaired, and their farms are all in better cultivation than heretofore. My brother, Mr. Thomas Berry, is director of the school farm.

Three of our young men have a first-grade license to teach in the county schools, and one of them is doing good work in a most neglected spot. The first thing he did was to scrub the floor of the schoolhouse, to wash the windows, to put strips around the house so that the pigs could not get under it, and to mend the broken chairs and benches. He got every child of school age in the neighborhood into

A CLASS ASSEMBLED FOR RECITATION

Miss Berry and her assistant teachers in the background

his school, and he is a competent and very enthusiastic teacher.

Another instance of the practical results of the training of our school came to me last spring in a letter from the postmaster at Rome, requesting me to select a young man out of my school to fill a vacancy in the post-office. He pleased me by saying that a young man who had had the discipline of our industrial school for boys would make an efficient assistant. The young man is now receiving a salary of $50 a month in a little country town.

Our boys and pupils understand that, as we have very little outside help in our work, it is of the utmost importance to work with economy, frugality, neatness, promptness, and thoroughness. As an example of how such discipline is heeded and carried out, we had a boy who complained of his assistant in the kitchen as being wasteful. He declared that he would "peel his potatoes too thick"—a thing which to his mind and teaching meant a loss to him personally and to every boy in the school.

The home life of the school is also a discipline in social intercourse and in the training of gentlemen. At the beginning, I left my own home and went to live at the school. The teacher and the pupil are brought into daily contact in various ways. They eat at the same table, and they share the same fare, always of the simplest. In this way, an error or lapse of speech in conversation or in manners may at once be corrected without offense to the pupil, who almost invariably appreciates our efforts in this direction. They rise when I enter the room, they ask the blessing at table, they conduct the evening prayers and the singing, and they have been taught to be uniformly courteous and polite. One of the chief principles that we inculcate from the very first entrance of a pupil into the school is that whatever is worth having is worth working for.

Old clothes given to the school are sold to the boys, who pay for them by working on their holidays, at the rate of five cents an hour; a suit of clothing being sold to them for twenty-five or fifty cents. An amusing incident occurred, which illustrates, in rather a comical way, the good-natured, earnest willingness of the boys to work for what they get. Last spring a large box of clothing was donated to the school. In it was a sober bishop's suit of black broadcloth. This was bought for the sum of fifty cents by a young man of twenty years of age, who was not quite stout enough to fill it. On his appearance in the schoolroom the next day, a hurried note came to me from the teacher, requesting me to implore the wearer of the big bishop's suit not to appear in it again in the school-room, because his rather imposing and decidedly misfit ministerial appearance awed the other pupils, and made it impossible for her to conduct her duties with her usual firmness and dignity. This was, indeed, a comical situation, and called for all my powers of diplomacy. I called the unsuspecting young man aside, and, after warmly praising his industry, I told him that the suit he wore with so much pride was too nice for school wear, and ought to be kept for Sundays and state occasions. He agreed good-naturedly, and the bishop's suit did not appear in the school-room again.

At the close of our school in May of last year, the Governor of Georgia was invited to make an address and to hear the boys speak. The schoolhouse was crowded to overflowing, the people having come for thirty miles. One poor woman, who had parted with her only milk cow to keep her boy at the school, was among those present. Picture to yourself this poor white southern woman, this dear mother, who had sacrificed all she owned, to see her boy an educated and useful man—sitting there, weeping, but glad and proud—as she saw her boy modestly receive the prize for the best speaking!

I have frequently been asked why I gave up my home of ease and comfort to work and live among these people. The answer is simple. The more I studied them, their poverty-stricken environment, their restrictions and disadvantages, their lack of opportunities and of education—the bareness of their home lives and the absence of pleasure—the nearer I got to all this, and observed their intelligence, their aptitude and their eagerness to learn and to acquire the arts of usefulness and knowledge, the greater the contrast appeared between their lives of toil and ignorance and my own life of ease and plenty, of opportunities and knowledge undreamed of by them. Finally, the resolve was born to give my time and means to educating and uplifting these poor white people of my own State, and to trying through simple, industrial and educational methods to make them useful and respected citizens.

The aim of my institution is, as I have tried to show, to meet the educational and industrial needs of the poor white country-boys of Georgia; to reach the children of the farmers and the toilers, and teach them useful and remunerative trades and ways of making a living, to make them independent, thrifty, and self-respecting. But, while we have met with great success and encouragement, our needs are still very great. Last year we had seventy pupils—boys ranging in age from twelve to twenty-three years—with 100 of the same class enrolled for another term, and daily applications of many more. We need more room, more teachers, and money to pay the teachers. We have only four teachers, including myself. We wish to enlarge the scope of our work, and to make it possible to accommodate, and give the advantages of the school to all the earnest, bright, ambitious boys and young men of the section and State who apply to us for tuition and the privilege of working their way into useful citizenship.

Having lived for more than two years in the school, and coming into daily contact with all the pupils, I feel sure of the practical results of the undertaking; and I believe the boys trained in this school will make some of the most valuable citizens in all of our great country. I have lived and worked for and among these people for six years, and I feel that an industrial school, on their own ground and in their own State, is of untold value. I have entered into their joys and sorrows, and I have studied the problem on all its sides, and I believe that the work I have been engaged in for the past seven years of my life is a plain and practical solution of that problem.

OUR UPLIFT IN MUSIC

THE UNITED STATES LEADS THE WORLD IN POPULAR MUSICAL EDUCATION—A TREMENDOUS ADVANCE SINCE 1880 IN THE NUMBER AND QUALITY OF CONCERTS AND IN THE PRODUCTION OF AMERICAN COMPOSITIONS—A MUSICAL NATION

BY

LOUIS C. ELSON

THE advances made in the last few years in music and musical appreciation in the United States have been remarkable. So fast, indeed, have we widened musical opportunities, that, in one important respect, the United States leads the world in music. There is no other country where so much is being accomplished in the musical education of the masses.

The transatlantic education is generally more thorough, but ours is the more universal. The circulation of, at least, three of our musical periodicals—a good index of the interest taken in music—would astound Europeans.

There is not a single city of size in the country, I believe, that does not give its school children free instruction in music up to a certain point. Nor does the training of the masses stop here. In New York, a thorough musician, Mr. Frank Damrosch, trains the wage-earners, the working-people, in chorus singing, so that they listen to classical compositions and even participate in rendering them. The seed planted in the metropolis soon bore fruit in other cities. Boston followed, with similar choruses under the lead of Samuel W. Cole.

Such work is neither unpractical nor evanescent. After the recreation given by music, there is a permanent residue that is worth while; there is as definite an upbuilding of the softer and sweeter traits of character as in the study of good literature. Music furnishes a road toward Emerson's "high thinking" that may be trod by many who find other paths closed. And the United States, with the most heterogeneous population in the world, requires this universal education most.

Nor has the musical message to the masses been wholly vocal. In the train of the symphonic orchestras which have sprung up in all our great cities have come instru-

mental concerts for the working-people. New York has led in this with a series of People's Symphony Concerts in Cooper Union Hall under the direction of Mr. Franz X. Arens, that have aroused steady and permanent interest. Philadelphia, under the guidance of Dr. E. I. Keffer, has been able to give concerts of good classical and popular programmes under the direction of Fritz Scheel, at an admission fee of ten cents. In Boston, a balcony is reserved at the regular symphony concerts for music-lovers with lean pocket-books, at the Friday afternoon performances, though, beyond this, little has been done. Pittsburg has given its working-people excellent Sunday afternoon organ-concerts for a long time, under the direction of Frederic Archer. Low-priced opera has also been attempted in various cities in the interest of popular art study, so that even a slender income need not debar one from hearing some of the masterpieces of opera.

Most of these advances have been made within the last generation, even within the last ten or fifteen years. Much remains to be done, especially in regular musical study; but a good foundation is being laid in familiarizing all Americans with good music. The "ragtime" fever is but an excrescence, that will be reduced in time. It need not be entirely abolished, for it is but an excess of the syncopation which is found in much excellent music, from Beethoven to the folk-songs of Hungary, Russia, and other nations.

The United States, however, was, by no means, a musical desert just before 1880, though back in the middle of the nineteenth century musical opportunities were few. At that time, the Germania Orchestra, an excellent band of foreign musicians, after a period of semi-starvation, was beginning to teach New York, Boston, and Philadelphia the classical orchestral works. In New York, Eisfeld and Otto Dresel had begun chamber concerts, and William Mason and Theodore Thomas had revealed the beauties of Schumann for the first time. Gottschalk was giving concerts, sometimes with a whole battery of pianos, for the "piano recital" was unknown in that Arcadian age. The Jenny Lind craze had united music and advertising in a strange combination. Thalberg came over-seas, and, finding the Americans callous to his subtle touches, invented a "Home, Sweet Home," with hiccoughs and fireworks interpolated, wherewith to entice the general public.

But, after this, came a general advance in music, interrupted only by the Civil War. Thomas inaugurated thorough orchestral work; Nilsson, Tietjens, Santley, and a host of European artists began to swarm to America; and, finally, in 1878, Mapleson introduced the operatic "star system" in all its splendor. There were other indications of improving musical taste, or, at least of patronage. But the great uplift had not fairly begun. In 1872, when Gilmore, at his second jubilee, gave music at wholesale in a manner that had not been attempted since Scriptural times—for, according to Josephus, they had some big concerts in Jerusalem—there was no American music on the programmes. In 1876, when the great series of American World's Fairs was inaugurated at Philadelphia, only two American compositions of note were obtainable, a choral work by Dudley Buck, sung by a thousand voices, and a "Centennial Hymn," by John K. Paine; nor was it deemed a confession of weakness to engage Wagner, a German who was utterly ignorant of America, to compose an inflated and meaningless march for the event.

In the last generation all this has changed. In 1880, George W. Chadwick returned from his studies with Rheinberger in Munich He was the first of a race of younger composers who were to revolutionize musical matters in this country, and Rheinberger subsequently sent back a number of other American graduates to bear him company—Henry Holden Huss, Horatio Parker, Louis A. Coerne, Arthur Whiting, F. F. Bullard, and several others. Before 1880, the American composer had been a rarity; after that time, a competition began that was indicative of growth. Today, when an American World's Fair opens, there is no longer any thought of seeking musical aid from any foreign composer; the difficulty is rather how to choose representative native works without slighting any of the prominent American composers.

A fair number of women composers also have come into notice since 1880. In this field, America, with England, has had a distinct advantage over continental Europe. The conservatism of Germany and France has been a barrier to women composers in those

countries. If an Augusta Holmes, a Clara Schumann, or a Cecile Chaminade existed abroad, it was in defiance of the opinion of many musicians. Mendelssohn refused to allow his talented sister, Fanny, to print her works, and Rubinstein protested vehemently against Chaminade's successful career. In America, on the contrary, woman in music found not only no opposition, but a warm welcome. It was, nevertheless, as recently as the last decade of the last century that the American woman composer began to assert herself. The Festival "Jubilate" by Mrs. Beach, played at the opening of the Woman's Building at the Columbian Exposition in Chicago, was, very appropriately, one of the first works of magnitude that had been achieved in music by an American woman.

It was within the last quarter-century also that Europe began to discover the charms of American voices. There were no famous American singers before 1880, if we except Clara Louise Kellogg and Annie Louise Cary, and even these made their chief triumphs after that year. In 1889, Ambroise Thomas, then head of the Paris Conservatoire, spoke to me in enthusiastic eulogy of the American sopranos that had come under his observation in the class-rooms. The eminent composer, Massenet, joined in this tribute to the American voice, mentioning especially the success of Miss Sybil Sanderson, who was then singing the chief rôle in his "Esclairmonde." There were undoubtedly many excellent native voices before this time, but their possessors did not go abroad to study, and the facilities for advanced vocal culture were but slight among us a half-century ago. Nor have the great vocalists of the last two decades been the only musical successes among our countrywomen abroad. To the names of such singers as Nordica, Eames, Thursby, Nevada, Russell, Van Zandt, Sanderson, and Suzanne Adams can be added a list of famous American violinists, such as Senkrah, Maud Powell, Leonora Jackson, Nettie Carpenter, and others. Naturally, these Americans gave successful concerts in the United States, where they not only created a greater interest in music, but fostered a spirit of emulation, which led to increased and more thorough study of the art.

Following the increased interest came a wonderful growth of conservatories of music. In 1880 there were only three important conservatories in America: The New England Conservatory, the Boston Conservatory, and the Cincinnati College of Music. In 1900, the National Conservatory had been established in New York; a great institution under Ziegfeld's direction in Chicago; a prominent institution under Miss Clara Baur in Cincinnati; and thorough music schools in every city of even second rank throughout the United States. The eminent Bohemian just deceased, Antonin Dvorak, came to New York, and became an inspiration to a host of young composers. The colleges and universities began to imitate the early example set by Harvard, Vassar, and the University of Pennsylvania; and Yale, Columbia, the University of Michigan, and other great institutions of general education added music to their regular courses.

Dvorak endeavored to establish something like a national school of composition by utilizing plantation music in his famous symphony—"From the New World"—although Chadwick had already used similar themes from southern sources. This is not the place to discuss whether such material is strictly American; it may suffice to say that a number of our composers turned to plantation and Indian music in the hope of making their work distinctly "national." Probably the finest outcome of this vein of work (excepting the Dvorak symphony) was MacDowell's "Indian Suite," one of the most romantic of American orchestral compositions.

Another field of musical activity soon developed—the attempt to create an American opera. In the middle of the nineteenth century, two Americans wrote operas, which for a long time stood alone as the only efforts of Americans in what may be called the best musical form. William H. Fry composed "Leonora" and "Notre Dame de Paris," and George F. Bristow brought forth "Rip Van Winkle." It was not until 1896 that another attempt was made, when Walter Damrosch presented his "Scarlet Letter." Since that time, John K. Paine has finished "Azara," the most ambitious operatic work yet achieved on this side of the ocean; Chadwick has written a dramatic sacred opera—"Judith"; and Coerne has essayed an American topic in "The Women of Marblehead." Edgar S. Kelley's "Puritania," although not so am-

bitious as any of the foregoing, is an American opera by an American composer, performed oftener than all of the foregoing.

In spite of the musical advance, however, the true American national hymn has not yet been forthcoming, though the government has officially recognized the "Star-Spangled Banner"—a rather unsingable theme with a too brilliant refrain, and originally an English drinking-song—as the anthem of the country. Meanwhile, the Society of the Cincinnati, composed of descendants of the officers of the revolutionary army, have endeavored to bring forth a new musical setting for the words of "America"—now sung to the British national air—but without any marked popular success.

In large orchestral forms, our composers have not yet evolved many compositions. The two symphonies of Paine, the three of Chadwick, and the symphonic poems of Van der Stücken are the most important; but the concertos of MacDowell and the overtures of Chadwick have even a better right to be deemed standard. In cantata and oratorio, however, some permanent work has been done. Horatio Parker's "Hora Novissima" and Paine's "Oedipus" have taken rank among the musical compositions of the world. In just this matter, too, there has been a momentous change. A generation ago, an American work would have been regarded in Europe with, at most, a mild curiosity; today, our composers occasionally receive orders to write compositions for this or that transatlantic musical festival.

Another change, equally important to the composer in the large forms, is the fact that it is no longer impossible to find a publisher of an orchestral score in this country. A repertoire of orchestral works, not vast but respectable in dimensions, has been printed by New York, Cincinnati and Boston music publishers.

Whether the deed be meritorious or not, it is undoubted that American publishers and managers have broken the Wagner monopoly, and have brought the works of Wagner within the reach of the average musical student. Reprints of the great Wagnerian works have been recently made by more than one American house, which are likely to induce as much Wagnerian study in this country as ever existed in Germany itself, while the American "Parsifal" craze is raging too prominently at present to need description.

The reflex effect, in Europe, of such American advances is not to be minimized. America prints popular editions of Wagner—Europe must follow. We call a number of prominent conductors from Germany, England and France to our shores—the remaining ones are more prized at their home. Jadassohn, the great teacher of counterpoint, once thanked me for what America had done to make the position of the music-teacher in Germany more remunerative and more respected.

There is another field of music in which America is certainly the leader, though one may doubt whether it is a branch of the art that will please all musicians. We are preëminent in manufacturing automatic musical machines. Our country has fairly driven the music-box out of existence, and has replaced it with something better. However strongly classical conservatives may denounce music produced by mere mechanism, the fact remains that such a device makes it possible for persons in small communities, or without technically trained associates, to hear masterpieces of which they might otherwise remain altogether ignorant. Lessons in listening to music are a neglected branch of popular musical study, which may be supplied by automatism if more artistic means are unavailable.

In other branches of musical manufacture, the change has not been very marked in the last generation. America supplied excellent pianos and organs before 1880, as she supplies them now—the United States has been for a long time the foremost nation in piano manufacture. Our manufactures in musical wares extend down to the useful metronome, the price of which has been greatly modified since America began its construction.

To sum up, I may say, that, with a piano or a cabinet organ in almost every home, with a musical journal read in almost every family, with a band of ambitious composers, many of them young and radical, with orchestras in every large city, with musical libraries at hand to aid the student, with conservatories everywhere, there has been an uplift in musical matters during the last generation that promises a great future—when once we learn to copy German thoroughness and solidity in musical study.

FIRST-HAND EDUCATION IN SENSIBLE SCHOOLS

HOW SUPERINTENDENT CLIFFORD, OF COUNCIL BLUFFS, IOWA, TEACHES THE THREE R'S THROUGH GEOGRAPHY—THE PROGRESS MADE BY CHILDREN WHO STUDY OBJECTS AND PICTURES AS WELL AS BOOKS —A WISE SYSTEM THAT MAKES SCHOOL WORK INTERESTING

BY

ADÈLE MARIE SHAW

(THE SEVENTH OF A SERIES OF INVESTIGATIONS OF AMERICAN PUBLIC SCHOOLS)

IOWA has fewer acres of untillable land than any other state in the Union, and, in consequence, its population is scattered on farms and in small cities. Its educational policy is too nearly indicated by the headlines in a recent Iowa newspaper: "Fads not popular. County superintendents to stick to old lines."

But, at Council Bluffs, Mr. W. N. Clifford, first as the principal of the high school, then as superintendent of city schools, has been proving for six years that the old lines may not be best, that the old highway of the "three r's" can be improved. The result is, that Council Bluffs children read better, write better, and know more about arithmetic than the children elsewhere trained under older methods.

"I used to think," said Mr. Clifford, "that, if I ever came to have charge of schools, I would not teach some things as I had been taught." Thus, for one thing, he introduced the novelty of teaching the children to read, to write, and to cipher in teaching them geography.

At the beginning of his work, he found the children still sing-songing lists, "Alabama produces—" "Louisiana produces—." He sent out at one time, in many directions, more than a hundred letters, asking, "Can you give me, lend me, or sell me material illustrating your part of the country?" The people who got the letters, replied. Much has grown from that beginning. No teacher of geography in Council Bluffs is now "asking questions from the books." They do not have the traditional book.

In a grammar-school class there that I visited, the subject of the lesson was China. The children had read something about Chinese history and Chinese customs in a geographical reader, the text and pictures of which had aroused their interest. Now they were studying about silk manufacture, learning about a "product" in Superintendent Clifford's new way. On the teacher's desk was an array of bottles and cases, with samples of silk mounted on cardboard. All about the classroom, ranged along the board or in the children's hands, were pictures representing the silk industry.

While the rest of the class told or wrote the history of silk from moth and egg to taffeta or brocade, a little girl showed me the parts of the exhibit. "See," she said, with modest enthusiasm, "how neatly the worm eats out the place in the leaf."

Among the things she showed me were pictures of Corticelli silkworms, a worm eating, a worm full-grown, and a worm ready to form the cocoon; a set of illustrations showing the cocoon from the first spidery floss on the tree to the final stage with the worm out of sight; and illustrations of silk manufacture. There were samples in bottles of wild silk from the wild silkworm, of raw silk, of silk in its various manufactured stages. About each of these things, the children could talk and write.

In a box by itself was the printed matter, furnished to the teacher for the lesson. It included a list of references to the best textbooks, material culled from some of them, a mass of printed matter prepared by the Philadelphia Commercial Museum, an article on silk, two pamphlets issued by a silk company, a chapter from "Stories of Industry," and a topical outline of the whole subject for use in the classroom. "In this sort of thing," said

Mr. Clifford, "a supervisor could work his teachers too hard. I do not expect them to go to the library and work themselves to death at night."

The superintendent himself provides the material for lessons like this. It is gathered from many sources. From the printed illustrations and from photographs, the science-instructor in the high school, Mr. Thomas, prepares lantern-slides. Much of the material, like the silk cabinet, showing the stages of manufacture, is bought as it is used; some boxes. They then circulate from one school-building to another. While one division of a grade studies silk, another, also working on China, is busy with tea. When each has finished, exhibits are exchanged. Each teacher, too, with the assistance of her class, voluntarily collects additions to the material furnished; and these remain a stationary "exhibit" in her own classroom.

The stereopticon also is used in the elementary grades to reinforce not only geography but every subject. Nearly every school in

SKETCH MADE BY A PUPIL TO ILLUSTRATE THE INDUSTRIES OF THEIR STATE

of it is made up to order; and much is given. Cocoa manufacturers have sent generous exhibits. One not only puts up a complete set of pictures and bottles, but expresses the whole, free, to any school that wants it. A coffee-house has furnished a similarly complete coffee exhibit. Photographs of cacao-trees and coffee plantations, sent in this manner, show to the children the actual employees who have gathered the cocoa and the coffee that are in the bottles. Nothing from any source likely to stimulate the child's interest is overlooked.

The materials are first packed, in the superintendent's office, into light, cloth-bound

the city has a lantern—bought with money raised at school entertainments. At these entertainments the children's work is shown to their parents. "When we began," a principal said to me, "people that lived under the shadow of the school, and never knew what was going on, came and saw. We charged everybody, adults and children alike, ten cents. When the first exhibition was over, we had a hundred dollars. With fifty dollars we bought a lantern, and fifty dollars remained in the treasury."

The crowning lesson on an industry is the lantern lecture. At one which I attended, the occasional "Oh! Oh!" or "Ah-h" that

greeted a picture was very expressive. The children of one class described, in turn, the things going on in the pictures of lumber-camps, of sugar-factories, of cotton-gins; and forty listening classmates were ready to correct mistakes or to supply omissions. All the classes write accounts of the pictures, describing one or many. Here enters Mr. Clifford's combination of many studies in one. The work may be called geography, penmanship, or composition.

I had a stenographer record one review lesson. Here are scraps of oral work from sixth-grade children's story of wheat. The scraps are taken uncorrected from different parts of the recitation:

GIRL.—The origin of wheat is not known, but most botanists think it is in western Asia near the Mediterranean Sea. The Chinese are known to have cultivated wheat two thousand seven hundred years before Christ, and the Egyptians before them. A grain of wheat was found in one of the bricks in a pyramid of Egypt. In Egypt the goddess is called Isis and in Greece this goddess is called Ceres. In Egypt, when the Nile River overflows, the wheat is scattered over the water and sinks into the earth. The wheat spreads and before the Nile river overflows again the next year the wheat is ready to harvest.

TEACHER.—Anything she forgot?

GIRL.—From the goddess of Greece, called Ceres, we get the word "cereal," which means grain.

BOY.—The winter wheat has a much stronger stalk than the spring, and the kernel is larger.

GIRL.—The wheat stalk is from three to five inches long.

BOY.—The winter wheat has a much larger stalk, but it is brittle, and the spring wheat has a stronger stalk but it is tough and does not break so easily.

BOY.—Every large mill has a man to bake the flour into little cakes to see if the flour is all right in baking.

GIRL.—There is a chemist, too.

BOY.—He tests the flour to see how much gluten there is in it and see how much it is worth.

Before a child in Council Bluffs finishes the eight elementary grades, he has studied in his geography course, by means of "exhibits" and lantern lectures, thirty productions or sets of productions: Cotton, flax, Manila hemp, Sisal hemp, ramie, wool, silk, wheat, corn, rice, cocoanut, coffee, tea, cocoa, sugar (cane, beet, and maple), honey, woods, cork, packing-house products, buttons, rubber, petroleum, copper, sponges, zinc, coal, asbestos, Alaskan products, Philippine products, and Hawaiian products. Every month this list grows. And the children's power of expression, both oral and written, grows visibly as they advance from grade to grade, learning from objects and pictures.

From the time when the pupils in the first grade tell the story of Cinderella from pictures on the screen, till upper classes are ready for college, the lantern is in constant use. Alps or Indians, Mexico or the Pied Piper, every subject has its turn. The same set of slides clears up the allusions in a poem, furnishes composition themes, and reinforces history. Colored lantern-pictures of the Yellowstone, of the Kremlin, of a street in Constantinople, tell and suggest far more than the prints of a geography text. By the lantern-work the dull are stimulated.

The Council Bluffs child who has seen mats woven from a certain straw in India, the rope twisted from it in China, the thatch furnished by it for a house in the Philippines, is finding out the world he lives in. He may also establish actual relations with distant parts of it. For example, former Council Bluffs teachers now in the Philippines write to the pupils and send them little museums of native objects—banana fibre and soft cloth woven from it, pottery models of native stoves, betel-nuts, soap-bark used for washing the hair, a doll dressed to represent a "native lady," silky cotton from the cotton-tree to be compared with the coarser product of our shrub. "All these things have an extraordinary fascination for the children," said one of the teachers. "They like to read about them, talk about them, write about them, spell their names, and draw them." I even found that these children were exchanging letters with public-school children in Seattle, in Los Angeles, and in Jacksonville, Florida, about subjects in which they had become interested.

All this gives a zest to the school-work. There is interest in a letter that is going somewhere, a charm in the arithmetic of a tea invoice if you "know all about tea," a certain thrill in spelling words like *palm* and *bayou*, *ice-floe*, and *jungle* if you know what they stand for. Vitality in one school-subject vitalizes all the subjects.

"This is all very well," says the carper, "but do these children know capitals and rivers? Can they bound Arizona?" They do. They can.

They learn these things in many ways.

Photographed by J. H. Corlies

MAP OF NORTH AMERICA, MADE BY SIXTH-GRADE PUPILS, TO ILLUSTRATE THE PRINCIPAL PRODUCTS OF THE DIFFERENT SECTIONS

A CHARCOAL DRAWING BY A SECOND GRADE-BOY

Every school-room, from the kindergarten up, is equipped with a sand-table. When a section of the earth is to be studied, groups of children build up a relief map of that section, comparing it carefully with a model on the wall. In an individual sand-pan at his desk each child constructs another map. One little class, advanced beyond the study of their school-yard, their city, and Pottawattamie county—for these parts of the earth are always studied first—had reached the point where all Iowa was their province. A dozen of them were gathered around the big sand-table. When I entered the room, the sand-map of Iowa was complete in outline and was provided with indentations for rivers.

"Put in the cities, Thelma," said the teacher.

Thelma gathered up from the board behind her a handful of chalk bits, and set them briskly in place, interrupted by the others the instant a white spot lost its bearings. "Clinton is farther south." "Isn't Burlington a little more west?" "You've forgotten Sioux City."

Two of the boys with tiny twigs "planted trees" along the rivers.

"Farther apart because there are no forests," admonished the teacher.

Many hands dived into a box and set coal, lead, stone, wherever there were mines or quarries. Several stretched different-colored strings from one chalk city to another to represent the railroads they named as they settled the twine. Corn and oats were picked out and strewn broadcast, to show the districts where corn and oats are grown, and paper pigs and animal crackers were dispersed to indicate the portions of the state where hogs and other domestic animals are raised.

Salt-and-flour maps that, completed, look like plaster casts, are modeled for every section of the earth studied. Elevations, depressions, outline, are painstakingly molded. After the maps are dried, rivers are drawn in black ink. The supporting pasteboard is tinted to suggest the water of oceans most of these children have never seen. For every geographical section, too, every child makes a "book" of freehand paper maps. A common set holds seven—the political divisions (colored); rivers and capitals in black and white; elevations, variously indicated; animals sketched in ink—a hog rampant, forefeet in a trough, sheep very meek, cows of towering and pointed horns; vegetable productions, represented by pears, cranberries, a sheaf of wheat, apples on a twig, maple-trees tapped for sugar; characteristic industries, indicated by a shoe, a watch, a factory, with an amazing wealth of chimney, cars carrying coal, or lumber floating in a river; railroads, generally done in colored lines.

Sometimes the map shows the wild animals only, and looks like those our learned ancestors of the eighteenth century adorned with "lyons and other beastes of prey." One picture I saw—a large cod swimming into Cape Cod bay—suggested the whales in early prints of Boston. Sometimes the vegetable map is decorated with fruit and flowers done in color. The ingenuity to be found in any dozen of the little map "books" is startling. The result of this method of training is that these children can "bound" anything, give the capital of anything, because they know, not because they remember.

"JOHNNIE BEAR" SKETCHED BY A SECOND-GRADE GIRL

HOW THE TEACHERS STUDY

To give the children a definite idea of certain industries, teachers take them to visit neighboring shops and factories. To give the teachers a closer knowledge of what they teach, Superintendent Clifford makes journeys to outside places. The initial trip, Christmas, 1902, was to New Orleans. Fifteen teachers with Mr. Clifford and his family chartered a tourist car. The cost of travel for each person was little more than the ordinary fare for a berth. The car had a stove in it. The party carried prepared food, and milk and cream which they kept cool by putting them on the platform. Roast potatoes, breakfast foods, hot soups, waffles, and syrup were part of the menu. A stop at St. Louis gave them a glimpse of that city. At New Orleans, they found luxurious quarters in an old mansion for seven, eight, and ten dollars a week, took two meals a day at an excellent restaurant for fifty cents a meal, and had a late salad supper at their rooms. They visited the sugar and cotton plantations, the oyster bay and cannery at Biloxi, Mississippi, the sugar factories, the shipping-docks. The women went to the French opera; the men were entertained by the clubs and met there prominent Southerners, whose acquaintance was a delight. The trip took two weeks, cost very little, and added immeasurably to the usefulness of every one who went. Mr. Thomas took seventy-five pictures, and, on his return, converted them into lantern-slides. The teachers who went on the trip always show these pictures to the children that are studying the southern States.

Photographed by J. H. Corlies

THE TEACHER OF A GEOGRAPHY CLASS EXPLAINING THE PRODUCTS OF A REGION BY USING BOTTLES OF SEEDS

Photographed by J. H. Corlies

SKETCHING THE ORIOLE'S NEST IN THE BIRD ROOM OF A COUNCIL BLUFFS SCHOOL

A combination of nature study and drawing

I heard one of these teachers give a New Orleans talk to the class. It did not contain a wasted word. Every picture had a distinct value. The levees of the Mississippi, the stately plantation homes, the bayous, cotton-fields, Negro cabins, Negro schoolrooms, the French city, the rice-fields—all these things were full of interest, because the teacher had studied her subject at first-hand, and was able to mingle illuminating anecdotes with facts.

But facts are not all that the children gain from such talks. They learn also to sympathize with conditions that are strange to them. The teacher's story of the generosity and hospitality of the New Orleans school superintendents, "real southern hospitality," awoke a lively interest; her description of the

statue of Robert E. Lee, "a brave man loved by all broad-minded people," evoked a spirit worth even more than "information."

Indeed, the results of the trip to New Orleans have been such that Mr. Clifford plans to secure trips to Mexico and to Cuba. Nothing is wanting but money. Many teachers cannot afford to educate themselves in this manner. If the city will, either by direct appropriation or by raising salaries, make possible many such expeditions, not ten per cent., but ninety per cent. of the teaching corps will be able to pass on to Council Bluffs children what they themselves have gained from travel.

Photographed by J. H. Corlies

THE LITTLE BOY IN THE CHAIR ILLUSTRATES THE COBBLER SONG BY GOING THROUGH THE MOTIONS BEFORE THE PRIMARY CLASS IN ENGLISH

Other studies than geography are taught by methods as enlightened as those already described. In arithmetic, one teacher was using a merchant's actual weighing-slips to give her examples greater reality. Penmanship is everywhere remarkably good. In the lower grades, written work for all subjects is kept in one large note-book in which no removals or wholesale erasures are permitted. The singing is assured, sweet-toned, well-modulated; the choice of material definitely assertive of what is uplifting. Mrs. Ingalls, the drawing supervisor, has, in four years, produced results that I have seen matched nowhere outside Indianapolis.

Reading is taught by a system of phonics, and spelling-matches are frequently held, even matches in which the schools throughout the city compete with one another. Yet, with this regular work done better than ever before in the history of Council Bluffs schools, the last hour and a half of each day is given to the enjoyment of nature study and reading.

Every school from the fourth grade up is supplied with a reading-list. Last September, 500 children had library cards. In April of this year, 1,600 had library cards. Library records given in a local paper (April 15th) say: "Children lead in reading. The librarian's report shows that, of reference books, the adults took 42 and the children 2; philosophy—adults, 52, children, 2; religion—adults 26, children, 10; sociology—adults 50, children 9. The children, however, took a much greater interest in natural science than their elders, for they took out 206 works on the subject, while the adults only called for 58. The children also took the greatest interest in works of general literature, calling for 331 volumes, while their elders used only 227. The same was true also of history, the

children calling for 305 historical works and the adults 143. Of works of travel, the adults took out 95 books, while the children called for 180. The war in the East and other events caused the older people to call for 408 works of a geographical character, while only 48 children needed any such aids. Of adult fiction works, there were 2,475 volumes taken out during the month by the adults, and only one by a child; but, of juvenile fiction, the little people demanded 1,555 volumes. The total number of books taken during the month was 6,368." The population is about 30,000.

Lectures by men and women worth hearing give an impulse to the reading. Professor Vincent, of Chicago University, has been here once and is coming again. Mr. Bright has given the schools, teachers, and parents an account of a visit at Tuskegee, and Mr. Ernest Thompson Seton has opened for Council Bluffs children the way into a new world.

"Mr. Seton came and was here two days," said the superintendent. "During the two days he was here, he gave five lectures. The effect his visit had on our language-work is wonderful."

"My boy stained himself up to play Indian after one lecture," said a member of the Board. "He made a poor choice of pigments, and it was some time before we got him scrubbed off—but I wouldn't have had him miss it for anything! He's trying to answer all the squirrel questions."

Squirrels in Council Bluffs (as in Madison, Wisconsin) are at home in the streets and parks, much loved and carefully protected. Mr. Seton noticed them from the hotel window, and gave the children a set of questions about them. "If they can answer those," he said, smiling, "they'll know pretty much all there is to know about that kind of squirrel."

Photographed by J. H. Corlies

PUPILS MAKING SAND-MAPS OF EUROPE

The lesson is outlined on the blackboard

One result of Mr. Seton's visit has been to make the children kind to animals. Another has been to strengthen their powers of observation.

THE DEFECTS IN THE SCHOOLS

What has been accomplished in Council Bluffs has been accomplished by work. "I feel that I must live a hundred years; we've just begun," says Mr. Clifford.

Council Bluffs is a laggard on physical train-

PLASTER COPIES OF THE RELIEFS FROM THE PEDIMENT OF THE PARTHENON, USED AS A SCHOOL-ROOM MODEL

ing, and the taxpayers have not waked to the need of manual work in the schools. Mr. Clifford has instituted regular exercise periods, when children hang from horizontal ladders placed in the halls, or play vigorous games under the direction of inventive teachers. But there is no real gymnasium in any of the buildings, and no scientific care or training of bodies, already marked by bad habits of posture and wrong breathing. Even in physiology lessons and in the lessons on grain products little is taught of wholesome foods. A vigorous start has been made in inexpensive hand-work in the lower grades, but not a carpenter's tool, a bench, a bit of iron, not a single workshop is discoverable. There is little excuse for the mothers and none for the fathers in permitting this state of affairs. No naturally finer material ever fell into the schoolmaster's hands than the boys and girls of the Council Bluffs high school. The teachers, from the high school corps through the kindergarten, are fine, forceful, attractive. There is not a "grafter" on the board of education. Every member is eager to improve the opportunities of the children. But till the whole community recognizes the good work that is being done, and demands better, these children will suffer for what many others are having.

Already the influence of the city is spreading. Mr. Clifford sees always the hopeful side. The harder his work, the brighter his enthusiasm. Daily visiting, lecturing, planning, experimenting for better results in every corner of his jurisdiction, he finds time to encourage the social part of the school life.

When summer comes, he packs up cheerfully, sends ahead five hundred pounds of freight, and begins his work at county institutes. Here he shows the material used in the Council Bluffs schools, gives the talks on materials that he has given in grade meetings as models for the city teachers, and in the evening repeats the lantern lectures on "Iowa," on "Bee Culture," on many subjects with which he has interested teachers and parents at home. He advises the teachers of the rural schools about starting collections, invents for them inexpensive ways of beginning, and inspires them to strike out for themselves. His hopefulness never flags; his appreciation of the support given his work by the board never fails; his belief that Council Bluffs will not rest till it has the best of everything is optimism itself. To him, the dark side exists only to prove how fast the city may create light.

In Council Bluffs, in schools that a few years ago were no better than thousands of others, I found conditions so adapted, so infused with life, that every child was getting in ten minutes what once he might not have gained in a day.

Photographed by J. H. Corlies

DRAWINGS FROM GREEK RELIEFS USED IN THE SCHOOLROOM

MODERN MURAL DECORATION, "ATHENS," BY JOHN LA FARGE, IN THE WALKER ART GALLERY AT BOWDOIN COLLEGE

Photographed from negative of Professor C. C. Hutchings. Courtesy of Mr. Henry Johnson

HOW AMERICAN TASTE IS IMPROVING

THE GROWING APPRECIATION OF GOOD PAINTING, SCULPTURE AND ARCHITECTURE SINCE THE CENTENNIAL EXHIBITION — MANY LESSONS LEARNED FROM EUROPE—PRACTICE AND STUDY OF THE FINE ARTS NOW AN IMPORTANT PART OF OUR LIFE

BY

CHARLES H. CAFFIN

THE past quarter of a century has witnessed in the United States a remarkable growth in the appreciation of the beautiful, as a thing not only desirable in itself, but necessary to the development both of communities and of individuals. The demand for beautiful things has created a supply, and the supply has suggested a further demand, leading, in turn, to a finer method of satisfying it.

But, though this rapidly spreading movement followed a period when the charms of beauty were little cared for and still less understood, I doubt if, anywhere in modern history, we can light upon a choicer example of the true relation of art to life than in the domestic architecture and furnishings of our Colonial period. The manor houses which still spot New England and the environs of New York and Philadelphia and are particularly numerous in Delaware, Maryland, and Virginia, attest, not only the refined taste of the builders and designers, but the habits of simple elegance that characterized the lives of the occupants. Other times and countries have produced far grander examples of artistic achievement, but none in which material art was so directly wedded to the art of living beautifully. It is an ideal to which our best efforts may well approximate.

Moreover, in the early period of the republic, the fervor of young nationalism expressed

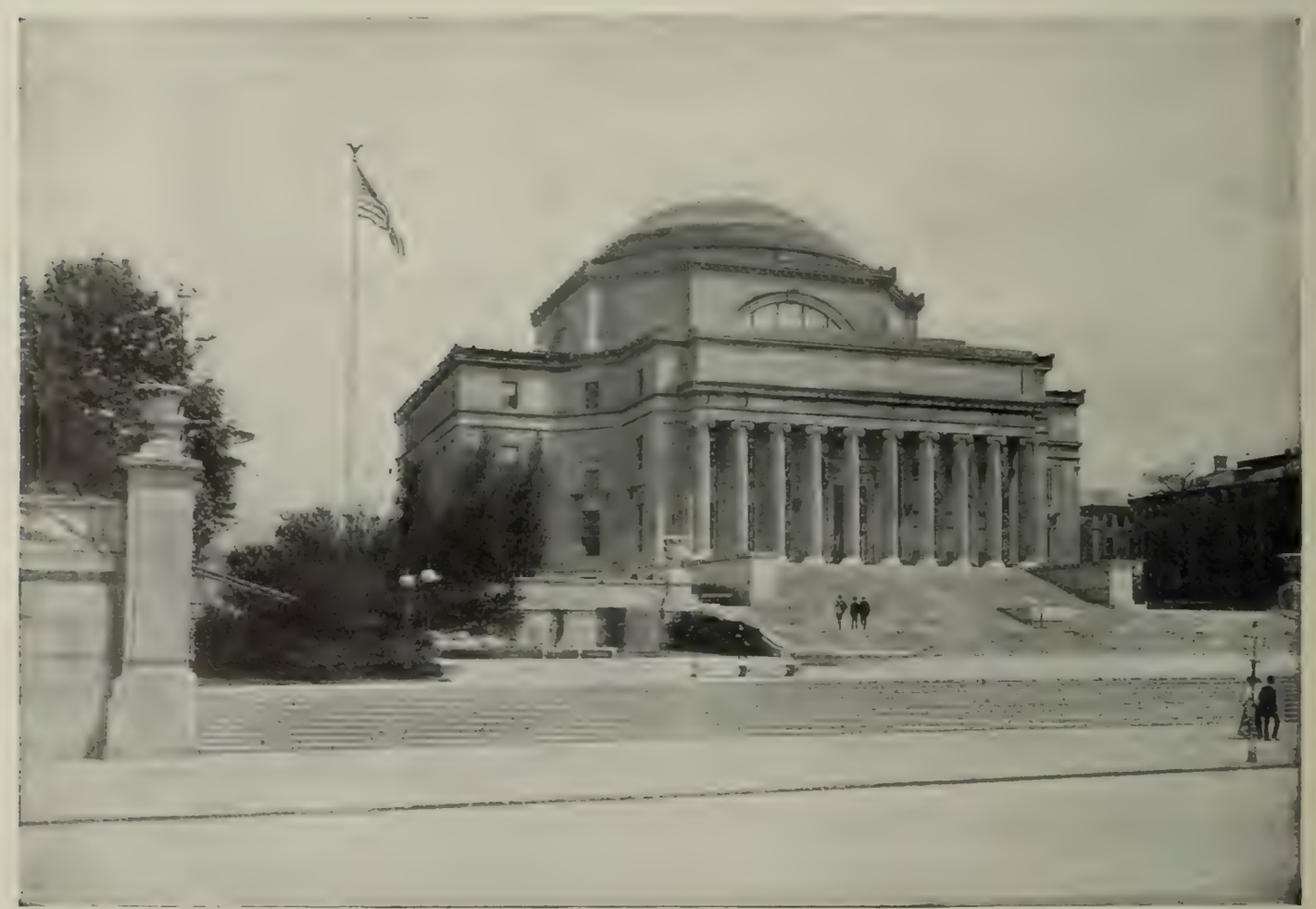
Photographed by George Stark

THE MUSEUM OF FINE ARTS AT ST LOUIS

Photographed by Detroit Photographic Co.

SIMPLE ELEGANCE IN A HOTEL DINING-ROOM

itself in material beauty; but chiefly in the direction of public works. To this time belong the White House, the Treasury, and Patent Office buildings, and the central portion of the Capitol, at Washington; the Philadelphia Mint; the Sub-Treasury and Custom House in New York; the Custom House at Boston, and the State House in the same city designed by Bulfinch; and the University of Virginia, of which the architect was Thomas Jefferson. And even the second half of the nineteenth century was distinguished by a few notable æsthetic efforts, such as the Gothic revival, which, in New York, produced St. Patrick's Cathedral and Grace Church, by Renwick, and Trinity Church, by Upjohn,



THE LOW LIBRARY, OF COLUMBIA UNIVERSITY, NEW YORK CITY, IS AN EXCELLENT EXAMPLE OF THE MODERN USE OF STRICTLY CLASSICAL ARCHITECTURE

Photographed by Soderholtz—Curtis and Cameron

THE ENTRANCE TO THE BOSTON PUBLIC LIBRARY

As inviting architecturally as its legend is hospitable

while, in 1858, the dome of the Washington Capitol was completed by Walters. Otherwise, this period represents a decadence in public and private taste; characterized by the vulgar ostentation of the quickly and newly rich, by the smug respectability of people too busy with material affairs to have much concern for the graces of life, or by that higher form of Philistinism which limits the possibilities of culture to the moral and intellectual faculties.

But the growth of appreciation of beautiful things in this country has been not merely a reaction from these conditions. It is a part of the wider problem, which has confronted the country, of replacing aristocratic ideals with an actual, working system of democracy. A system of collective culture has been gradually built up. This involved, at first, a general leveling, the loss of much that was precious. It is substituting a wide diffusion of benefits.

In this review of the past, I have referred to architecture alone, since it is around this that all the other branches of art cluster. In its public and private buildings, you have the direct clue to a nation's attitude toward beauty; they are essentials.

The change toward greater appreciation of all the arts began when the influence of foreign art found its way into this country, about 1876, the occasion of the Centennial Exhibition at Philadelphia. Yet, even before this, forces were quietly at work. A school of architecture had been established in Boston in 1866. The present buildings of the Pennsylvania Academy were completed; the Museum at Boston was erected; and the Metropolitan Museum was under way. Moreover, two architects, Richard M. Hunt and H. H. Richardson, had returned from studying at the École des Beaux Arts, in Paris, and, being men of high ideals and broad knowledge, speedily became the leaders in a renaissance of taste.

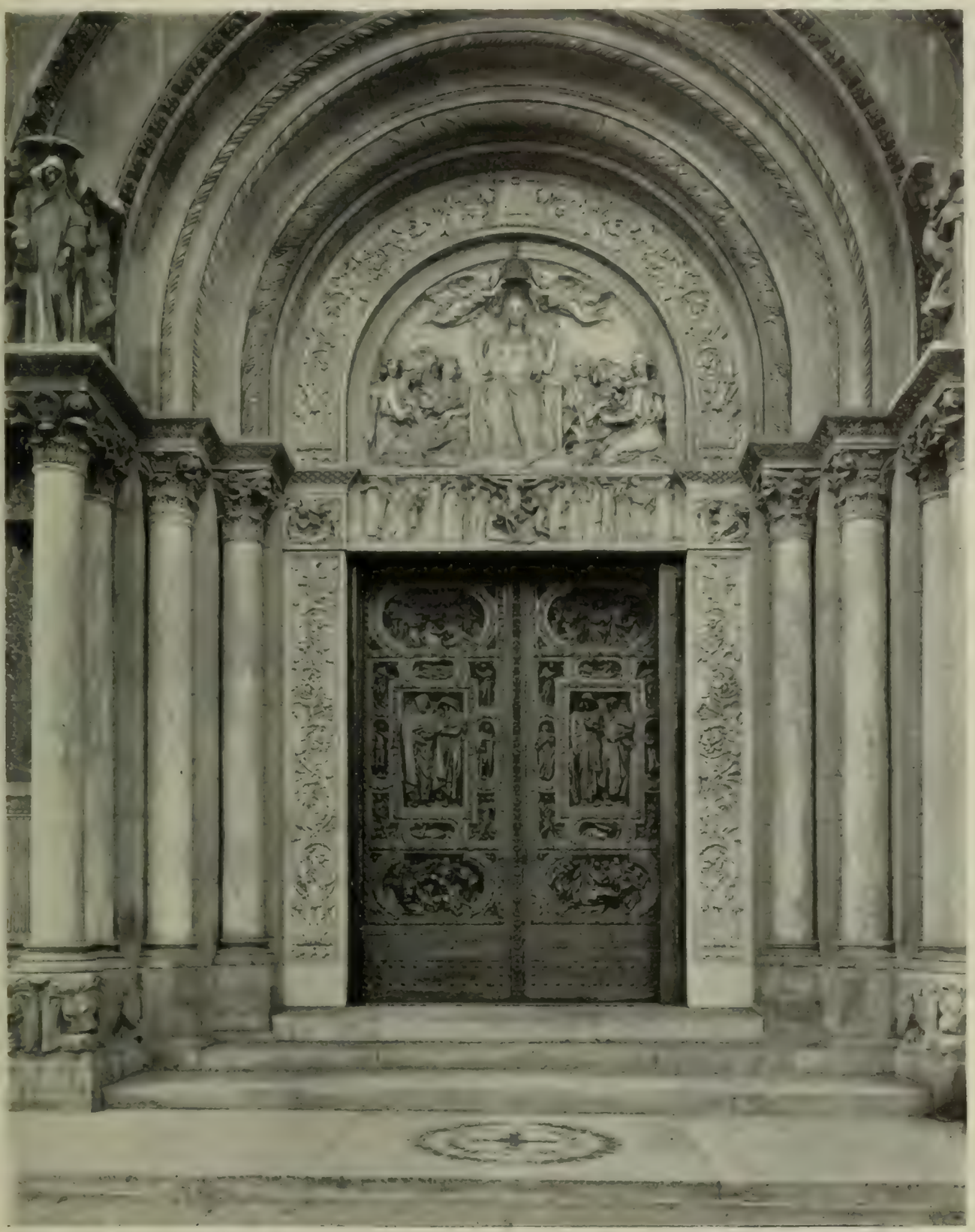
But the most direct influence was exerted

Photographed by A. Wentworth Scott

THE OLDER LIBRARIES UNMARKED BY DISTINCTION

The entrance of the Astor Library, New York City

by the Exhibition. A large proportion of the visitors to the Exhibition received there for the first time an idea of what a picture and a statue really were, and of the infinite directions in which art may enter into the products of ordinary utility. Two conclusions began at once to take shape: that beauty is desirable, and that the secrets of it must be learned from Europe and the Orient. Students began to turn longing eyes toward Düsseldorf, Munich, and Paris; merchants and manufacturers realized that they must



Photographed by A. Wentworth Scott

THE BRONZE DOORS AT ST. BARTHOLOMEW'S ON MADISON AVENUE IN NEW YORK

A striking and successful beautification of a church

Photographed by Detroit Photographic Co.

THE OLDER STYLE OF PAINTING FOR MURAL DECORATION
Commodore Perry at the Battle of Lake Champlain

Photographed from the negative of Professor C. C. Hutchings. Courtesy of Mr. Henry Johnson.

AN EXAMPLE OF PAINTING TO-DAY
Mural decoration, "Rome," by Elihu Vedder, in Walker art gallery

Photographed by Hall. Courtesy of Klaw & Erlanger

THE CURIOUS BLENDING OF SEVERAL SCHOOLS OF ART IN THE SMOKING-ROOM OF THE NEW AMSTERDAM THEATRE

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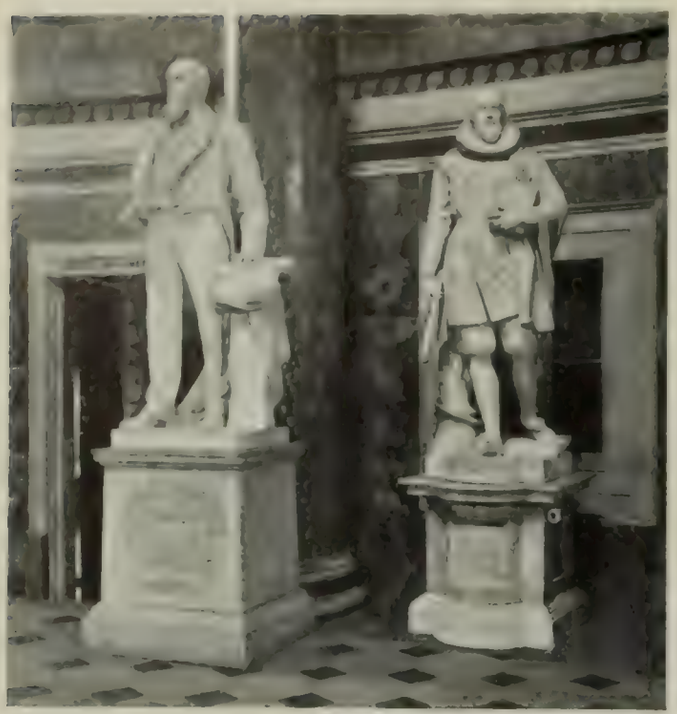
THE CHAVANNES MURAL DECORATIONS IN THE CORRIDOR OF THE BOSTON PUBLIC LIBRARY

emulate the artistic qualities of foreign products; and thousands of Americans, returning to their homes, became enthusiastic missionaries, spreading the news of what they had seen, and fully resolved to visit Europe as soon as their circumstances permitted. From this time onward, the tide of foreign travel rapidly increased, and, through artists and laity alike, a free interchange of relations with the Old World was established and increased.

Photographed by Hall. Courtesy of Klaw & Erlanger

DETAIL OF AN ARTISTIC BRONZE DOORWAY AT THE NEW AMSTERDAM THEATRE, NEW YORK

At the close of the Exhibition, many of the foreign collections were presented to the city of Philadelphia; and these were installed in one of the permanent buildings of the exhibition, becoming the nucleus of a permanent collection of industrial art. Nor was it long before the merchants and manufacturers realized that it was not enough to have examples of artistic production, but that steps must be taken to learn how to produce them. Accordingly, a School of Industrial Art was



Photographed by Detroit Photographic Co.

Photographed by Cincinnati

THE OLD STYLE OF COMMEMORATIVE SCULPTURE

The hall of statuary in the national capital

The Washington at Richmond

Photographed by Detroit Photographic Co.

THE BETTER SCULPTURE OF TODAY

The Farragut, by St. Gaudens, at Madison Square, New York

AN OLD SOUTHERN HALLWAY, CHARMINGLY SIMPLE AND DIGNIFIED IN TASTE

founded in Philadelphia, the first of its kind in this country. It concentrated its efforts upon the textile branches, and aimed to give instruction that should be at once technical, scientific, and artistic. Its course has been one of uninterrupted usefulness, and yet its

Photograph by Warts Brothers

A SIMILAR OPPORTUNITY FOR BEAUTY, MARRED BY A FUSSY PROFUSION OF UNNECESSARY ORNAMENTS

Courtesy of the Pullman Co.

THE IRRITATINGLY INTRICATE DECORATIONS OF AN OLD-STYLE PULLMAN SLEEPING-CAR

students are disinclined to avail themselves of the opportunity of instruction in artistic design. A narrow notion of practicalness has limited their attention to the technical and scientific sides; and in this they have been encouraged by the attitude of the manufacturers themselves. The latter, while recognizing the need of artistic designs, were compelled at first to look for them abroad, and, to a considerable extent, have continued to do so, thus placing a discount on original design in this country.

It is satisfactory to turn from these incidental setbacks to the actual good which has come to us through the foreign influence. It has manifested itself through our artists, our art institutions, and the attitude of the public mind. The Paris schools of art—the best in the world—have become the Mecca of our students and the guide and inspiration of our local schools, whether attached to art institutions, such as those of the National Academy, the Pennsylvania Academy, and the Art Institute of Chicago, or to the great universities; or independent, like the Art Students' League. Moreover, there are the schools of art, spread all over the country, which are offering a thorough training to professional students, and making their influence felt upon thousands of others who are studying art only as a branch of general culture. So numerous are they, so numerously attended, and backed up, as they are, by elementary art instruction in the primary and high schools in many states, and by graduate courses in the universities, that a network of influences is being drawn over the country, which explains the rapid spread of a knowledge of, and interest in, art, and predicates, for the near future, a truly national regard for the claims of the beautiful.

Such growth has been fostered by the increase of museums and the improvement in their management. As far as possible, they emulate the character of the great collections abroad, while attempting a great deal more in the direction of bringing their works of art to the notice and understanding of the people. Thus, from the great collections of prints, stored in the Lenox Library and the Boston

Courtesy of the Pullman Co.

THE RESTFUL EFFECT OF SIMPLICITY IN THE RECENT FORMS

Museum of Fine Arts, frequent exhibitions are selected, and set forth with a scholarly thoroughness and regard for what people need to know in order properly to appreciate the exhibits, which make each occasion one of practical usefulness. The Boston museum supplements this work by issuing, at intervals, hand-books to its separate departments, which, in lieu of the formal catalogue method, treat each subject in an enlightened and thoroughly attractive way. Other institutions, like the Pennsylvania Academy, the Chicago Art Institute, and the Cincinnati Museum, bring the value of their collections home to the intelligence of the public by regular talks in the galleries, conducted by artists.

And this brings one to the vast system of lectures which overspreads the country, concentrated in organizations like the Brooklyn Institute, the Drexel Institute in Philadelphia, and the Art Institute of Chicago—to mention only a few out of very many—and appearing sporadically in women's clubs and in public and private schools. Moreover, the national talent of acquisitiveness, one of the most conspicuous products of our educational system—when directed toward the study of art—has awakened thousands of people to the appreciation of the rôle which art should play in life.

Countless homes reflect this in a greater propriety of decoration and furnishing than formerly; and, from the home, it has passed into the street. Churches, hotels, theatres, office buildings, are being erected on all sides with, at least, a consideration for beauty of design and fittings. Commerce employs this element of beauty to emphasize its own dignity and importance, and has discovered in it an asset not to be ignored. Even a regard for that larger element of design, which includes the planning of total effects, has begun to penetrate the public consciousness. At the Chicago Exposition, it was seen how a concentration of effect and a union of similarity with difference conduced to the grandeur of the scene. Moreover, while the individualism of our democratic institutions may never admit of such gigantic large effects as Napoleon I. and Napoleon III. created in Paris, there is already a feeling abroad, as evidenced in the various municipal art commissions, to do something to modify the rampancy of independent action in building. And this new development of civic pride has reached right up to the top, and effected a complete change in the attitude of the national government toward the erection of federal buildings. A thoroughly trained supervising architect, with a corps of first-class assistants, and the substitution of public competition for political influence, have resulted, of late years, in an extraordinary improvement in the character of these buildings. They are signal examples of the way in which the wealth and power of the country is expressing itself through artistic means.

The wealth of individuals is also being expended upon art. New York is rivaling London and Paris as a market for works of art, and Americans are among the pluckiest and most persistent buyers in the auction rooms abroad. But I prefer to dwell upon the public-spirited generosity, which, through gifts or loans to museums, or by frequent loans to exhibitions, brings these treasures within reach of the enjoyment of the masses. Nowhere is the pride of possession shared with other people in so truly a democratic way as in this country. The annual attendance at such galleries as those of the Carnegie Institute at Pittsburg, of the Pennsylvania Academy, and of the Boston Museum of Fine Arts, approximates three hundred thousand persons, while that of the Metropolitan Museum is proportionately larger. Moreover, innumerable loan exhibitions are held regularly in the smaller cities. From these facts, it is evident that the results of this generosity are incalculably great.

Indeed, to sum up the situation in this country: our progress in the arts, instead of being state-aided and aristocratic, is essentially democratic. The secret of its rapid growth is that it is rooting itself widely in the consciousness of the people. Perhaps, in some respects, it has got upon the nation's nerves. But the people, guided by public instruction and private study, and assisted in their newly aroused interest by the munificence of the rich, are being drawn more and more toward an appreciation of the beautiful, while a band of highly trained artists stands by to give effect to their demands. Nor is it to be altogether regretted that a wholesome savor of Philistinism abounds. It is a necessary ingredient of democracy, and may save us from reaching that extreme altitude of artistic perfection on the other side of which is rapid descent.

PRESIDENT C. W. ELIOT—OUR FOREMOST CITIZEN

COURAGEOUS INNOVATOR, PERSISTENT CHAMPION OF ENLIGHTENED IDEAS, THINKER, ADMINISTRATOR, ORATOR—HIS STORY THE STORY OF MODERN HARVARD —A STUDY OF THE HEAD OF OUR OLDEST UNIVERSITY

"THOSE who can, do; those who can't, teach." This cynical epigram sums up an opinion which has been common for centuries—and often with too much justification; for, except in rare instances, education has been entrusted to fifth- or sixth-rate persons. Almost anybody who had shown no aptitude in particular used to be deemed good enough to fill a pulpit or to teach school. Education fell into similar peril with the Ten Commandments; men supposed that they had done their whole duty toward it when they acknowledged its importance. Writers called the little red schoolhouse the palladium of our liberties; orators boasted of our school system as of Niagara. And yet during the first half of the nineteenth century education did not keep pace with the needs of the American people. A flood of illiterate immigration was pouring in; our native population multiplied; democracy, which, above all other forms of government, requires an educated electorate, was spreading in all directions, and throwing on the ignorant responsibilities for which they had had no training; but free America lagged far behind despotic Germany in providing education for high and low. The rise to wealth and influence of large numbers of self-made men encouraged a popular belief that much schooling was a hindrance to success. The barefoot boy might hope to be congressman, or governor, or possibly president—he would certainly know how to make money—while the college graduate was wasting his life in a futile search for the lost digamma. Politicians, themselves for the most part uneducated, flattered the prejudice of the masses by insinuating that higher education created an "aristocracy of intelligence": true democrats ought to tolerate no sort of aristocracy, and, after all, was it not treasonable to suggest that the blind intuition of these masses was not fully competent to decide the most intricate questions of finance, commerce, or diplomacy, about which they knew nothing?

The sudden and unparalleled material expansion of the country served further to draw young men at the earliest moment into the vortex of practical life, and the questions of slavery and secession gradually overshadowed all others.

Not only were new multitudes needing to be taught, but the bounds of knowledge had been marvelously extended. Two generations of scientists had heaped up vast stores of new facts; the doctrine of evolution was offering a new interpretation of the universe, and Charles Darwin was demonstrating a method by which all knowledge could be tested and unified. Mankind stood on the threshold of a new epoch. Only education lagged behind. Our American colleges, like the British universities, harbored some excellent scholars, but most of the workers of this revolution dwelt outside of the academic pale.

The close of the Civil War in 1865 forced to the front the long-postponed problem of American higher education. The production of wealth received an enormous impetus. The application of science to industry called for great numbers of experts, and the rapid growth of the Columbia School of Mines, of the Sheffield Scientific School, and of the Massachusetts Institute of Technology, showed that this demand would be met. The ease with which technological institutions sprang up, and the great prizes which their graduates might hope to win, made still more dubious the future of colleges devoted to the humane studies, to the higher teaching of the sciences, and to research. In 1700, in 1800, perhaps even as late as 1840, the American college had fairly fulfilled its mission: after 1865 the question was whether it could be transformed to supply the new

needs, which were immense. The election of Charles William Eliot to the presidency of Harvard, on May 19, 1869, gave the answer.

Mr. Eliot was only thirty-five years old, a Bostonian, descended from a typically Boston family, in which his grandfather was what used to be called a merchant prince, and his father served Massachusetts as a congressman and Harvard College as treasurer. Mr. Eliot himself, graduating second in the class of 1853, was appointed the next year tutor in mathematics in the College. From 1858 to 1863 he was assistant professor of mathematics and chemistry in the Lawrence Scientific School; then he spent two years in Europe, studying chemistry and education; next, at the opening of the Massachusetts Institute of Technology, in 1865, he was appointed professor of chemistry, and taught there until his call to Harvard, except for a year's absence in France. Traditional service to Harvard, membership in that social set in Boston on which the College chiefly depended for counsel and support, the exact training of a man of science, an unmatched acquaintance with educational methods at home and abroad—these were evident qualifications, but they would not have sufficed without his remarkable personality.

What this was, few understood in 1869. His ability nobody doubted—it was already so conspicuous that it had brought him the offer of the treasurership of one of the great mill corporations, which he fortunately declined. Some critics found in him the traditional chill of the Boston Brahmin, others the intellectual hardness which they regarded as inseparable from the man of science. Above all, he was full of ideas on education which clashed with the existing standard. He had the habit of telling unpleasant truths without mincing phrases, as if he were stating incontrovertible formulas in geometry. His opponents thought him dogmatic, arbitrary, opinionated; his adherents sometimes accepted his views as one accepts the binomial theorem, not because it inspires zeal, but because to deny it would argue folly. He refused even to appear to conciliate.

Thus, whilst the election to the Harvard presidency was still pending, he printed in the *Atlantic Monthly* two articles on "The New Education," in which he laid bare, as with a surgeon's knife, the inadequacy of the existing system, and spared neither prejudices, interests nor traditions. As if to prove that no selfish consideration could weigh with him, he criticised as follows the custom of choosing college presidents almost exclusively from the ministry. "As a class," he said, "ministers are as fit to be suddenly transferred to the bench at forty-five or fifty years of age as they are to be put at the head of large educational establishments. The legal profession would be somewhat astonished at such an intrusion. Yet in their capacity of trustees, lawyers and men of business are constantly putting clergymen into the highest posts of the profession of education, which is thus robbed of its few prizes and subjected to such an indignity as soldiers feel when untried civilians are put over their heads."

When this article appeared, the favorite candidate of the overseers and alumni was a minister, Dr. A. P. Peabody; but the Harvard Corporation elected Mr. Eliot, and the overseers, after once refusing to concur, at last reluctantly gave their consent. A chill settled on the Harvard world; suspense, as if a calamity hung over it. Mr. Eliot was dreaded as an iconoclast. Dr. Peabody's supporters felt chagrined that their candidate, whom everybody loved, had been beaten by an unpopular outsider. The orthodox feared that he would make Harvard irreligious. The devotees of those venerable wall-flowers, Latin, Greek, and Mathematics, believed that he would bestow all his favors on parvenu sciences, history, and modern languages, which had only their youth and novelty to commend them. Many of the alumni felt a vague apprehension that change meant injury. To offset this various opposition, Mr. Eliot had neither personal magnetism nor a persuasive manner. He relied on the rightness of his views to win acceptance in the end; until then, he could wait in patience. Never did a masterful leader begin his work under less smiling personal conditions.

At the summit of a splendid career we do well to remember its difficult beginning. The world has grown so accustomed to President Eliot's success that it can scarcely believe there was ever a time when it seemed doubtful whether he could succeed; and Harvard men now shower upon him their admiration and gratitude, gladly forgetting that their fathers regarded his election as a menace. So runs the record of greatness everywhere. Eliot, the reformer of American

education, like Lincoln, the savior of the American Union, like Cavour, the creator of United Italy, like Bismarck, the welder of the German Empire, must overcome misunderstandings and detraction, then compel unwilling attention, and, last, survive unbounded enthusiasm.

Harvard College, the instrument through which President Eliot's personality was to express itself, was in 1869 rather a nondescript institution. It had the prestige of age, and of educating a large number of the public men, authors, and scholars who had flourished in New England since 1636. But it was neither businesslike in organization nor up to date in teaching. Of its 1,043 students in the spring of 1869, 529 were undergraduates —members of the College proper, or Academic department. The Law and Medical schools had respectively 138 and 308 students, the Divinity School 19, the Scientific School 41. A School of Dentistry had just been established. But, although Harvard called itself a university, it lacked coherence and unity; it was rather a collection of ill-organized departments, loosely held together by a common name. And, after all, what form should the American university take? Racial analogy pointed to Oxford and Cambridge; educational sympathies—at least, on the part of the progressive men in the Harvard faculty—looked toward Göttingen and Berlin. Mr. Eliot, however, insisted that the new institution must be American. "A university, in any worthy sense of the term," he wrote, "must grow from seed. It can not be transplanted in full leaf and bearing. It cannot be run up, like a cotton-mill, in six months, to meet a quick demand. Neither can it be created by an energetic use of the inspired editorial, the advertising circular, and the frequent telegram. Numbers do not constitute it, and no money can make it before its time."

Accordingly, President Eliot's task was twofold: to introduce a uniform and efficient administration, and to raise the standard of instruction to the level of the best. The Medical School had its own treasury, its private Commencement, and complete self-government. It resisted fiercely the proposal that its funds should be administered by the University treasurer, and that its acts should be controlled by the Harvard Corporation. "How is it? I should like to ask," said Dr.—— at one of the stormy Faculty meetings, "that this Faculty has gone on for eighty years managing its own affairs and doing it well—and now within three or four months it is proposed to change all our modes of carrying on the school? It seems very extraordinary, and I should like to know how it happens." "I can answer Dr. ——'s question very easily," replied Mr. Eliot: "There is a new president." And within two years the "bland, grave young man," as Dr. Holmes called him, had brought the government of the Medical School into harmony with the University. He wrought a similar reform at the Law School, and none too soon, for, under the direction of its three aged professors, it had the slackness, the garrulity, the drowsiness, the inertia of old age. "Well, I declare!" exclaimed Governor Washburn, when Mr. Eliot paid his first official visit to the Law School; "the President of Harvard College in Dane Hall! This is a new sight." Within a year C. C. Langdell had begun his splendid work of revolutionizing not only the Harvard Law School, but the teaching of law. Similarly, the legal control of the great University Museum passed from the hands of outside trustees into those of the Harvard Corporation. Member by member, the unification of the institution was completed, and the President of Harvard ceased to be regarded as an intruder at the meetings of any of its Faculties.

Under the centralized administration, Harvard became not a federation of sovereign departments, but a group of specialized organs, resembling the departments of the National Government, directly responsible to the executive. They have their separate budgets under the care of the University Treasurer; they manage their own affairs, independently of each other, but not of the central authority, which takes care to harmonize interests, to lessen friction, to prevent the wasteful duplication of studies from which the English universities have suffered—above all, to inspire every part of the organism with a common ideal. The result is a university administration adapted to rapidly expanding needs, and thoroughly American in type.

But the great task was educational, not administrative. President Eliot's fundamental purpose was to extend the elective system, which had been tried half-heartedly

off and on for forty years. The old theory was that all youths must take the same amount of Latin, Greek, and Mathematics—as if one medicine could cure all diseases. But the elective system approached students as individuals, not as masses, and it argued that it would be as logical to feed equatorial Negroes on blubber and Nova Zemblans on bananas as not to recognize that different youths thrive best on different studies. Education, the reformer urged, should mean the educing, or drawing out, of power, not the cramming in of facts; consequently, the educator's duty is to discover the bent of each of his pupils, and to develop that to the utmost. By 1869, the historical reasons for giving the classics and mathematics a monopoly had lost their force; for it was no longer true that only through them could the best intellectual discipline be attained. At any rate, unless the College was to dwindle into a training-school for a handful of classical philologists and mathematicians, it had to recognize that various gifts and aptitudes called for various teaching. The educator, like the master of the dykes in Holland, decides how much water shall flow in, where locks shall be constructed, and how, by extending the network of channels, new areas can be rendered fertile. President Eliot saw to it that the stream of what we may, in truth, call the New Learning—natural science, history, economics, sociology, fine arts, modern languages and psychology—should be admitted freely. The range of instruction was broadened as fast as the revenues allowed. Specialization broke up the routine of the teachers, and led to the offering of advanced courses, out of which the Graduate School evolved. The standard of admission was raised; written examinations replaced oral, and lectures, whenever feasible, recitations.

That truth should be the final aim of education, and that without liberty the attainment of truth is thwarted, became the guiding principle at Harvard. Students were treated as men; the old-fashioned discipline, derived from a theological age when the pious labored to discover the largest number of ways of transgression, was revised. Students managed their own dining-halls, and in their social affairs suffered less and less interference from above. Order and decorum increased proportionately. At length, compulsory attendance at morning prayers was abolished. Everybody knew that the gallop, half-dressed, to chapel, the inattentive moments passed in the pews, the haste of the minister, one eye fixed on his watch and the other lifted to heaven (so to speak), and the rush for breakfast before the last amen had died away, did not constitute worship. Nevertheless, the abolition of this devotional pretense gave persons who mistake the letter for the spirit a chance to accuse Harvard of irreligion; which they further improved when Harvard cut the last sectarian tie, and adopted the plan of engaging eminent clergymen of different sects to conduct the religious exercises, which were all voluntary. Unitarian Harvard had been to those persons anathema, but an unsectarian Harvard—not even the Hebrew could supply a word to characterize that! A system must be diabolical by which Episcopalian students ran the risk of sitting under Phillips Brooks for a fifth of the college year; or Congregationalists under Lyman Abbott and George Gordon; or Baptists under President Faunce; or Methodists under Bishop Vincent. Still, the plan quickly justified itself, and it has since been adopted even in institutions which originally cited it as a proof of Harvard's impiety. The truth is that a denominational university will either become obsolete, or its existence will prove that those who teach and those who study in it have not truth as their object. Sectarians will resort to such an institution to be inoculated with a special brand of theology, reversing the process of persons who now resort to Pasteur hospitals to be cured, or rendered immune, of hydrophobia or of anthrax.

In the professional schools, President Eliot had to work out another problem—how to produce physicians, lawyers, clergymen, teachers, who should be, not only experts in their chosen vocations, but educated men. In 1869 a certificate of good moral character sufficed to admit to the Law School or to the Medical School; the attendance on either was irregular, the instruction unmethodical. Proof that so many months had been passed in the office of a doctor, or a lawyer, was equivalent to time passed in a school; and the examination for a degree had no terrors. Now all the professional schools (except the Dental) are graduate schools; they exact a continuous residence of three years, and confer their degrees only after a winnowing examination.

The Divinity School, which was formerly a Unitarian seminary, is now a theological school, where theologies, creeds, and rituals are studied scientifically, without sectarian bias. Finally, the Graduate School itself, which offers the highest instruction in science and arts, has been created and nurtured until now it numbers more than two-thirds as many students as Harvard College had in 1869.

By this growth, activity and change Harvard has become a university, fitted to train and send out experts of every variety into a world requiring experts more than ever before. The Harvard of 1904 is better able, through its many organs, to serve the needs of today than the smaller Harvard of 1869 was to serve the needs of that day. But most significant of all has been the evolution of the American university as the truest expression of the enlightenment and aspirations of our age. In other periods, the ideals of a people have found expression in a political or military system, in arts or literature, or in religion; the university, of which Harvard has been the pioneer and the type, has risen in our era of unparalleled industrial progress as a proof that other forces, other aims, besides those miscalled practical, have stirred the American people. It has risen even while enormous wealth has threatened to fix materialism in our hearts and to enthrone plutocracy, the vulgarest form of dominion, over our political and social life. Modern industrialism was bound to have experts, but it might have procured them from technological schools, had not Harvard, under President Eliot, insisted on a college education as a prerequisite to professional training. The American public, despite its mania for haste, has acquiesced in this condition, but for which universities as we know them might not exist: in their stead, we might have had the alternative—schools for specialists, and colleges frequented chiefly by prospective teachers and bookworms, with possibly, if the terms were not too arduous, a leaven of loafers and athletes. But now the university is coming to touch life at all points. Out of it issue not only the lawyers, clergymen, and physicians, as of old, but the new sorts of philanthropists, the students of social conditions, the cleansers of the prisons and the slums, the economists. Money-making is still the foible of the American people, and yet none but the most foolish or the vulgarest of millionaires now pretend to sneer at the value of a university training: many of the self-made plutocrats found colleges, or give freely to them, and nearly all send their sons to college.

That the university, as evolved at Harvard, is typically American, in the sense that it gives free play to those ideals which the best Americans cherish, needs no demonstration. The deepest American craving is for liberty. The strongest American belief, the cornerstone of democracy, is the worth of the individual man. To lead individual men in the paths of perfection is, in truth, the aim of democracy, as it should be of every kind of education and of all religions. To substitute tolerance for bigotry, free speech and free judgment for a censored conformity, devotion to the spirit for devotion to a sect, and loyalty to justice for loyalty to a party—these are the implications bound up in the ideal Americanism, however far its actual manifestations may fall short. It is because Harvard has been the first to embody these in rising to the university plane that she has become the typical American university. Money could not do this; neither could a splendid tradition: only a clear divination that Liberty and Truth are indivisible essentials of Americanism, and a firm resolve to realize them in such ways as fit a university, could bring this to pass.

If any one doubts, let him remember that during the first half of the nineteenth century Yale regularly outnumbered Harvard. In 1825, Yale had 470 students and Harvard only 407: in 1839, Yale had 608 and Harvard 442; but, six years later, Harvard had risen to 600, and Yale had only 588; and from that time, although Yale for a while dogged Harvard's heels, she steadily fell behind, and now ranks only seventh or eighth in attendance and resources. The reason is obvious. Harvard was willing to sacrifice everything for liberty, whether of worship, instruction, or choice of studies; whereas, Yale clung to sectarianism in religion and to conservatism in education. Yale stood by her ideals valiantly; but in the long run these are not the ideals of the American people, and of late years, under the guidance of a modern leader, Yale has been getting rid of them as expeditiously and as quietly as possible.

To claim that Harvard deserves the sole

credit for revolutionizing the higher education in America would be unjust. Many institutions have helped in the work—some by going forward along trails of their own, some by standing still and so furnishing the progressive with a fixed point from which to measure their advance. The opening of Johns Hopkins in 1876 gave graduate instruction everywhere a great impetus. But whoever reads President Eliot's annual reports since 1869 will follow step by step the actual gain, will see new questions raised, new possibilities opened; and will scarcely fail to wonder now at the effectiveness with which Mr. Eliot masters a detail and now at the clearness with which he foresees what must be done years beyond the present. The fiercest debates have been fought over his proposals, and he has had to vanquish not only the champions of the conservatives in the colleges, but of the old education down to the primary school and to the kindergarten. For a university is not a balloon, to be inflated and sent up in the air, with no further connection with the earth; it is a growth, a tree, a large tree, like oak or redwood, requiring ample soil for its roots, and plenty of air and sunshine for its branches. Its soil is the secondary schools. So Harvard could advance no faster than they could supply students, and they, in turn, depended on the lower schools. It took fully ten years before the secondary schools began to readjust themselves to the new university requirements; but the readjustment, being regulated from the top, will be permanent. Sixty years ago, Horace Mann made a noble effort to improve the school system, and in part he succeeded; but his work did not last; the leader, not the runners in the middle or at the tail end of a race, set the pace.

Thus, with Harvard College for his fulcrum, President Eliot has lifted American education to a higher plane. He himself has paid hearty tribute to the men who aided him; he has even spoken as if the great principles of the reform were so well understood in 1865 that they needed only to be given a chance in order to prosper; but, as we find on looking back that every inch of advance had to be struggled for, and that President Eliot led the attack and has borne the brunt of the fighting, we infer that he was indispensable. The historian can no more picture the regeneration of American education without him, than the resurrection of Prussia without the vitalizing hand of Stein.

Power like President Eliot's has hitherto worked in other spheres than education. In the Middle Ages, it created a vast ecclesiastical organization; more recently, it has usually found its medium in statesmanship. Had Mr. Eliot been born a Briton, he would probably have been a prime minister; for he possesses in the highest degree command of an infinitude of details and of the broadest general principles. He sees visions and knows that where there is no vision the people perish; but nobody would mistake him for a visionary. Set him down in a little Maine fishing village, and he presently learns the occupation, income, and needs of every villager, and has thought out ways to help them; let him preside at an educational or other congress, and he will outline a programme to daunt the bravest idealists. As British premier, he might have rivaled Gladstone himself in explaining the finicalities of a budget, or in launching a novel policy; or he would have equaled Pitt, beset at home by doubters and abroad by a terrific foe, in pursuing, unshaken, the course on which he believed national salvation depended. But, although he belongs by his capacity with statesmen of this calibre, we can hardly suppose that the longest public experience would have taught him the politician's finesse which Gladstone and Lincoln had almost by nature; for during more than half of his administration the criticism oftenest passed on him by his opponents was "lack of tact." They complained that he paid scant respect to tradition; that he dismissed the incompetent without pity, and engaged their successors without graciousness; that he went out of his way to utter comments which, even if they were true, had better be left unsaid; that, owing to his brusqueness, possible benefactors of Harvard were kept busy writing codicils to revoke their bequests—a loss to the College and bother to those old gentlemen. Once the news spread that an irascible Bostonian, piqued by the President's manner, had decided to send his son to Yale. Evidently, Harvard would soon be stranded, without money and without students.

The new generation smiles to hear these bits of antediluvian history; for it remembers that under Mr. Eliot the funds have increased by $20,000,000, the attendance has quad-

rupled, while the population of the country has only doubled, and the College has survived even the absence of that Bostonian's unfortunate son. Such things reveal, however, one sort of antagonism the young president had to encounter; how far the difficulty sprang from his masterful manner may be left for future biographers to decide. Reformers and rose-water rarely go together. In the early years that indomitable young man, bent on remodeling so ancient an institution as education, combated by the hostility of the ablest devotees of tradition, held himself taut, ready to repel an attack from any direction. He had to be self-reliant, or he could never have fought through to victory. He was possibly too preoccupied with the vast issues at stake to heed those little amenities which minimize the daily friction of life. The typical college president was a benevolent old gentleman, who taught ethics or Bible history, and took a grandpaternal interest in all the students. Mr. Eliot had too much to do to be sociable, and the students were fast growing too numerous for any officer to know all of them even by name. So the contrast between his irresponsiveness and the legendary cordiality of his predecessors did not help his popularity. Gray-haired graduates remembered President Quincy's Sunday evenings, at which students were welcome and the Misses Quincy dispensed doughnuts. It made an undergraduate feel of some account to have President Quincy ask after his parents and grandparents and various collat eral branches of the family. Many a younger graduate cherished the name of President Walker, who had a wonderful way of stirring the moral nature of young men. But President Eliot provided neither doughnuts nor heart-to-heart talks, and more than one class passed through college under the impression that he had no liking for students.

But he won his victory long ago, and now most of the educators in America are with him; those who still assail his theories no longer attack him personally. At Cambridge one hears only reports of his popularity; and whenever he speaks in public, the telegraph carries his words over the land. He is not less emphatic than formerly, but his critics have learned that they can not silence his principles by impugning his tact. You can quote no syllable of his meant to placate or flatter or mislead—by his straightforwardness, not less than by the reasonableness of his views, he has triumphed. He has always told the public what he thinks, not what he thinks the public wants to hear. And now no other American commands such influence over the thoughtful. What a change!

In spite of his straightforward acts and speech, President Eliot is constantly misinterpreted. The most contradictory statements are made about him. You will be told that the President is Harvard University, ruling autocratically every school, faculty, and department; but if you search the records, you will find that measures which Mr. Eliot declared to be indispensable required five, ten, fifteen years to pass reluctant Faculties, or that some of these measures have been shelved, others amended beyond recognition, while others are still waiting. At Faculty meetings, it is said, the President, far from stifling free discussion, allows so much of it that less and less business is done. Ten years is reckoned fast for the passage of important legislation; yet, if you visit the President's office, you will find two minutes ample for despatching your errand.

Freedom of speech he sets foremost in teaching, as in discussions. No Harvard teacher has been forced to conform to prescribed opinions. Each professor's lecture-room is his castle. Insincerity has no excuse. Hence the fullest individual expression; hence, also, contradictions which sometimes mislead the partisans of uniformity. A single department may have exponents of pedantry, scholarship, spirituality, and snobbery — a hubbub of voices, confusing to the listener. But if the pedant and the snob creep in as concomitants of a system of freedom, they must be borne for the sake of the benefits which only freedom can confer.

Mr. Eliot resorted to publicity as the ally of freedom. He seems to have adopted Emerson's maxim, "Light is the best policeman." Beginning with his Inaugural Address, which, with the preceding essay in *The Atlantic Monthly*, constitutes the cornerstone of the new education, he spoke out frankly. In each of his annual reports he laid bare the actual state of the University, glossing no defects, ignoring no needs. If an experiment failed, he said so. At first, the graduates were puzzled, and some, at least, hinted that it was hardly loyal to expose Alma Mater's weakness. Others criticized

as undignified the perennial begging: "Prexy's passing round the hat again" was a common remark, tinged a little with sarcasm thirty years ago. But the President's confidence was not misplaced. Ere long the graduates were rallying to support the College as they had never done before; they felt that they knew what was going on there, and did not simply content themselves with reminiscences of their own student days. The public, too, began to follow with intelligent interest the progress of this institution; and, needless to say, those reports were eagerly conned in other colleges, for emulation or warning, according as local ideals pointed forward or back.

This publicity has entailed some misunderstanding. Owing to the Harvard habit of speaking out, the public sometimes falls into the error of thinking that evils, which, in fact, exist everywhere, are peculiar to Harvard. When Mr. Adams shows up the illiteracy of Freshmen entrance themes at Harvard, or Professor Lowell calls attention to the increase in expensive private dormitories, outsiders forget that similar, or worse, conditions afflict other colleges. When newspapers repeat the old misstatement that Harvard is "the rich man's college," they rarely mention that other institutions officially maintain for their millionaire youths dormitories modeled after the luxury of New York plutocrats. But the spirit which welcomes criticism, even though it may be inaccurate or maliciously false, is the only healthy one for man or institution. Scores of college presidents have lived and died during Mr. Eliot's thirty-five years, and the public scarcely remembers their names—much less did it know or care what their views were on any subject. He, from the first, by the simple methods of truth and frankness, forced every one to heed; and now whatever he utters is borne along by the momentum of his having been right so often.

But the success of reforms depends on the character of those who carry them out. What avails a heavenly theory, if the most worldly agents are to apply them? Mr. Eliot has had to choose for Harvard a corps of teachers and other officers outnumbering many times the whole force between 1636 and 1869. How has he succeeded? Early in his career he drew into his service Charles Eliot Norton, Charles F. Dunbar, and C. C. Langdell—men for whom no other American university has yet been so fortunate as to secure counterparts—and, although to specify any of those now in harness may seem invidious, yet, as examples of Mr. Eliot's sagacity, we may mention Professors William James, Farlow, Trowbridge, Pickering, Royce, Francke, Toy, Münsterberg, Goodale, and Carver, men educated either in the pre-Eliot Harvard or in other institutions. He has made her teaching staff not merely national, but cosmopolitan, so that it now includes graduates of all important American colleges and of several foreign universities, pouring into Harvard a stream of experts with different ideas, new ideas, perhaps better ideas. What a contrast with the Harvard faculty of forty years ago, when all but one of its members were Harvard graduates! Mr. Eliot, moreover, has not only secured the men he wished, but he has kept them, in spite of offers—sometimes of very large offers—from other institutions. Since 1869, no professor in Harvard College has resigned to accept a position of the same grade elsewhere; but deans and heads of departments elsewhere have eagerly accepted his call to a lower position here. Of President Eliot it may be said, "He never lost a Harvard gun"—the surest proof of her primacy under his leadership. One thinks of him as of a champion chess-player, playing many games at once, and reaching out and taking his competitors' best pieces when he wants them.

Sagacity in choosing men of ability, and fairness in dealing with them, account for the large share of eminent teachers Mr. Eliot has brought to Harvard. It is still true that professors prefer this atmosphere of fairness, independence, and liberty to the higher salaries in universities where opinions have to be trimmed to suit the prejudices of plutocratic founders or sectarian trustees. Men are promoted at Harvard whether they support or oppose the President's plans. True to his devotion to liberty, he has seen grow up in the College Faculty a group of eager critics whom he himself appointed. He has held the balance true amid the conflicting interests of various departments, each zealous to secure the highest efficiency for itself, regardless of its rivals; but he has not permitted science to crush out the classics, nor economics history. The symmetrical development of the university has

been always in his mind. "I regard the President's ability to keep the peace among 400 teachers, and to keep them all working at full speed, as his greatest achievement," said one of his colleagues to me.

Love of truth, love of justice, courage—which of these qualities shall we rank first in President Eliot's character? Among educators, courage is certainly the rarest; but in him it has had a daily and lifelong illustration, from the dark morning when, unapplauded, he took up his gigantic task until the other day when he faced a mass of hostile trades-unionists in Faneuil Hall, and won their respect, if not their assent. He is one of the few who has conspicuously shown that the vocations of peace call for equal heroism with the emergencies of war. It is easier to storm a redoubt than to resist a social prejudice, or to bear political calumny, or to live down religious misrepresentation. Mr. Eliot has done all. He took the ground that, as a citizen, it was his right, his duty even, to express his views on public questions—to do less would be to accept virtual disfranchisement as a penalty attached to the office of college president; and he held his ground in spite of abuse. He bore the charge of irreligion made against him and the College; but he has lived to hear President Tucker, of Dartmouth, exclaim, when at a meeting of college presidents somebody renewed it: "Harvard irreligious! Why, Eliot is the most religious man of us all!"

In 1886, at Harvard's 250th anniversary, the heads of all the American universities except one were invited to the celebration. That university was represented, not by its head, X, but by a distinguished physician. Why the exception? Because X had led a notoriously immoral life, and although his trustees condoned him and tried to hush the scandal up, Mr. Eliot refused to invite him to Harvard's jubilee, much less to honor him with a Harvard degree. That decision, taken quietly, and known, perhaps, to not half a dozen persons at the time, required a very rare courage; and it rebukes the bronze monuments and paid eulogies with which the corrupt community in which X flourished has commemorated him.

In curbing the athletic mania, President Eliot has displayed another form of courage. Like the heads of other colleges, he might have bought a cheap popularity by letting athletics run riot, or have salved his conscience by deploring them as a necessary evil and doing nothing. But for him, that a thing is evil is proof that it is unnecessary. Accordingly, for twenty years he has waged war in behalf of moderation and of gentlemanly sports. Other colleges have refused to cooperate, the majority of Harvard graduates have disapproved, the undergraduates have chafed, the general public, irresponsible and hankering only for excitement, has ridiculed: but the President has not budged; and today the burden of proof is on those who maintain that college authorities have no business to prevent their students from becoming gladiators and professionals.

To describe how President Eliot has expanded beyond Harvard, beyond the field of education proper, and taken his place as the foremost American citizen of the time, would require another essay. His personality, once understood, explains everything. The American people may pursue partisan aims or listen to demagogues; it will certainly flare up at uncomplimentary criticism; but at heart it reverences courage, sincerity, love of truth, and will listen to them longest, even while it protests; and, at last, it will admire ungrudgingly. Bouquets of roses which wither, it showers on its flatterers, the politicians; laurels it reserves for those who, like Mr. Eliot, tell it the unvarnished truth. Men ask, What is Americanism? In his essays and addresses they will find an answer: no spread-eagleism, but a clear estimate of the Republic's achievement and a forecast of its possibilities. Mr. Eliot is the spokesman of sober second thought. He always seems to have in mind, not the hearers of the moment with their passions and preferences, but the readers and thinkers of the future, who crave to know facts. He never tires of stating first principles, of glorifying the family as the unit of society, of laying stress on character for the individual and for the State, of extolling the homely virtues. He disdains special pleading. His training in chemistry taught him that, if your positive statement is right, the superlative is superfluous. In such a beautiful essay as "The Happy Life," where he blends the physical, the intellectual, the moral, and the spiritual into a wholesome unity, he reveals literary power of a high order.

Mr. Eliot is as conspicuously the fore-

most American orator of this generation as Wendell Phillips was of the last, and Webster of the one preceding. His preëminence marks the changed temper of the public, which, though it may still be spellbound by revivalists and by political speakers, nevertheless trusts longest those who, like Mr. Eliot, address its reason and not its emotions. After thirty-five years all classes are more eager than ever to hear him. His voice alone, so rich, so cultivated, with its 'cello notes, sets him in a class by himself. At first you may miss the purple patches which you expect the orator to supply, but on acquaintance you discover that he has the power to state a fact, which you thought commonplace or valueless, so that it shines like a jewel—as if he picked up a dull pebble, and through some hidden virtue in him it turned to opal or ruby in his hand. He never made a speech which you could not read the next day or the next year without wondering what had evaporated from it since you heard him speak it.

His writings have the same qualities. As he indulges seldom in ornament, he appears austere, perhaps a little bleak, to a public which vaunts the present literary fashions. I have heard gentlemen who pride themselves on writing like Stevenson call him "pedestrian." He is, in truth, beyond fashion, or out of it, just as is Cicero, whose *De Senectute* manages, however, to be read from generation to generation, because it proceeds from something other than fashion. Mr. Eliot is further handicapped in competition with popular writers because he thinks, whereas they aim to hide their inability to think under a mask of epigrams, whims, surprises. They seek the surface glint of adjectives; he deals with nouns and verbs, with realities, not with fleeting appearances. He is Doric, in a time of Byzantine revival—and the Doric lasts. We have needed his example as much in literature as in life. To call him a Puritan is to mistake both the Puritans and him; for his largeness of view, his optimism, his liberal spirit, are just what the Puritans lacked. But no Puritan was ever more deeply convinced than he of the supreme reality of religion—a conviction which permeates all he ever did, or wrote, or spoke. The earliest settlers of Massachusetts, "dreading to leave an illiterate ministry to the churches when our present ministers shall lie in the dust," founded Harvard College; they little dreamed that a layman should ever be the chief minister of righteousness in that College; for they could not perceive that they were mistaking sectarianism, rituals and theological quibbles for religion, or that their harmful discrimination between lay and clerical would be outgrown.

Thus, by a natural progression from within outward, President Eliot's influence has reached wider and wider circles, until it now extends from sea to sea. He has raised the vocation of president of a great university to the level hitherto reserved for successful soldiers, rulers and statesmen. He has proved that gifts of the first order can find full scope and win the most honorable rewards in the pursuits of peace. He has ennobled the whole field of education, showing that education, and not war or politics or commerce or industry, is the fundamental concern of civilized men. Were education adequate, there would be no work for soldiers, and very little for statesmen; let us be thankful that the transcendent possibilities of education have been embodied in a man of genius. The human race mounts slowly from the physical plane to that of instinct, then to the recognition of intellectual laws, and, finally, to the empyrean of ideals: education leads the way from height to height.

Time will make plain that, in organizing the university as a vessel in which all that is best in the past shall be stored and thence transmitted, an organism thoroughly American in spirit and adaptability, President Eliot's achievement has had no recent parallel. There is in America no educator, be he college president or professor, school principal, teacher or humble assistant, whose work has not been directly influenced by him; every college student, every child at school feels his shaping hand; every text-book has been revised by the standards he has compelled. Measuring greatness by the breadth, healthfulness, and permanence of achievement, we find that no other American of his generation has approached him. By the benefits he has conferred, Charles William Eliot ranks with Emerson and Lincoln as a benefactor of his time and country. Those three are the supreme products of American Democrary in the nineteenth century, its vindicators, its exemplars, happy presagers of its coming prime.

THE EDUCATIONAL UPLIFT IN THE SOUTH

HOW SOUTHERN CITY PEOPLE ARE AIDING IN THE DEVELOPMENT OF THE RURAL SCHOOLS — ILLITERACY BEING GRADUALLY ELIMINATED — COMMUNITIES VOTING TO TAX THEMSELVES FOR SCHOOL FUNDS — AN INSPIRING STORY OF PROGRESS

BY

W. H. HECK

THE forward movement in southern education has centered mainly around the rural district school. It is the inspiring effort of States, risen from industrial depression to industrial hope, to share the joy of their uprising with the backward in their midst. R. H. Edmonds has shown by statistics the great comparative prosperity of the South before the War, which, in 1860, exceeded the New England and Middle States in wealth by $750,000,000, and in railroad mileage by 387 miles, and which had $175,100,000 invested in 24,590 factories. "But in 1870," quotes Edgar Gardner Murphy, in "The Present South," "we find the conditions reversed, and the wealth of these States exceeding the wealth of the South by $10,800,000,000 . . . South Carolina, which, in 1860, had been third in rank in wealth, in proportion to her inhabitants, had dropped to be the thirtieth; Georgia had dropped from seventh to the thirty-ninth; Mississippi, from the fourth place to the thirty-fourth; Alabama, from the eleventh to the forty-fourth; Kentucky, from tenth to twenty-eighth." But this was not all. The Reconstruction governments, brutally disregarding the South's welfare, weighted down with debts the weakened States, until $300,000,000 was robbed from the present and the future. "A debt was piled upon the State of North Carolina, for example, of about $38,000,000," declares Charles W. Dabney, "which was nearly one-third as much as the total valuation of all its property; upon Alabama they put a debt amounting to over $18,000,000; upon Tennessee, one of over $14,000,000. They squandered $140,000,000 for Louisiana, and increased her debt $40,000,000." Thus was the South crushed out of its prosperity and forced to begin anew.

In this reorganization, the tendency of financial and social development was away from the country to the cities, where the requirements of a new industrial order could be more successfully met. As soon as recovery from war and Reconstruction was advanced far enough to allow substantial progress, there began that contrast between the bettered life of the cities and the arrested life of the rural districts which is one of the most striking characteristics of southern conditions. In 1880, 70 cities, of 4,000 inhabitants and more, were reported in 13 southern states as having 8 per cent. of the total population of those States; in 1900, 197 cities were reported in the same States as having 13 per cent. of the total population. As the percentage of urban population in the United States was, in round numbers, 26 in 1880 and 37 in 1900, the growth in the South seems proportionately slow, although millions of immigrants have increased the normal growth of many northern and western cities; yet, on the other hand, southern cities in the twenty years have increased their population 140 per cent., as compared with 120 per cent. for the United States.

But the size of the urban communities in the South is small in proportion to their influence upon the 87 per cent. of the inhabitants in the rural districts. Mere numbers would have meant little if the cities had not advanced in educational efficiency and industrial success—an advancement slow but steady, permanent, and sufficient to exclude the cities from any discussion of southern educational problems. Their schools are adequate in primary instruction; and the secondary grades, if not forming an independent system except in the larger cities and more progressive towns, are destined to grow into competent high schools. Of course, there are many things to be desired for greater efficiency; but

the communities can have them as rapidly as they desire, with more sacrifice to the taxpayers, naturally, than is felt in the richer cities of the North and West, but with a sacrifice which the southern people are accepting.

Inevitably, the progressive forces of the South, being concentrated in the cities, were expended in urban development almost exclusively, because a quarter of a century had to elapse before the cities were sufficiently prosperous to turn their attention outside to the undeveloped parts of the commonwealths. During this time, the rural districts were sadly neglected. The people followed their fathers in the routine of farming, with little desire to vary their products, to raise, on an adequate scale, stock and vegetables for home consumption, or, with many exceptions, to improve their material and intellectual status. Most of the school officials performed their duties perfunctorily, and the people naturally came to regard the district-school in its barn-like building, with its poorly prepared teacher and its three or four months' tasting of text-books unrelated to the children's lives, as a thing of little public or personal interest. Occasionally, a citizen or an official cried aloud for improvement, and was heard. In some places, industrial opportunities became the cause and effect of better schools. But, on the whole, the more ambitious citizens migrated to the cities or towns and grew with the urban growth. The industrial changes were too few to be widely effective. The advantages of the private and denominational schools reached only one-twentieth of the population. The contrast between town and country grew more acute. And the rural population, in the undeveloped strength of the pure Anglo-Saxon, waited in silence, often in contentment, for the coming of a better day.

And what is the condition of the rural schools? The 1902 Report of the United States Bureau of Education gives the average number of days in the public school term as 101 in the South Central States, 116 in the South Atlantic States, 177 in the North Atlantic, and 145 in the United States; the expenditure per child of school age (5 to 18 years) as $3.49, $4.31, $17.75, and $11.20, respectively; and the percentage of the school population in average daily attendance as 43, 42, 51, and 49 respectively. It is supposed that the city systems are not included in these statistics. During the past decade, the southern states have kept pace with other sections in the growth of term, expenditure, and attendance; and, as the need is greater, the comparison of growth during the next decade will probably be more in favour of the South. Statistics of illiteracy should be added to give a better idea of the school situation. In round numbers they are as follows:

	Native White Illiterates	*Total Illiterates*
	1880	1880
South Atlantic States	20	40
South Central States	22	39½
North Atlantic States	3	6
United States	7	17
	1900	1900
South Atlantic States	11	24
South Central States	11	23
North Atlantic States	1½	6
United States	4½	11

The next census will show even a greater rate of decrease in the South, as the States are thoroughly aroused to the bearing of illiteracy upon all phases of public life.

This situation is mainly due not to a failure of duty, but to a combination of deterrent influences. Although State school systems were founded in most of the southern states between 1860 and 1870, the poverty caused by the Civil War and Reconstruction cut off all prospect of adequate support for a quarter of a century. The wild taxation of the "carpet-bag" governments engendered a suspicion of taxes in people over-fond of public economy. An exaggerated individualism led many to oppose public education as paternalistic, while the aristocratic tendencies in southern life did not favor the right of every child to education at the State's expense. The districts insisted upon local control, but objected to local taxation. The number of people to the square mile was so small that the limited school fund had to be divided among little schools with little patronage. The fundamental belief in racial separation necessitated further division of the fund. With inadequate support followed inefficient supervision, ill-prepared teaching, short terms, and little public interest.

Although the cities of the South are influenced by the overwhelming rural vote and patronage, they, nevertheless, lead southern life and hold the responsibility for rural progress. The time has come when they are feeling themselves able to accept this responsi-

bility. In legislature, in press, in public addresses, they have spoken through their representatives in behalf of rural schools. This democratic, philanthropic interest received a pioneer emphasis at Greensboro, N. C., when the citizens of that progressive community raised $4,000 for the schools of their county. This amount was duplicated by the General Education Board of New York, and the $8,000 has been used, under the management of President C. D. McIver, of the State Normal and Industrial College, as an incentive to promote the levying of a three-mill local tax for schools in the rural districts, one dollar from the fund being given for every two dollars raised by local subscription for improvement of school-houses after the local tax had been levied. Through vigorous fights, Guilford County was won, district by district, and now it stands as a beacon light to the entire South. A similar amount has been pledged in Charlotte, North Carolina, not only for its own county, but for a less advanced neighboring county. Another instance of urban interest is in Sparta, Georgia, where the city school is open on Saturdays, for the benefit of the rural teachers, especially in the direction of preparing them to teach manual training. Savannah and Augusta, Georgia, are also helping greatly toward better supervision of district schools by having as city superintendents competent men, who also serve as county superintendents. This arrangement involves some theoretical sacrifice on the part of the cities, but, in reality, it benefits all concerned, because it gives the superintendent both the rural and the urban point of view.

The various county branches of the State organizations of women, formed to work for better schools in Georgia and North Carolina, are generally the outcome of the towns' enthusiasm. The speakers in the educational campaigns which are assuming such power in Louisiana and North Carolina are mainly city men. Moreover, the increased State expenditures for rural schools fall most heavily upon the cities. Of course, the sacrifice necessary for local tax and local subscriptions is made by the rural districts, as is just and wise; but the movement in its direction is, for the most part, a city movement for county schools, augmented by rural response.

Throughout the South, certain well-defined policies are generally accepted for the betterment of rural schools. In the first place, people are coming to believe that, in addition to State taxes or appropriations for schools, local taxes should be raised. Sixty-nine per cent. of the public school-funds in the United States are at present raised by local taxation. The southern States have not been partial to the use of such local taxation outside of the incorporated towns with independent school systems, and the States often make limits as safeguards against supposed local extravagance, varying from one mill in Alabama to five mills in Virginia. Georgia is greatly hampered by a constitutional requirement that an election to provide a local tax must be recommended by two successive grand juries, and then carried by a majority of registered voters at a general election—an obstacle almost impossible to overcome. As demonstrating the advisability of a change, Hancock and Gwinnett Counties, in coöperation with the General Education Board, have extended, by voluntary subscription, the terms of all their schools for two months. This improvement, it is hoped, will pave the way for permanent taxation. Under any circumstances, however, a county is too large a unit to be required to vote for a local school-tax, as is the case in Georgia, Alabama, and Tennessee; it is only in the States where a single school district may vote for such additional support that the movement is assuming significance. North Carolina had 174 local tax districts in November, 1903, and the number is increasing. About four-fifths of those reported have been voted upon during the past two years on account of the campaign carried on by the Southern Education Board, through the State Superintendent, the Governor, and prominent citizens of all professions. Louisiana, Virginia, South Carolina, Mississippi, and Florida are increasing their local tax districts steadily.

Emphasis should be placed on the social meaning of these elections to provide a local tax, when the citizens of rural communities meet to hear addresses for better schools, and then gather around the polls to favor or to oppose the suggested improvement. The effect of the tax upon the school is of untold value; but the unifying, uplifting effect of this campaign upon the citizens is of even more value. It is the beginning of a new epoch. Credit should be given to the rural churches, which, with little envy of the schools' growing power, are aiding in this movement, although they are thereby giving up some of

their influence as social centres. The ideal for the rural school is that it may be the gathering point for parents as well as for children, where the culture of the world will be dispersed by literature, by lectures, and by social intercourse.

The consolidation of small schools with inadequate support, poor teachers, a hopeless number of ungraded classes, and a cheap one-room school-house into larger schools with adequate support, better teachers, graded classes, and a modern building, is also going on in the South. During past years, the desire for schools near the children's homes has played havoc with the school funds, and even now it is difficult to persuade parents to make their children walk a mile farther to a better school. But the advantages of this plan are too evident to be combatted by citizens earnestly desiring better advantages, and consolidation is proving effective in all the States. From June, 1901, to June, 1903, the number of school districts in North Carolina was decreased by 557, and, mainly as the result, 697 new school-houses were built, at a total cost of $230,038. This State is at present leading the South in its educational enthusiasm; though the other states, while not so rapid in their consolidation, are making great headway. The number of schools in Georgia has been increasing for the past three years, in spite of many consolidations. Five hundred and seven new school-houses, including city schools, have been built, at a total cost of $306,781. Moreover, in a few places in Georgia and other States pupils are being transported to large central schools in special wagons; but, in most places in the South, the county roads are not good enough in winter, the seeming extra expense is magnified, and the people are not ready for the innovation. However, the successful examples are but a beginning, and necessity will make the demand for transportation more general in the future.

Another striking instance of such progress is the recent legislative enactment in North Carolina, setting aside the money from public lands (about $200,000 in all) as a permanent loan fund for the building of school-houses. A county is allowed to borrow under proper guarantee such amount as is needed at four per cent. interest, the principal being paid back in ten annual instalments. Sixty counties borrowed $68,000 in the first five months after the opportunity was granted. Another innovation is the law that no school-house shall be built without the approval of the county board of education and the State Superintendent, special designs being distributed all over the State from the superintendent's office. The growing interest in nature-study and agriculture has materialized in the requirement of two States that all schools shall use a text-book on agriculture, written by three professors in the North Carolina College of Agriculture and Mechanical Arts. School libraries have been generously aided by the North Carolina Legislature, and, in other States, a great effort is being made to increase them. The State Associations of County Superintendents are becoming powerful in stimulating and directing interest. The efficiency of State and county superintendents is reaching, in many instances, a standard of which the South is rightly proud. The model schools in Concord, Tennessee; Danielsville, Sand Hill, and Cass Station, Georgia, provide good examples to the two States. The Southern Education Board's campaigns through local leaders, the annual Conference for Education in the South, the investigations and gifts of the General Education Board, the growing interest of the Peabody Board in rural schools—these influences are widespread in their effect. As a whole, the progress of the rural public school in the South is a cause for inspiration to every citizen of our country.

I have not touched upon the Negro rural schools, except as they are represented in some of the statistics given, because it is only in rare instances that they have been definitely reached by this southern uplift movement, the impulse of which is a recognition of the need of the undeveloped Anglo-Saxon. However, the interest in the Negro public schools is growing rapidly, although this interest has naturally stirred up some latent opposition. The educational leaders are declaring for adequate opportunities for the race; county superintendents and county boards are showing more coöperative sympathy in the Negro's desire for school improvement; the model school at Rome, Georgia, and the industrial work in the public schools of southeastern Virginia are suggestive for the future; the Slater Board has begun a promising work in this direction; and the general enthusiasm for education is also having great effect upon the Negro.

HOW INDUSTRIALISM BUILDS UP EDUCATION

THE EXAMPLE OF ONE SOUTHERN TOWN AND COUNTY—DURHAM, N. C.—WHERE ILLITERACY HAS BEEN PRACTICALLY OBLITERATED

BY

JOHN SPENCER BASSETT

THE way in which illiteracy has been reduced and almost obliterated in one southern county—Durham County, North Carolina—and an admirable public school-system built up for each race, is a good example of the effect of industrial development on popular education. It shows the strong force of industrialism, which is building up effective education in many southern communities, and changing the whole intellectual outlook of the population.

The latest school-census shows that the number of illiterate children in the county, from twelve to twenty-one years, was only 96 whites and 158 blacks. Although this census is not regarded as absolutely accurate, it shows the early approach of the complete obliteration of illiteracy. Most of these illiterates are the children of the migratory cotton-factory population.

Every school in the county has a small library, which circulates among the people of the neighborhood. The aggregate number of volumes in them is 4,550, and these are added to each year. Most of the schools have decorated their buildings with pictures, and beautified their grounds; and all have improved desks and furniture.

The Durham County schools are not model schools. There are many rural schools in the country which surpass them. But they have attained these essentials of a good school system—a long term, pleasant surroundings, and sound instruction. In this they are so far ahead of the average school of the South that they may be said to have solved the problem of rural public education. Just now the superintendent is planning to have a system of rural high schools. In the light of what he has achieved in the past, there is no reason to think that, with the growth of the industrial resources of the county, he will fail to do so.

The early educational history of the county and town of Durham was not remarkable. There were free schools in both, not unlike other such schools in the South. In the town there were private schools, "male" academies and "female" academies, some under the patronage of one church, and some under the protection of another. In the country, there were also academies, one by the ambitious name of "Morning Sun Academy," and another patriotically called "Patrick Henry Institute." But, in 1883, the town established a graded school, voting for that purpose a special tax on all the property in the town. There were established then two schools in rented buildings—one for the whites and one for the blacks. Today the system has grown, till there are six schools, all in buildings owned by the town, four for the whites and two for the blacks. Competent persons have declared that the instruction given in them is as good as that given in the schools of New York, though it, perhaps, does not include quite so many subjects.

The establishment of the town schools has an importance for two reasons: 1. More than half of the people in the county live in the corporate limits of the town, and when the school problem is solved here it is half-solved for the whole county; 2. The town schools have been an object-lesson for the people in the country and an aid to the development of rural schools. Some of the rural teachers have been trained in the town schools; all of them, perhaps, have visited them, and been incited to progress thereby.

But it is in an industrial sense that the town of Durham has most aided the rural schools. It has, out of its industrial growth, furnished the money which has sustained the country schools. By the school-tax law of the State, the wealth of the town contributes, proportionally with the other wealth of the county,

to the education of every child in the county.

In 1900, the population of the county was 26,233, and of the township, which includes the town, 19,055. It is safe to say that, in the township, 18,000 belong to the non-agricultural class.

The township has more than 72 per cent. of the population and 92 per cent. of the taxable wealth of the county. The school-fund for the county has grown from $12,000, in 1890, to $30,000, in 1904.

Without this increase of the taxable wealth, very little progress could have been made in the educational life of the country. But even with it, incapable management could have defeated all progress. This, in fact, is just what did occur for several years before 1898, when, in spite of the increase of the fund, the length of the term remained about five months.

In 1898, Mr. C. W. Massey, a man of good organizing ability and a teacher of experience, became county superintendent. His first concern was to reduce the number of schools. These had been multiplied till there were districts in which the number of children of school age was no more than 21. By judicious consolidation he reduced the number of districts from 65, in 1899, to 43, in 1904. This was done in such a way that there are not now more than 100 white children in the county who live more than two miles from a school-house. "These old schools," says Mr. Massey, "were very convenient, and very worthless."

The average length of term, not including the town schools, was, in 1903, thirty-two weeks for the white schools and twenty-eight for the colored schools. In an adjoining county it was, in 1902, sixteen weeks for the whites and sixteen for the blacks. The last log school-house has given way to a modern frame building. The enrollment, which, in 1897, was for the whites 37 per cent. of the school population and 42 per cent. for the blacks, has increased till, in 1902, it was 58 per cent. for the whites and 59 per cent. for the blacks.

Now, the noteworthy fact to which this rapid educational improvement is due is the unusual industrial growth of the town of Durham, which is a home of a great tobacco industry and of large cotton-mills.

In 1865, Durham was a village of a dozen houses. When the soldiers plundered the place, they got a quantity of smoking-tobacco. They liked it so well that they hardly got home before they began to write to Durham to get more. There were in the town men of enough enterprise to see the opportunity which this situation offered them. It was not long before Durham salesmen were selling Durham tobacco in every part of the world.

The surest hope for the southern rural schools is in the building up of the industrial resources of the people. This is what the history of the Durham County schools shows.

BETTER FURNITURE INCREASING

FLASHY, OVER-STUFFED FURNITURE GIVING WAY TO SIMPLER, QUIETER FORMS—THE MANUFACTURE OF FURNITURE IN SPECIAL FACTORIES AT GRAND RAPIDS—"MISSION" FURNITURE COMING INTO WIDER USE—A POSSIBLE NATIONAL STYLE

BY

J. M. BOWLES

THREE American manufacturers, one in Philadelphia and two in New York, make furniture which is said to be the finest now being produced, and, in Grand Rapids, Michigan, the United States undoubtedly possesses the greatest furniture centre in existence.

American furniture is superior on account of the technical skill employed in its mechanical execution, and, although we have no distinctive national style, American designers produce some of the best examples of the "period" styles—such as those of the eighteenth century—now in vogue in every civi-

lized country. Furniture of this type made in Europe falls apart in this climate and in our overheated houses. Indeed, dealers have to make over the pieces they import. But a fine piece of furniture of American design and American manufacture in one of these styles combines delicacy and strength to a remarkable degree. American manufacturers even find sale for their products abroad. A Philadelphia house sells furniture to members of the German nobility, and once filled a large order for the Sultan of Morocco, after his agents had examined the product of other countries. Several New York firms make furniture in the French style for customers in Paris.

For a long time, the American furniture industry was confined to the eastern States; the most important factories were in and around Boston. But the bulk of the business gradually shifted to the West, where population and wealth were rapidly increasing; and factories using native woods, and equipped with the modern labor-saving machinery, were established in towns near the forests of Michigan and Wisconsin. At first, only low grades of furniture were manufactured, and the local ash, oak, and walnut were used exclusively. People who wanted artistic furniture purchased it in the East. But the growing demand of prosperous western cities for better things rapidly raised the quality of western-made furniture.

Grand Rapids, Michigan, gradually acquired the bulk of the business, until now it has practically no competitor. There are ten thousand skilled wood-workers in its forty factories, the value of whose annual output is about $12,000,000. Great quantities of mahogany are imported from Cuba, Santo Domingo, Central America, and Africa, and in many houses in the city entrances and even porches are built of rare woods. Skilled designers, employed by manufacturers in other cities, live in Grand Rapids, in order to work in a furniture atmosphere.

Grand Rapids furniture is sold everywhere in the United States, and a considerable amount is exported. The volume of business done has brought about a great furniture fair—a semi-annual exhibition and sale, open during January and July. Nearly ten acres of floor-space are utilized in displaying new patterns, and the samples sometimes aggregate more than thirty thousand pieces. Only furniture dealers are admitted. Buyers come from every corner of the United States, and some European furniture dealers send representatives. Attracted by this gathering, manufacturers in other American cities began to send their goods for display during these months. Seven large buildings have been built expressly for the accommodation of these exhibitors, and, each season, the samples of more than two hundred and fifty furniture factories, from Maine to the Rocky Mountains, are shown.

Specialization is the keynote of manufacture in Grand Rapids itself. Very few factories make all kinds of furniture. One will make furniture for the bedroom, another for the dining-room, another "sectional" book-cases, another office furniture, another chairs, another fancy tables, another upholstered goods, and so on, until every human need for furniture has been catered to.

This vast industry would not have arisen, however, if the public had not been educated in furniture styles to a remarkable extent, of late years, by books and by the illustrated magazines devoted to house-furnishing. The growth of good taste has led to an insistent demand for pure style. For instance, a woman in an obscure country town in a far western State will write to a prominent New York dealer, saying that she has started a Chippendale dining-room, and that she wants some chairs in the best Chippendale manner. The wording of the order shows that the writer knows exactly what she wants. There is also a steady call for reproductions of the stately furniture of the Colonial period.

Even in the furniture departments of department stores, which carry the cheaper grades, the demand is for furniture in the simpler forms. Heavily upholstered furniture—the trade name for which is appropriately "over-stuffed"—has about had its day. One reason for its decadence has been the fact that it gives a crowded appearance to the small rooms of city apartments. The manager of a store in New York city, which, perhaps, reflects more quickly than any other the taste of the masses, tells me that there is now very little sale for "flashy" furniture, such as cheap gilt chairs, and those bewildering sideboards with small beveled mirrors cut in curious shapes scattered about, and protruding lumps of "carved" fruit glued over most of the remaining surfaces. How times and manners

change. In a heavy memorial volume of the Centennial Exposition is an illustration of a $2,000 prize bedstead of this character that would hardly sell for any price today. Indeed, there is some reason to believe that, as a result of genuine and widespread interest in furniture, we are now acquiring a thorough knowledge of all the great historical styles as a solid foundation for a national style.

Some observers think that the so-called "Mission" or "Arts and Crafts" furniture, now so much in demand, is the beginning of an American style. They point to the fact that dealers and decorators who are committed to the "period" styles, and who refused to take up such furniture some years ago, have been forced to add it to their stocks. A complete "Mission" house has recently been built in a western city, even the stable and the fences being in "Mission" style. The couches, settles, and other heavy pieces of furniture are so much a part of the architectural scheme that they are built into the walls—this simplifying the labor of housekeeping.

Critics of the "Mission" style maintain that it is suited only for one or two rooms in a city mansion, and that it is too expensive and not sufficiently "showy" for people of moderate means—or of poor taste, might be added. It is true that the "Mission" is a constructive furniture, and not a decorative one, as are all the great historical styles; but that may be an added reason why it may be fundamental enough to mark the beginning of a new style. Some of the latest examples show restrained decoration on panels, and on the broad, plain surfaces of cabinet-work, as well as perceptibly lighter and more graceful construction. At all events, the "Mission" style has already done good work in introducing into our homes simple and beautiful color effects—fumed, stained, and weathered woods, and an interesting series of colors and surfaces in leathers And more and more is American taste preferring beautiful and simple effects to showiness

THE ADVANCE OF WOMEN

HOW A TRADITION PREVENTED IT IN THE PAST—THE GRADUAL CHANGE IN THE ATTITUDE OF SOCIETY TOWARD ITS FEMININE ELEMENT—HIGHER EDUCATION FOR WOMEN NOW WIDESPREAD IN THE UNITED STATES—THE SIGNIFICANCE OF THE PROGRESS OF AMERICAN WOMEN

BY

DR. LYMAN ABBOTT

THE EDITOR OF "OUTLOOK"

AS THE readers of THE WORLD'S WORK know, the Book of Genesis contains two accounts of the creation of the human race; but perhaps all readers have not considered that these two accounts give not only different but radically inconsistent conceptions of the position of woman, and her relation to man, in the social fabric. The first of these is known, among Biblical scholars, as the prophetic account of creation, the second as the priestly account; and each, in its view of woman and her place in life, is marked by the characteristics of its author. In the first, or prophetic account, God is represented as making man and woman by one and the same creative fiat, and as giving to them both equal position in the world and equal authority over the material and the animal creation.

> And God said, let us make man in our image after our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle and over all the earth, and over every creeping thing that creepeth upon the earth. And God created man in his own image, in the image of God created he him; male and female created he them. And God blessed them: and God said unto them, be fruitful and multiply, and replenish the earth, and subdue it; and have dominion over the fish of the sea, and over the fowl of the air and over every living thing that moveth upon the earth.

In the second, or priestly account, God is represented as first making man, and putting him in the Garden to dress and to keep it; then, as discovering that man was companionless, and that to be alone was not good for him; then, as bringing to him all the living creatures and finding that none of them furnished adequate companionship; and, finally, as forming woman out of the man, and bringing her to him to be a helpmeet for him. According to the first conception, the two, the man and the woman, are created as one, and are together crowned as king and queen of the world in which they live; according to the second conception, man is the king, and woman is created to be his helper and his companion.

These two ideas have been more or less in conflict throughout human history; neither of the two has ever gained, in any civilized society, complete ascendancy; neither of the two has been accepted fully with all its logical deductions. Sometimes the two ideas have been curiously combined in a strange inconsistency in the same age, and among the same people. They have not always fought with each other; more frequently they have lived in a constrained harmony, twisted together in the one social fabric, like threads of inharmonious colors in the same piece of cloth. Each conception, too, is accompanied by evils, though it may not produce them, and each by benefits which may be regarded in some cases rather as mitigations of a wrong conception than as products of a right one. Happy is it for man that he is inconsistent, for, though by his inconsistency he is sometimes hurried into perils or disasters from which consistency would save him, he is perhaps quite as often saved from evils into which consistency would plunge him. In the main, however, great social evils have grown out of the priestly conception, and great social benefits out of the prophetic conception. Thus, on the one hand, the belief that woman was made to be the helper of man easily degenerated into the belief that she was made for his gratification, and this carried with it, by a kind of practical logic, a justification for polygamy; on the other hand, the belief that woman is man's equal in the hierarchy of nature gave birth to the idea that she might be a prophet, as was Huldah, and a deliverer of her people, as were Deborah and Esther. A similar incongruity is to be seen in the history of the Christian Church, which derived its ideas of womanhood from the Jewish people, and especially from the Jewish Scriptures. In the Middle Ages, the Church held up the Virgin Mary as the ideal object of a reverence scarcely second to that which was given to God himself, distinguished from it, no doubt, in the works of theology, but generally indistinguishable in the minds of uninstructed worshipers. At the same time, devout souls were warned to avoid women as companions perilous to the soul. Not only did the most religious approve their religion by consecrating themselves to celibacy, but the presence of women in public worship was regarded as a hindrance, if not a bar, to communion with God. Today the tourist is shown in the cathedral at Durham, in England, a cross set in the stone floor, a comparatively little way up the nave from the entrance, and is told that it was once the boundary line beyond which women worshipers must not pass They were kept, as a sort of secondary class of humanity, at a distance from the chancel and the altar. Fashions in religious thought and observance change as in everything else. Then women were not believed to be high enough in the social scale to worship with their husbands, sons, and fathers; now they worship as proxies for the masculine portion of the community.

Outside of Judaism and Christianity, the prevalent conception of woman has been the priestly one—the conception that she was made, not as the equal in divine life with the man, not as co-regnant in the world with him, but as a kind of upper servant to him, to minister either to his necessities or to his pleasures. This was the conception underlying life in the Orient; this is the conception which today underlies life in all barbaric tribes in Africa, Australia, America, in all Mohammedan countries, and in the civilizations of China and India, though in minor respects modified either by saving inconsistencies in the people or by contact with Christian civilization. Nor is it too much to say that this conception of woman's inferiority to man and subjection to his service entered into Christian civilization, and did much to determine domestic conditions. What may be called the Woman movement of the last century is vitally a movement away from this view of the character of woman to that disclosed in the first chapter of Genesis; away from a view which regards

woman, to use Paul's phrase, as created for the man, not the man for the woman*, to the view which holds that both were created for themselves, and for God, and that each was created for the other, and each is a helpmeet for the other; that, in their relations to each other and to their God, they are co-equals—sons and daughters of God, made in his image, mutually interdependent; that view which finds its earliest prophetic utterance in the first chapter of Genesis, "So God created man in His own image, in the image of God created He him; male and female created He them," and, in later times, finds no nobler interpretation than it has received in these oft-quoted words of Tennyson, which cannot be quoted too often:

For woman is not undevelopt man,
But diverse: could we make her as the man,
Sweet Love were slain; his dearest bond is this,
Not like to like, but like in difference.
Yet in the long years liker must they grow;
The man be more of woman, she of man;
He gain in sweetness and in moral height,
Nor lose the wrestling thews that throw the world;
She mental breadth, nor fail in childward care,
Nor lose the childlike in the larger mind;
Till at the last she set herself to man,
Like perfect music unto noble words;
And so these twain, upon the skirts of Time,
Sit side by side, full-summ'd in all their powers,
Dispensing harvest, sowing the To-be,
Self-reverent each and reverencing each,
Distinct in individualities,
But like each other ev'n as those who love.

In no part of the world has this change in conception been more decisive than in America, and in no department of life has its effect been more visible and beneficial than in education.

The story is told of a teacher of Indians, at Hampton, Virginia, who was reading them the parable of the Ten Virgins by the aid of an interpreter: as she read, she noticed a furtive smile on the faces of her usually sober-visaged pupils, and stopping to inquire the cause, discovered that, owing to the paucity of the Indian dialect, which made the same word serve for Virgin and old maid, the story, as it was sifted down through the interpreter, was to the effect that "ten old maids lighted their lanterns and went out to look for a husband." Woman's education a century ago was a lighting of the lantern to enable the girl the better to look for a husband. It was defended on the ground that it would make her a better wife and mother, but its scarcely concealed object was to make her more attractive as a bride. It was education in the mechanical arts of the kitchen and the bedchamber, and in the esthetic arts of the parlor; its object was to make a useful housewife and an attractive parlor ornament. It included cooking, bed-making, sewing, in a word, housekeeping—and the reader will please observe that *house* keeping and *home* keeping are not synonymous phrases — to which were added embroidery, dancing, manners, a little drawing, though not really art, and ability to play or perhaps sing a dozen or so of set pieces, though not really music. If the girl were especially well-educated, she also knew a little French, and enough about proper kinds of literature to carry on a moderately intelligent conversation touching the standard books. Religious instruction was added: the cynic would aver that this was solely because men want devout mothers for their children; the cynic would be wrong as he always is, yet the old sermons indicate that the attractiveness to men of religion in women was regarded by ministers as a not unworthy argument in pressing the claims of religion upon the feminine members of their congregations.

The exceptionally educated women of the eighteenth century in England and America only emphasize the limited and superficial education which was generally afforded to the sex. Kate Stephens, in the American Appendix to the "Encyclopedia Britannica," gives some account of the earliest movement toward a higher and broader education of women in America in the latter half of the eighteenth century: "A resident of Hartford, Connecticut, gave his daughter a quarter in a Boston school where she was taught to do needlework, to dance, and to improve her manners, another quarter to complete her course, and, later, another quarter in a Hartford school"—that is, two quarters for a complete education, and one quarter for a post graduate course! And Mr. Lecky, in his history of England in the eighteenth century, indicates that the ambition to give women an education above their fortunes was noticeable in New England. The difficulties which a girl encountered who had any intellectual ambitions are exemplified in the experience of Mary Somerville in England. Her first incentive to mathematical

* 1 Corinthians, 11: 9.

studies was furnished by puzzles in a popular magazine; her first studies were carried on surreptitiously, despite the fears of her father, who declared that some way must be found to stop them, "or we shall have Mary in a straight jacket one of these days"; when she was about to marry, she received a letter from her future husband's sister, saying that she "hoped I would give up my foolish manner of life and studies, and make a respectful and useful wife to her brother"—an interesting incident as indicating that the higher education was then regarded in society as inconsistent with commendable wifehood.

The first serious movement in this country toward a higher ideal of education came from the Moravians, whose seminary for young women at Bethlehem was founded in 1749; but it was decidedly in advance of the age. The work of Miss Willard, in Troy, did not begin until 1814; Miss Lyon did not succeed in getting a foundation for Mount Holyoke Seminary until 1837; and Vassar, which is, I believe, the oldest real college for women in America, was not opened until 1865, and then as a combination of college and preparatory school. Almost incredible advance has been made in woman's education since then. Time enough has not yet elapsed to secure for women's colleges endowments equal to those possessed by men's colleges; but the educational standards are now substantially the same. With one or two exceptions, all the State Universities are open to women on the same terms as to men; and, in this respect, most western colleges follow their example; and, while this is not the case on the Atlantic coast, nor likely to be, colleges for women are being established in geographical connection with the great universities, if not in scholastic affiliation with them, as they also have been in Oxford and Cambridge, in England. What is more to the point, women are crowding to these colleges: Wellesley, Smith, Mount Holyoke, Vassar, Bryn Mawr, cannot erect buildings fast enough to provide for the students who flock to their doors.* That women have quite as eager an appetite for education as men can no longer be questioned; as little is it possible to question that the feminine intellectual digestion is quite as good as the masculine. Wherever intellectual competition between the sexes has been possible, the woman has carried off her full share of the honors; and any one who is at all familiar with the inner life of these colleges will testify that the college life is quite as genuine, as vital, as healthful, as is that of Princeton, Yale, or Harvard; the grosser vices of masculine institutions are absent, as might have been expected, and the sentimentalism and the superficiality which pessimists did expect are conspicuously absent; the girls are not only as eager students as are the boys, but they are quite as thorough in their studies and quite as sane in their college life.

This change in feminine education has been accompanied by a change quite as great in feminine employments. Formerly, woman was confined to those employments which are distinctly domestic. The aim of the father and mother, especially the latter, was to secure an eligible husband for the daughter. If that could not be done, the failure was charged against the unfortunate girl, who was shut up to a very few escapes from a life of idleness. As a maiden aunt, she might be tolerated as an unpaid assistant to some more fortunate woman who had secured a husband, a home, and children of her own; she might go out to domestic service; she might teach school, provided she was contented to confine herself to the lower branches of education —a college professor she could never aspire to be. The reason for the distinctions between what were considered womanly and what not womanly vocations it is somewhat difficult to understand. She might nurse the sick, but she could not be a physician; she might sing in public, but she could not speak in public; she could teach in the Sunday school, but she could not preach, though to a congregation no larger than her adult Bible-class.

This is all changed. These conventional walls within which she lived have been so thoroughly leveled to the ground that it is difficult for the present generation to realize that they ever existed. Nearly all vocations are now open to woman. She may be a lawyer if she can get clients, a doctor if she can get patients, a minister if she can get congregations, a store-keeper if she can get cus-

* In 1900, there were, in the women's colleges of the United States, more than 4,000 students; in the co-educational universities and colleges of the country, more than 20,000 women students, besides those who were pursuing post-graduate courses.

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tomers, a banker if she can get patrons. In our great stores, salesmen have given place to "salesladies." In colleges, women teach the same branches which their brothers teach; and female college presidents meet male college presidents on equal terms in educational conferences. Woman cannot be a soldier, nor a policeman, nor a fireman, and I believe that there are a few women who resent exclusion from these and kindred public employments as derogatory to their sex; but these protestants are so few in number, and so clearly unrepresentative of womankind, that they may be disregarded by the philosopher as a negligible quantity.

Doubtless, this enlargement of woman's educational and industrial opportunities has been accompanied by some intellectual errors and some practical evils. The most serious of these errors is the opinion that equality of character involves identity of function; that because woman is the equal of man, therefore she is to do the same things which he does. Those of us who have been interested in pressing the right of woman to this larger life, do not deny that there are distinctive feminine and masculine spheres of activity, and that each sex renders the best service to society within its appropriate sphere. What we object to is the endeavor of the male philosopher to evolve woman's sphere out of his own consciousness and shut her up within it; what we insist on is that both sexes shall have equal liberty and equal largeness of life, and that each shall find its appropriate sphere for itself. It is not probable that any woman desires the office of longshoreman, or could find employment in that capacity if her ambitions called her in that direction; but she is to be left free to make the experiment if she desires so to do. It does not seem to me probable that we shall ever have a comparatively large number of women preachers, or women lawyers, or women surgeons; women doctors will probably be mainly confined to that branch of the profession in which success depends chiefly upon skilful and scientific nursing. But this surmise affords no reason why women should not be allowed to experiment for themselves, and so determine whether the world wants them in large numbers in the ministerial, the legal, and the medical professions. There are some vocations which are, in their nature, compulsory. If one is permitted by the State to serve on the militia, the police, or the jury, he *must* serve when he is called upon. Voting is such a function. Whenever it is a right, it is also a duty. The citizen who possesses the suffrage is under a clear moral obligation to exercise it. It probably would not be expedient, but it would be perfectly legitimate, for the State to fine him for his failure to do so, and this has been seriously proposed. The doctrinaire argument that all women ought to vote is no better than the doctrinaire argument that no woman ought to vote. The question whether they ought or not is one to be determined, in the last instance, by women themselves; and so long as the instincts of woman demand, as they evidently now do, exemption from this duty, along with exemption from police, fire, militia, and jury duty—in short, from all purely political duties—so long those of us who believe in the largest liberty for womanhood will continue, in defense of this liberty, to refuse to impose upon her the obligation from which she desires, in the exercise of that liberty, to be excused.

This notion, that all equality of character involves identity of function underlies also a popular, but evident, educational fallacy. This fallacy is that because woman is entitled to as good an education as man, therefore it must be the same education. When reformers first began to demand for woman a higher and broader education, it was necessary to prove that woman had the capacity to avail herself of it if it was offered to her. For this purpose it was natural, perhaps necessary, to offer her the same education that was given to her brothers. The only educational standard we had was that furnished by the great universities; these were exclusively masculine; and to these woman's education had, perforce, at first, to be conformed. The standard was accepted, not because it was masculine, but because it was the only standard. But the demonstration of woman's capacity has now been furnished. So many women have proved their ability to master all the ancient languages, and all the mysteries of mathematics, and to conduct independent research in all the sciences, that it is no longer possible for the reactionary to affirm that woman is incapable of the highest education. It is quite time that our educational leaders forgot this necessary but preliminary stage in educational reform, and addressed

themselves to the question what is the highest, broadest, and best education for woman. The boys' college ought not to furnish a standard to the women's colleges; woman is abundantly capable of furnishing her own standard.

It is the commonplace of educational science that the object of all education is the development of character, and the test of character is ability to render service. Education is not an end; it is a means to an end; that end is a noble character attested by a useful life. Although these are axioms, we are only just beginning to apply them. President Eliot's application of these axioms has resulted in an extension of the principle of optionalism in education, which may be defined, in a sentence, as the principle that every student must choose, or some one must choose for him, that kind of education which will best fit him for the work he is to do in the world. Booker T. Washington's application of these axioms has brought industrial education to the front, not only for the African in the South, but for the whole nation; for the principle of industrial education may be defined as the principle that the first duty of man to society is to support himself by his own industry, and, therefore, the first function of education is to fit him for such self-support. Now there is a generic difference between feminine and masculine character, and, consequently, between feminine and masculine service; and, therefore, there ought to be a generic difference between feminine and masculine education. It is not easy to define this difference, and I shall not attempt a definition here. Logically, only he who thinks that there is no difference in the functions of the two sexes in society, and in their services to the world, can believe that there ought to be no difference in their education.

The modern movement for the emancipation of woman, and the enlargement of her life, is not to be measured by the incidental errors and evils which have accompanied it. It is not to be measured by the few hysterical women, whose utterances get so large a share in the daily papers, not because they are sound, but because they are extraordinary, and whose influence is in the inverse ratio to the sensation they produce; nor by the society women whose ambition it is to be "up to date," and who seek to prove themselves twentieth-century women by following the fashions, and even aping the vices, of men; nor by the demand by a small minority of aggressive women, as a right, of what formerly was gladly accorded to women as a courtesy —with some consequent impairment of the old-time relation of gallantry on the one side and gentleness on the other; nor by the recrudescence of the old pagan notion of marriage as a partnership, and of the marriage-bond as one dissoluble at the pleasure of the parties. A reaction from these vagaries is already manifesting itself, sometimes in ethical protests, sometimes in even more effective social contempt.

The real results of this modern woman's movement are seen in far different and, I believe, more enduring effects: in better wages to self-supporting women; in enlarged opportunities for productive industry; in consequent industrial independence for unmarried women; in a resultant release from the odious compulsion which drove women into marriage as the only means of livelihood open to them; in an end to that kind of marital subordination which grew out of the fact that an uneducated woman is inferior to an educated man; in an intellectual companionship in the married life based on a common understanding of all life-movements and a common interest in them all; in the ability of the mother to keep the intellectual respect of her boy after he has gone out of the home to college or to business, and to be his trusted counsellor and his inspirer; in woman's broader horizon, larger life, and more richly endowed character; in the ampler service she can render to society, to her country, and to the world; and, in her better equipment for the finest and highest service of all, that which is inherent in motherhood. "It is a woman's destiny," Balzac makes one of his characters say, "to create, not things, but men. Our creations are our children; our children are our pictures, our books and statues." This is the greatest career of all—greater than that of the lawyer, the doctor, the poet, or the artist. Law governs life, medicine prolongs life, poetry portrays life, art presents a simulacrum of life; the mother creates life. The education of the future will recognize motherhood as the supremest of all destinies, and the curriculum of all woman's schools and colleges worthy of the name will be fashioned to conform to this standard and to prepare for this service.

Photographed by Pach Brothers

MISS AGNES IRWIN

Dean of Radcliffe College, Harvard University

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MISS CAROLINE HAZARD

President of Wellesley College, at Wellesley, Massachusetts

MISS LILIAN WYCKOFF JOHNSON

President of the Western College for Women, at Oxford, Ohio

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MISS LAURA DRAKE GILL

President of Barnard College, Columbia University

OUR UPLIFT THROUGH OUTDOOR LIFE

MORE INTEREST TAKEN IN NATURE IN THE UNITED STATES THAN IN ANY OTHER COUNTRY — ITS BEGINNINGS AND ITS RAPID SPREAD BY MEANS OF NATURE-STUDY AND NATURE BOOKS—THE CULTIVATION OF MIND AND BODY SECURED BY AMERICANS IN THE OUTDOOR WORLD

BY

DALLAS LORE SHARP

AUTHOR OF "WILD LIFE NEAR HOME," ETC.

I WAS hurrying across Boston Common; a hundred others were hurrying, too; but ahead of me, at the union of several paths, stood a crowd. More were stopping; some were hurrying away, and those who met me passed with a smile. I hastened up and joined the crowd—as I had done on the Common a score of times before. It was not a Mormon preaching, not a single-taxer, not a dog-fight, nor a call for the ambulance. It was little "Billy," one of the gray squirrels of the Common. A bootblack was tossing him peanuts to bury, while every age, sex, sort and condition of Bostonian stood around, watching.

"Ain't he a cute little cuss, Mister?" said North End, the bootblack, flipping over his last peanut and looking up into the prosperous face of Back Bay at his side. Back Bay smiled, and slipped a dime into North End's grimy fingers, with which to buy more peanuts for Billy.

As on the Common, so the whole country over. We are all stopping to watch, to feed, and to smile. The longest, most far-reaching pause in our eager American life today is this halt to look at the out-of-doors—this attempt to share its life; and nothing more significant is being added to our American character than the resulting thoughtfulness, sympathy, and simplicity—the smile on the faces in Boston Common.

Whether one will or not, he is caught up by this nature movement and set adrift in the fields. Most striking, indeed, is the force and largeness of this movement. It is as wide as the country, and includes all the human sorts of the crowd on the Common. A little five-year-old came over to me in the meadow recently for flowers. "If I get a new one, Miss Adams puts my name on the board," she said. Then she told me the names of five wild flowers that she had picked in the fields for Miss Adams, her teacher. Down in the loneliest marshes of Delaware Bay I know a light-keeper and his solitary neighbor, a farmer: both have been touched with this same spirit; both are interested, informed, and sympathetic.

These are not rare cases. The nature-study of the schools is directing every child to the fields; the nature literature, and that permeated with the nature spirit, filters down into the obscurest, least cultured of our homes. I subscribe to a farm paper (club rates, 25 cents a year), and find a page of it given over to "Nature Studies," while the whole atmosphere of the paper is remarkably fresh and odorous of the fields. I pass in the city, on my way to the station, three large bookstores. Each of them has two show-windows, and from March to July one of each of these double windows is given over almost continuously and completely to nature books. I have before me, from one of these stores, a little catalogue of nature books—a "select list" for 1904, containing 233 titles, varying all the way from "The Tramp's Handbook" to one on "The Farmstead." These are all recent, all distinctively nature books, as distinguished from unimaginative, desiccated, scientific treatises.

There are other signs, a multitude of them, that show as clearly as the nature books how full and strong is this tide that sets toward the open fields and woods.

Less apparent, but no less real or striking than its largeness, is the genuineness of the nature movement. Hangers-on there are, of course—the fashionable, the idle, the curious, the faddish—but they are only foam whirling along the surface of the stream. It is pathetic

to see "nature-study" taught by school-ma'ams who never did, and who never will, climb a rail fence; it is sad (to speak softly) to have the spinners of animal tales begin with a declaration of their absolute truth. But fibs and failures and superficialities aside, there still remains the thing itself—the turning to nature, and the deep, vital need to turn.

The note of sincerity is clear, however, in most of our nature-writers; the faith is real in the majority of our nature-teachers; and the love—who can doubt the love of the tens of thousands whose feet feel the earth nowadays, whose eyes see, and whose ears hear? Who, also, can doubt the rest, the health, the joy that these get from the fields and from their love?

There is no accounting for the movement that reflects in the least upon its reality and genuineness. It may be only the appropriation, by the common people, of the world that the scientists have discovered to us; it may be a popular reaction against the conventionality and intellectuality of the eighteenth century, or the result of our growing wealth and leisure; or a fashion set by Thoreau and Burroughs—one or all of these may account for its origin; but nothing can explain the movement away, nor hinder us from being borne by it out, at least a little way, under the open of heaven, to the great good of our bodies and souls.

Among the cultural influences of our times that have developed the proportions of a movement, this so-called nature movement is peculiarly American. No such general, wide-spread turning to the out-of-doors is seen anywhere else; no other such body of nature literature as ours; no other people so close to nature in sympathy and understanding, because there is no other people of the same degree of culture that is living so close to the real, wild out-of-doors.

The extraordinary interest is not an altogether recent acquirement. We inherited it. Nature study is an American habit. What else had the pioneers and colonists to study but the out-of-doors? and what else was half as wonderful? They came from an old urban-world into this new country-world, where all was strange, unnamed, and unexplored. Their chief business was observing nature, not as dull savages, nor as children born to a dead familiarity with their surroundings, but as cultured, interested men and women, with a need and a desire to know. Their coming was the real beginning of our nature movement; their observing has developed into our nature-study habit.

Our nature literature also began with them. There is scarcely a journal, a diary, or a set of letters of this early time in which we do not find that careful seeing, and often that imaginative interpretation, so characteristic of the present day. John Hammond's "Leah and Rachel" has vivid nature touches; in Bradford's "History of Plymouth," and in Winthrop's "History of New England," one is constantly coming upon graphic glimpses of scenery that are very modern in spirit. In Anne Bradstreet, John Lawson, William Byrd, and in the "Letters from an American Farmer," there are notes varying all the way from poetic descriptions to detailed accounts of snake-fights. Even the modern animal romancer is represented among them in John Josselyn and his delicious book, "New England's Rarities Discovered."

All of this has had little to do directly with our present great interest in the out-of-doors, whose beginnings as a movement can hardly be traced farther back than the day of Flagg, Emerson, and Thoreau. There had been naturalists like Audubon—artist and almost poet—but, like him, they went into the woods alone. Emerson and Thoreau invited us to go along. And we could go because they did not get far beyond the back-pasture fence and the sound of the dinner-horn. It was not to the woods they took us, but to nature; not a-hunting for new species in the interest of science, but for new estimates of life, new inspirations, new health for mind and spirit.

I say we could go afield with Emerson and Thoreau—but not at once. That was fifty years ago, and fifty years ago there were few who could make sense out of Emerson's invitation—to say nothing of accepting it; while it appears from actual count that there were bought of Thoreau's first nature book—"A Week on the Concord and Merrimac Rivers"—in four years, 220 copies.

But 220 of such books at work in the mind of the country could leaven, in time, a big lump of it. And they did. The out-of-doors, our attitude toward it, and our literature about it have never been the same since.

Even yet, however, it is the few only who respond to Thoreau, who lose his woods in their trees, who can think and feel, as well as see. Before the multitude can do this, it

must first get used to seeing. That, it is doing now. Before it can become friendly with nature, it must first get acquainted. Thoreau, for the multitude, was born out of time. We are hardly yet prepared for him and for those like him, who have found the heart of nature. Nature lovers of Thoreau's kind—of his school—do not account for the present nature movement so much as do naturalists like Agassiz and the host of teachers he inspired. For the present outgoing to nature is to discover her, rather than to commune with her—to know her trees, her birds, her flowers, her myriad forms. This is the meaning of the countless manuals, the "how-to-know" books, and the "nature-study" of our public schools. And this is a necessary preparation.

The inexperienced, the unknowing, the unthinking, cannot love. One must live until tired, and think until baffled, before he can know his need of nature; and then he will not know how to approach her unless already acquainted. To expect anything more than curiosity and animal delight in a child is foolish, and the attempt to teach him anything more at first than to know the out-of-doors is equally foolish. Poets are born, but not until they are old.

But if one got no further than his how-to-know book would lead him, he still would get into the fields, the best place for him this side of Heaven. It means ozone for the lungs, red blood, sound sleep, and health. As a nation, we had but just begun to get away from the farm and out of touch with the soil. The nature movement is sending us back in time. A new move of physical soundness is soon to roll in upon us as the result, accompanied with a newness of mind and of morals.

For, next to bodily health, the influence of the fields makes for the health of the spirit. It is easy to be good in a good body and an environment of largeness, beauty, and peace. If it means anything to think upon whatsoever things are good and lovely, then it means much to own a how-to-know book and to make use of it.

This is little but a beginning, however, merely satisfying an instinct of the mind. It is good if done afield, even though such classifying of the out-of-doors is only scraping an acquaintance with nature. The best good, the deep healing, come when one, no longer a stranger, breaks away from his getting and spending, from his thinking with men, and camps under the open sky, where he knows without thinking, and worships without priest or chant or prayer.

The world's work must be done, and only a small part of it can be done in the woods and fields. The merchants may not all turn plowmen and wood-choppers. Nor is it necessary. What we need to do, and are learning to do, is to go to nature for our rest and health and recreation.

EDUCATION IN THE LEADING COUNTRIES

WHAT IT COSTS TO EDUCATE A BOY IN GERMANY, FRANCE, ENGLAND, AND THE UNITED STATES, AND THE EQUIPMENT THE BOY RECEIVES

GERMANY

IN Germany, every walk of official and professional life is closed to the man without higher education, and there are so many special schools that a laborer's education is as clearly defined as a university man's. Every step is regulated by administrative order.

The system is rigid. Attendance at school is made compulsory on the day following the child's sixth birthday. After the small boy is of school age, he may be taught at home, or privately, if his parents are able to afford it; or he may trot off to the public school at seven o'clock in the morning. But all his teachers must be properly certificated and supervised by government commissioners. For the first three years, all German boys study religion, the three R's, German history and geography, and singing, and practice

gymnastics. Order and discipline, and reverence for learning and teachers, are in the air. Everywhere teachers are entrusted with moral and religious education, and their authority over the boys is not limited to the classroom. Exercise takes the form of slow marching and calisthenics. Continued truancy is punished by fining and imprisoning the parents, and the police are so active in enforcing the law that less than one-half of 1 per cent. of the German army is illiterate.

At the age of nine or ten, the career of the child is determined for him by his parents. The choice then made is final, for, after the first three years, it is almost impossible to pass from one school to another. Three schools alone open the way to the university and official careers: the ancient and honored classical gymnasium, the Greekless Real-gymnasium, and the non-classical Oberreal-schule. They all are day-schools, with a single long session stretching from seven o'clock in the morning until one in the afternoon.

The gymnasium is the chief avenue of approach to the university. The boys in the gymnasium are quiet, obedient, methodical, and extremely laborious. They are without the freshness and animal spirits of American boys, and they have no games as substitutes for base-ball and foot-ball. Country walks and school-taught gymnastics are their favorite means of exercise. Their masters are highly trained, and professional in manner, skillful in teaching with few books.

Latin, arithmetic, history, geography, German, religion, and, after the third year, Greek, are the principal studies. Each year some branch of science or natural history is studied, but only superficially. Excessive attention is paid to language-study and mathematics, and small pains are taken to avoid mere drudge work. Patriotism and the military spirit are carefully cultivated; the classical authors who treat of Germany are read attentively, and German history, language, and literature, German progress in art, science, and industry, are made the centre of all teaching. At the end of the sixth year, those who are going to become business men, and those who have continued their studies to evade full military duty, leave the gymnasium. Nearly all of those who remain apply themselves seriously to three years more of preparation for the university.

The student passes into the university at nineteen or twenty years of age, and his intellectual equipment is about equal to that of the young man who has completed his sophomore year at one of our best universities. In theory, he becomes active at once in widening the bounds of knowledge. Practically, for the first two years a very large part of his time is given to the study of the "Beer Code" and to the social demands of his "Corps." The military spirit dominates his new life. A gorgeous uniform is worn at all ceremonies, and the students shout the "Wacht am Rhein" and other martial choruses at their reunions, clashing their swords on their tables. Their honor is sensitive, and seeks the scars of a farcical duel as a badge of courage. Athletic sports are entirely unknown.

In the last two years, work becomes more earnest. The student is mature—more than half of the students in Germany are over twenty-two years of age. He boards and lodges where he pleases; he may attend lectures, or absent himself; and he is left free to wander from one university to another, as he chooses.

When he has finished his course, he certainly lacks the physical vigor and alertness of the American university man. He is without his resourcefulness in practical things, and without his moral force. He has been taught methods of accuracy, but they are the accurate methods of the tortoise. On the other hand, he has become a very efficient part of the machine which has formed him. Every career in the land is opened to him because of his education; and he has been able to take his choice.

Only the Volksschule, the elementary school, is free in Germany. But, as the gymnasium is supported by the government, its charges are exceedingly moderate, and only amount to about $50 per year. The government bears about three-quarters of the cost of the universities, and the student can spend as little as $250 yearly. His expenses vary from that point to incalculable heights of extravagance.

FRANCE

Higher education in France reflects French national life. It preserves privilege and caste, and yet is a vital part of the democracy. It is modeled on a military socialism.

General instruction has long been under

the direction of the government, and, by the suppression of the Jesuit schools, it is fast becoming a government monopoly. The authorities have provided almost no connection between higher and lower education, and the programme of the principal secondary schools is planned to meet the desires of the well-to-do. There are, however, numerous scholarships for the clever children of the lower classes.

The boarding-school called the Lycée is, by far, the best equipped and the most popular of the higher schools. Its work corresponds roughly to that done in our grammar and high schools and the first part of the university course. It not only fits for the university, but, with its preparatory department, it begins with the A B C and finishes a complete education for the middle and upper social classes. Nor is this all. Its graduates are prepared to compete for admission to all the higher technical schools, to the famous military academy of St. Cyr, and to the civil service.

When the eight-year-old boy enters the Lycée, he becomes virtually a ward of the State. Every one about him, from professor to servant, is a public functionary, and, until he leaves the school some ten years later, every detail of his life is planned and supervised by a paternal and military government. Eating, sleeping, studying, reciting, and exercising are ordered with military precision. He wears a uniform; he sleeps in a large dormitory, marches two by two along country roads for an outing, and he is called to class by the beating of a drum.

Recitations average nearly two hours. The boys work ten or eleven hours daily, and are practically confined from eight o'clock in the morning until 4:30 in the afternoon. The tossing of a rubber ball in the school court and some perfunctory kicking and passing of a foot-ball are their nearest approaches to our outdoor games. Debating societies are not allowed.

The Lycée offers a modern as well as the old-fashioned classical course, but there are three times as many candidates for its classical degree. As in Germany, few books are used. The education of the Lycée is strictly non-religious. Much less time is devoted to mathematics than in Germany; science is reserved almost wholly for the last year; and greater attention is paid to the study of the mother-tongue. In the elementary classes, nearly half of the boy's time is given to French. His training and drill in this are never interrupted until his graduation; then he has an intimate acquaintance with his own language, and he has learned to express himself with fluency and precision.

The boy at the Lycée is made to feel that science has a human interest, and that Virgil and Horace were men, and that their poetry is not the dusty storehouse of a grammarian. The stories of history make easy work of the dull details of geography, and, if there is a table to be learned, the glamor of literature is thrown over it in some way.

The student is intellectually acute, faithful and serious, and he works harder because he never forgets that he must win in one of the great competitive examinations if he is to secure a position for life. He knows, too, that success is of political and social importance. He is respectful and obedient, but he is never servile, like the German, in the presence of his master.

The university is a department of the State. Its professors are civil servants. The work of most of the students is almost entirely in the way of professional preparation. The minority take up research work, and, to a greater degree than in Germany, the university is a centre of general culture.

When the student goes to the university at eighteen or nineteen years of age, he is about fitted, like the graduate of the German gymnasium, to enter the junior class of our best universities. Like the German, too, he is not forced to attend lectures, and he is free to live his life as he pleases. But he may not go from one university to another, and he makes no change in the method of his study. There are no clubs, no athletics, no dining-halls, no residence in university buildings, no common life of any kind. The student generally lives entirely alone and apart from his fellows. As he is seen in Paris at the most famous of all universities, he is extremely poor and often inhabits a cheap garret. Almost his whole time is divided between lectures, the library, and hard work in the quiet of his own rooms.

From the American point of view, he is, at graduation, perhaps more of a weakling, physically, than the German university graduate. He is not self-reliant; he is often intolerant and self-opinioned. But his training secures him a governmental or professional

position, and his intellect has been developed to the highest possible point. He is a master of logic and common-sense in things of the mind, with keen insight and precision.

Without State aid, the best secondary education in France is prohibitively expensive to poor people. The Lycée costs from $250 to $300 a year, subject to a discount of nearly 25 per cent. to the parents of large families. The college, which is a kind of second-class Lycée for day-scholars, supported partly by the municipality and partly by the State, charges about $50 for annual tuition and use of text-books. Many of the students at the university struggle along with the meanest kind of a shelter and a starvation diet for less than $200 per year. There are very few who spend as much as $500.

ENGLAND

Primary education in England has long been a national disgrace, and secondary and technical instruction are unorganized and inefficient. But the English are now working in earnest to set their educational house in order. The Education Act has accomplished something; and everywhere modern methods and equipment are gradually being adopted. Yet education of the young man who goes to Oxford or to Cambridge remains almost exactly what it was thirty years ago.

In English higher education, the training of character is the main thing, and professional preparation, which is the only object of the university on the Continent, drops out almost entirely. The schools are nurseries of civic virtues. Both parents and educators in England believe that education should make a boy plucky, truthful, and generous. He should learn accuracy of observation, clear expression, and a habit of hard work. Bodily vigor and skill in games are considered of the greatest importance. A well-disciplined character, therefore, common-sense, and a full-blooded life, are the principal aims of English secondary education.

The son of well-to-do parents begins his education when he is about six years old. For the first three years he is taught privately. He struggles along through his primer; gets as far as fractions in arithmetic; begins Latin at eight, and, at ten, is sent to a preparatory school in the country. Here he is under the constant supervision of his masters, who require strict obedience, but exhibit genuine comradeship out of school hours. Their success in teaching foot-ball and cricket often determines the success of the school. French, geography, and history, and, within about a year after his entrance, Greek, are added to the boy's studies; shortly afterward he first knows the terror of Latin verses. The inclusive cost of the course is seldom less than $500 per year.

The public school is neither public nor free, but an endowed institution, not run for a profit. When the boy of thirteen or fourteen enters one, he takes a distinct educational step. His new masters are university graduates, of high rank in honors, who have distinguished themselves in athletics. Discipline is somewhat relaxed, but control is still strong. The boy's associates are now less restricted to a single social class. Many scholarships are offered at some of the best public schools, and a certain number of them are won by free-school boys.

If the boy expects to be of use in the world, it has long been decided that he will "read" for honors; he has already laid a sound foundation of knowledge at the preparatory school, and his work for the next four years will be severe. He specializes more and more on the classics and mathematics, and his final preparation will vary slightly to meet the regulations of his chosen college. The university examination presents no difficulty to the intending honor man.

There are three characteristic features of the public school that are very striking to the foreigner: The prominent place held by the chapel in school life; the very friendly relations between pupils and masters; and the supremacy of athletics. Studies and recitations are merely duties which must be performed. The one centre of interest is athletics. Public spirit forces every one, who is not absolutely unfit physically, to do his best at cricket, foot-ball, or rowing. At least twenty-five hours weekly are spent on playground and river. The boy's bills will reach an annual average of about $600.

On entering Oxford or Cambridge, the boy looks for all the world like his American cousin at New Haven or Ann Arbor. His interests in life are much the same, and he is just over eighteen. If he is an average "scholar," he is more than a year ahead of the American in his work. If he is a "passman," he probably lags a year behind. But the numbers of the "passmen" are dwindling.

They are held in no honor among the students, for the best athletes are poor, hard-working scholars. In the university, the passman takes his own gait. He is satisfied to spend the shortest time and do the smallest amount of work necessary for the degree, which means nothing except that his manners are probably those of a gentleman.

For the first two years the student lives within the college. He breakfasts and lunches in his own rooms, and rarely alone. His mornings are given to work; his afternoons to athletics; he dines in Hall, and his evenings are divided between work and play. The whole body of "Dons"—from tutors to professors—are his social equals, and, with the exception of two or three officials, have no legal and little moral authority over him. In general, throughout the English universities so democratic a spirit prevails that they can only be compared with those of our West. The undergraduate is a thorough-going politician, and political clubs are numerous. Both fees and living expenses are high. There is a tradition in an Oxford college, famous neither for poverty nor wealth, that a student once managed to make $465 cover all his year's expenses. At a cheaper college, it would have been possible to do this without privation. One thousand dollars insures comfortable living and every reasonable luxury; $1,500, the amount of the Rhodes' scholarships, means extravagance.

The English university graduate is qualified to compete in the examinations for the civil service, but ordinarily he has entirely neglected professional preparation. His education has been completely divorced from technical instruction of any kind, and he is not trained to become an efficient member of a modern industrial society. But the English university accomplishes precisely what it sets out to do. Its graduate "finds himself"; he has a wide outlook upon life, he is fitted to deal with men, and to be a political leader. He has self-reliance, moral force, a sane mind, and a splendidly sound body.

THE UNITED STATES

In the United States, education reflects the national life as surely as does education in Germany and France. The lower schools, even the public schools, are held to no forced conformity to any national standard set by centralized authority, but develop according to the initiative of particular communities. In the higher schools there is a closer resemblance to English education than to German or French education.

At about the age of adolescence, the boy enters upon the so-called secondary period, represented by the high school and academy. As a rule, the course extends over four years, and should finish with the boy at eighteen. The very brightest can finish at fifteen; the belated may continue until twenty. Seventeen is the best average under present requirements. This, of course, applies to the boy who has had continuous instruction, and not to one who—as especially in the West—has been obliged to work on the farm or in the shop to provide his own tuition.

Leaving out of account public high schools, there are, according to the last report of the United States Commissioner of Education, 51,536 boys in private secondary schools throughout the country, divided between 333 schools for boys alone, with an attendance of 21,378, and 967 co-educational schools, with an attendance of 30,158.

These schools differ in what they offer and what they can do, instructors in each school differ in their capacity to inspire and impart, and the students differ greatly in their intellectual capacity and moral tone.

At the more exclusive eastern academies, expenses run from $500 to $750 a year. Either figure offers a high average of comfort.

At the other extreme are modest but fair schools that put the yearly expenditure at $200. This means the barest necessities, and requires some degree of hardihood and courage.

One of the oldest and best-equipped academies of New England puts the lowest yearly expense at $275, while comfortable living is given at $650, which is by no means the extravagant limit. At such a school, the poor but clever boy may mitigate the severity of his Spartan fare by gaining a scholarship, coaching richer and more indolent students, or by other work.

In the central States, some of the more pretentious schools put the yearly expense at from $550 to $600. A very moderate estimate at the humbler institutions is placed at from $140 to $150.

One of the best academies in the West, connected with a large university, gives officially $275, $371, and $494 as respectively low,

average, and liberal estimates. Here a score or more of small scholarships offer the brightest boys a slight rebate.

In each group there is a considerable range of expense, and, in comparison, taking the same grade of school, the scale of expenses are from $50 to $100 more in the East than in the West. The figures given do not include such items as traveling expenses, clothes, amusements, etc., but simply cover the essentials of tuition, fees, and living.

Other things being equal, where tuition and expense are highest, East or West, the equipment of the school is better, and the instruction more specialized and competent. All the secondary schools nominally offer nearly the same range of study.

Special gymnastic training and formal religious instruction are both provided. The instruction is aimed to give both general culture and special preparation.

Two main courses are given—the classical and the scientific, looking toward the continuation of the same lines of study in college. Or there may be a Greek, a Latin, and a scientific course. After the German manner, divinity and certain forms of pedagogy take advantage of the first, law and medicine of the second, and the industrial professions of the third. The German gymnasia carry instruction about two years further than our academies, but there is no college to succeed them in further preparation for university work, as here. In specialization, our secondary schools are more and more recognizing in the last year the value of electives, so that the boy may adjust himself more nearly to his specific work in college.

The classical department, in one of our best private schools, furnishes thorough preparation for any college, and the scientific department furnishes preparation for scientific schools and colleges of the higher grade. And all academies in their degree aim at the same thing.

The schools in the West do not reach the higher standard of eastern schools, but they meet very well the needs of their environment.

When the boy has successfully completed his secondary education, he may go to any one of a vast number of colleges. The lowest average expense, based on official reports, at 9 colleges in Massachusetts, is $269, the moderate average is $314. For 23 colleges in New York $265 is given as the lowest and $289 as moderate. The lowest for 35 Pennsylvania colleges is $201, and moderate $297.

In the West we find such figures as these: Ohio's 31 colleges average $158 as the lowest and $197 as moderate. In Indiana, 13 colleges give, respectively, $137 and $210; Illinois, with its 31 colleges, $158 and $172; Wisconsin's 9 colleges, $148 and $193, and Michigan's 9 colleges $166 and $245. Thus, college expenses run about $100 higher in the East than in the West.

But, at college, the boy has a larger liberty of action, and many unforeseen expenses crop up. He does well to count on double the estimates given.

While the purpose of college training is still to further general culture, there is a sharpening of a specific aim toward practical results. The more conservative schools grant an optional range of studies in the junior and senior years, while the tendency is more and more to grant a larger choice of electives, and, in some colleges, the freedom is nearly as wide as in the German universities, where a man is simply required to take a certain number of lectures, be they what they may. Only here frequent examinations are held, as they are not in Germany.

Resulting from this freedom of electives, a wholesome sense of responsibility is aroused in the young man, who is now not only obliged to determine for himself his own college course, but to do so in view of what his future career is to be. To have this momentous question forced upon him is of the greatest value.

It is especially in the scientific departments where the college courses may be best arranged for future practical application, and here the modern school has taken on a very large development. In the laboratories—chemical, physical, and biological—the attempt is made to give a man direct experience in dealing with scientific problems.

Upon finishing his college course, the American youth has not the formal precision of the French or German graduate, but, like the Englishman, he is usually a healthy specimen of manhood; and he is better equipped for practical efficiency in active life than his academic brothers abroad.

A VIEW OF FESTIVAL HALL AND THE COLONNADE OF STATES AT NIGHT

This is the central spectacle of the Fair, and from this radiate the successions of palaces that contain the principal exhibits

THE WORLD'S WORK

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The World's Fair at St. Louis

THIS number of THE WORLD'S WORK is made to serve the purpose of a guide, philosopher, and friend for those that go to see the World's Fair at St. Louis, and a faithful report of it for those who do not go. The articles and illustrations that follow were written and taken by the members of the magazine's staff, after a month's study.

The Fair is more variously instructive than any of its predecessors, and it will richly repay intelligent study. It gives a worthy representation of the condition of the arts and industries of the world at the beginning of the twentieth century, on a scale of unprecedented magnitude. It presents, also, a great variety of splendid spectacles, as well as of subjects of instructive study; and every alert and ambitious person who can go to see it ought to spend a week there—a fortnight if possible.

The bigness of the Fair is the first fact that strikes the visitor, and it is the fact that will remain longest in his memory. Immense distances, buildings so large that you have to make a new standard of measurement, and an endless variety of things to see — these at first produce an impression of bewilderment. You may have read the statistics of all recent great fairs, which show how much more extensive and costly this is than any of its predecessors was; but you do not comprehend the bigness of it till you come into it. The truth is, it is larger than man's stature—so much larger than the buildings and the fairs and the machines and the displays of things to which we are accustomed, that the

THE STATUE OF SAINT LOUIS
By Charles H. Niehaus

first experience of the visitor is likely to be unsatisfactory. Consider, for instance, the building given to Agriculture. You may walk nine miles in it without retracing your steps.

Now the first effect of this hugeness is to disturb our usual standards of measurement. But presently the magnitude of the subjects dawns upon you—the subjects treated at the Fair; for the Fair is a colossal work of art, a method of expressing the large facts of industrial activity. Regarded in this way, you may study (again to use the Palace of Agriculture as an example) the large facts of our

FESTIVAL HALL
From the east corner of the Palace of Education

food-production on a scale of exhibition never before made possible. Everybody knows that corn is our most valuable crop. The statistics of it are as dull as any other table of figures. But the display of Corn in acres of artistic designs, in colossal domes and pillars and portières, and in great piles of ears, and of all the products of corn (for there are perhaps a hundred such products)—acres of impressive designs and arrangements—all this does bring to any man who has the least imagination the feeling of inexhaustible plenty, of the measureless richness of our continent.

What has been done for Corn has been done

FESTIVAL HALL
While the fountains are playing

FESTIVAL HALL
Seen from the Louisiana Purchase Monument

A DAYLIGHT VIEW OF FESTIVAL HALL AND THE CENTRAL CASCADE

The hall is 200 feet high and seats 3,500 persons. The cascades have a fall of 90 feet

VIEW FROM HALF-WAY UP THE CASCADE

The Palace of Education in the centre; the Palace of Mines to the right; the Palace of Manufactures in the background.

for Transportation also; for Electricity; for the Philippine peoples and their industries—for many other things. The bigness of the Fair, therefore, has a meaning, a use, and a justification. Great spaces are necessary to show great products and important processes. So large are we grown, and so various are the modern industries of the world, that a new scale of measurement is necessary. It is the first time that the products and industries of our country have been exhibited on a sufficiently large scale to give a correct idea of them.

THE VARIETY AND BEAUTY OF THE FAIR

THE next fact that strikes you is the variety of the Fair. There may be things—industries and products—that are not shown here; but no one will wish for more sights to see. All countries and all kinds of industries and of products are not shown with the same fullness. Some important countries are hardly represented—Russia and Spain, for examples; and some parts of the Fair are better and fuller than other parts. But it is nearly enough complete to satisfy any expectation or ambition.

Big enough and complete enough, it is also beautiful enough. You will meet men who prefer a more compact spectacle, such as the Court of Honor was at the Chicago Fair in 1893, or the brilliantly colored and illuminated court at Buffalo; for there is nothing compact at St. Louis. But the great Fair has a beauty of its own—rather, it has many beautiful views. You do not see one splendid spectacle and there come to the end of your quest. There are dozens of fine spectacles that you may discover for yourself—vistas that you did not get a hint of on the first day. The Plaza of St. Louis is the central spectacle; but it is not the only one: many visitors will find others that are quite as beautiful. Instead of one central spectacle only, then, this Fair presents a variety of vistas. It will please you at the end of a week better than it will please you on the first day; and better at the end of a fortnight than at the end of a week. It requires time to assimilate it. No one ever before saw so large an illuminated area as these great buildings at night and the long vistas between them.

It is worth while to remark at the very beginning that the least helpful speculation that one can indulge in, or listen to, is a comparison of one great fair with another. This is not like any other. It differs radically by reason of its bigness and of its variety.

HILL OVERLOOKING THE GRAND BASIN

One of the side approaches to Festival Hall, showing the lawn and the architectural and sculptural effects

"It does not wholly satisfy us," said one of the active directors. "We are disappointed in many details. Some of our plans have not been carried out, others have been modified. But, after a month's study of it all, the total impression has become satisfactory; and I am sure that it is the most instructive and interesting, because it is the latest and largest, of great fairs."

Thus, the first impression of bewilderment gives way to wonder and at last to a new conception of the magnitude, the variety, and the richness of our land and of our people. Any American citizen who studies it all intelligently will carry away a new and enlarged notion of his country, of his countrymen, and of the time in which he lives; for the Fair is the best ocular expression of these large facts that has ever been made—a fit thing to show for the vast sum of fifty million dollars that was spent in getting it together.

THE LOGICAL ORDER OF SUBJECTS

THERE are many good itineraries that could be made for a visitor—for a two-days' visit, for a week's visit, or for a fortnight's; and such orderly suggestions are made in another place in this magazine. But a logical order of study for one who wishes to comprehend the larger meaning of the whole scheme is this:

First, Power and Electricity and Machinery. The machines that turn and light the Fair mark a new era in the use of electricity.

Next, of course, would come the Transportation exhibit, which is interesting, both for its historical value (it shows the development of transportation at every stage from the most primitive methods to the most powerful locomotives ever built) and for the instruction it gives about the most advanced machinery. At the Chicago Fair, steam-power was exhibited almost at its zenith; at Buffalo, there was a brilliant burst of electric light and energy; at St. Louis, although a very considerable advance is shown in steam machinery, for the first time electricity is the dominant power. It may well turn out that the new age of Electricity—as in a sense superseding steam—will date from this Fair. The public will, for the first time, be made aware of the extent to which such a new era has already come.

Next, in logical order, comes the great Agricultural display, indoors and outdoors. For the first time in expositions, enough space

PALACE OF LIBERAL ARTS BY MOONLIGHT, SEEN FROM THE PALACE OF EDUCATION

The flattened shape of the moon is due to the fact of the long exposure, during which the moon moved. The photograph is untouched

A CANAL VIEW AT NIGHT

The Palace of Electricity in the center; the Palace of Education to the right

THE PALACE OF ELECTRICITY FROM CASCADE HILL
The group of sculpture in front by H. A. Mac Neil

A PORTAL OF THE PALACE OF MANUFACTURES
Architects, Carrere & Hastings, New York. The quadriga over the arch is by J. A. Laurie; side groups by Isidore Konti; the fountains below by Philip Martiny

has been used to express our agriculture in adequate terms. Mining comes next.

Then the processes, some of which are seen in nearly all the buildings and many of which are in the outdoor part of the Fair.

This order of subjects thus far—which is not necessarily the best order of examination, but is the logical order in comprehending the Fair as a whole—has covered the power and the larger natural products. Next would come, of course, the manufactured products, from such things as are shown in the Palace of Varied Industries to the contents of the Palace of Fine Arts.

Among the most original and novel great exhibits—things that every one who is interested in such subjects should not fail to see, are:

The Fair at night, including a ride in a gondola to observe the illuminations and the reflections; including also a ride on the intramural railway, both during the day and at night; and a ride on one of the automobiles that make frequent journeys around all the most interesting buildings. So much for general views of the spectacle.

A VIEW FROM CASCADE HILL

Showing sculpture by H. A. Mac Neil; the Palaces of Education and of Manufactures

The Filipino Reservation. This will be, to many visitors, the most interesting part of the whole Fair. You can learn more there in a day about the archipelago, its peoples, its products, and the problems of our government than you could learn in months of travel.

Of the foreign exhibits, the German and the Japanese are the best, the most elaborate, and the most instructive. The American public has never before had such an opportunity to study Japanese products and industries, Japan and the Japanese. A visit to the Japanese pavilion on the hill is one of the pleasantest experiences of the whole Fair.

These suggestions are, of course, not meant to be complete. They are merely general suggestions. Others, in greater detail, are published elsewhere. The foregoing are only some of the large subjects that are most worthily set forth.

THE PALACE OF TRANSPORTATION

One of three arches that form the main entrance

THE BEAUTY OF THE GENERAL SPECTACLE

THE visitor will note that the pivot upon which the whole plan of the Fair turns is the dome-topped structure of

A VIEW ALONG THE CANAL

The Palace of Education on the right; the Palace of Electricity in the center; the Palace of Machinery on the left

ALMOST THE SAME VIEW BY NIGHT

The Palaces of Electricity and Machinery

Festival Hall, finely situated upon a smoothly rising hill. On the plateau behind it stands the Palace of Fine Arts, while in front, on the level ground at the foot of the hill, is disposed the main group of exhibition palaces. A most important characteristic of the Exposition, distinguishing it from previous ones, is the undulating nature of a part of the ground. As far as possible, the natural beauties of Forest Park have been preserved. In the section of outdoor exhibits, the trees have been sacrificed considerably to the necessities of the case, but they abound with charming luxuriance amid the knolls and dells in the community of the State buildings, while the slopes of the high ground, descending in somewhat the form of an amphitheatre, have been admirably utilized to create the climax in the scheme of spectacular beauty. They offer an opportunity, which no previous exhibition has enjoyed, for a magnificent combination of cascades with sculpture and architecture, closing in the picture as one approaches it from the north with a spectacle of extraordinary grandeur.

The visitor will do well to arrange a special study of the scene, leisurely proceeding from the end of the great plaza near the Lindell Boulevard entrance. In the artistic planning of the Fair, this was evidently intended to be the approach of honor, and it is unfortunate that no formal structure announces the fact. It would have been a fitting preparation for the stateliness beyond, and of still further artistic importance to the vista when viewed from the opposite end; for now, as you stand on the terraces below Festival Hall, and look down the ranging dignity of the palaces, the impressiveness abruptly terminates, and beyond is the incongruous higgledy-piggledy at the commencement of the Pike.

THE LOUISIANA PURCHASE MONUMENT

Design by E. L. Masqueray; sculpture by Karl Bitter; on the left is the statue of Joliet, by A. Phimister Proctor

But, to return to our starting-point, the feature of distinction is the equestrian statue of St. Louis, which is a work of genuine merit. It is by the sculptor Charles H. Niehaus, who has supplied also the beautiful group which decorates the pedestal representing the "City of St. Louis and Guiding Spirits."

To our right and left, as we advance up the broad Plaza, are the colonnades of the palaces, respectively, of Varied Industries and of Manufactures. The immense length of

THE PALACE OF ELECTRICITY

Architects, Walker & Kimball, Boston and Omaha. Sculpture by Bela L. Pratt

THE PALACE OF LIBERAL ARTS

Designed by Messrs. Barnett, Haynes & Barnett, of St. Louis. An adaptation of French Renaissance style

A VIEW OF THE GRAND BASIN FROM THE CENTRAL CASCADE

The Palaces of Education and of Manufactures on the right; the Palaces of Electricity and of Varied Industries on the left. The Louisiana Purchase Monument at the end of the Basin

each rank of columns, though they represent only the shorter side of the irregular rectangle of the buildings, may prevent us from realizing the great height of these structures, and a glance into one of them, up to the network of timbers which support the roof, will cause surprise. Then, since the distance of vision is contracted, and the standard of comparison is limited to the size of ourselves in relation to exhibition booths which themselves seem high, we shall get a notion of the loftiness of the building. Outside, however, we view them in connection with the immense perspective of the whole, and it is worth while to notice that the height of the cornice line, which is practically uniform throughout all the palaces, has been very admirably adjusted to the proportion of the whole picture, so that, while every building is individually impressive, it does not assert itself at the expense of the vast impressiveness of the whole.

sculpture. More interesting, however, both artistically and in their relation to American life, are the four Western groups, by Solon H. Borglum, especially the "Cowboy Resting" and the "Pioneer Looking for Shelter." The sculptor himself began life as a cowboy; the freedom of the plains is in his blood, and he knows the life of men and of animals and is in full sympathy with it. Hence his work is extraordinarily realistic, besides having a remarkable relevancy to the event and conditions which this fair was meant to commemorate.

But, abandoning for a while the forward view, one should linger here to enjoy the vistas which open up to right and left. Again there is the grateful relief of water, mirroring the bridges, the verdure on the banks, and the ivory white of the balustrades and palaces; narrow water-ways, which are conducted round the huge palaces, encircling each upon a terraced island. It is here that the stateliness of the whole begins to blossom into vivaciousness and diversities of beauty, especially at night, for a curve in the façades of the buildings disperses the trim regularity of the lines of electric globes, following a little too tediously those of the architecture. At the same time, it scatters

A PANORAMA TAKEN

Restaurant at one end of the Terrace of States

The Palace of Machinery

AS SEEN FROM THE PLAZA OF ST. LOUIS

AT the end of the Plaza is the Louisiana Purchase Monument, a circular obelisk, decorated with figures and groups, by Karl Bitter, who, since the resignation of F. W. Ruckstuhl, has directed the making of the

them and blends them into a mazy swarm of brilliance. By daylight, also, this curve introduces a pleasing contrast to the straight vistas, the view to the left being particularly attractive, because it culminates in the United States Government Building, lifted up on the eastern slope of the amphitheatre and approached by broad flights of steps. With the exception of the main view of the cascades that we are gradually approaching, this one is the finest in the spectacular arrangement of the fair.

Not only is the structure an exceedingly handsome one—by far the most dignified representation that the government has ever made in an exposition, and, in this respect, a notable example of the higher standards which prevail in the office of the supervising architect, under civil-service regulations and the direction of Mr. J. Knox Taylor—but the mere fact that a worthy building forms a terminal interest to the vista is itself of immense value to the decorative effect.

FROM FESTIVAL HILL

The Palace of Electricity — The Grand Basin

THE ASCENT TO FESTIVAL HALL

THE guiding thought of the architects of this exposition has been toward the Cascade, its sculptural embellishments and architectural frame, and so, toward the same point, let us continue our advance. At every step the picture broadens, until, from the terraces where the Grand Basin spreads out into a semicircular sheet of water, the beauty of the spectacle in its completeness is first revealed. Outspread is a vast fan of bevelled lawns, embroidered with flower-beds; its ribs three flashing breadths of water plunging down in successive leaps, between white walls of masonry, surmounted by balustrades, emphasized at intervals by spouting dolphins with children on their backs. The water which supplies the central channel glides in a smooth fall from an orifice in an elaborately sculptured grotto which stands in front of Festival Hall, the work of the sculptor H. A. Mac Neil, intended to symbolize the Triumph of Liberty; while the basin which forms the first pause in the rush of water is flanked by colossal groups, from the same sculptor's hand, representing an Indian in headlong chase of a buffalo and a woman leading a bull—the animals in each case being particularly worthy of study. The side cascades descend from two fountains, executed by Isidore Konti, to symbolize the Atlantic and the Pacific oceans. This spectacle of mingled energy and repose, of quiet lawns and speeding plash of water, of vivacious sculpture and steady flow of

THE PALACE OF MACHINERY

THE PALACE OF LIBERAL ARTS AND THE PALACE OF MINES

architectural lines, culminates against the skyline in the colonnade of the terrace of the States, which curves gently to right and left of the crown and apex of the whole scheme —the high, broad dome of Festival Hall. The decorative elaboration of this structure reaches its climax in the very attractive group of "Apollo and the Muses," by Philip Martiny.

One mounts to the top of the hill by curving stairways, bordered at intervals by portrait statues of pioneers and explorers and others famous in the history of the discovery and development of the Louisiana Purchase territory, to find that each of the colossal seated statues which stud the highest terrace symbolizes one of the States evolved from the territory. During the ascent, comprehension of the whole has been swallowed up in attention to the details of sculpture which have been lavishly expended here; and, even when you have reached the summit, the design of the cascades is no longer unfolded simply as it was from below. But now it is the backward view that fascinates one. As one gazes over the level stretch where the huge palaces repose, the roofs assert themselves, towers, domes, and pinnacles rise up to greet the eye, one sees these buildings better, and, as it seems, more near, than while he passed alongside of them; and four more, whose existence had only revealed itself in peeps, are now proclaimed. On our left are the Palaces of Machinery and of Transportation, and, over to the right, the Palaces of Education, of the Liberal Arts, and of Mines. Now, too, we can see, what the map had already told us, that the disposition of these buildings is on a fan-shaped plan, of which Festival Hall, that looms high above our heads, is the pivot.

Thus to make this building the pivot of the whole Fair was a happy thought, since it emphasizes the gala feeling which it is one of the chief purposes of a modern exposition to create, and which this one, in particular, had a right to enforce. For, back of the utilitarian and educational purpose of such an occasion as the present is the larger and the grander one of felicitation over the marvelous blessings which have poured themselves forth over the whole nation as a result of the event commemorated. And mean, indeed, must be a man's spirit, if, standing on this hill with the invigoration of wind and water all about him, and such grandeur of spectacle spread out beneath his feet, he does not give a thought to the inner meaning of all this beauty of material expression, and feel a pride in himself and in his country and the fullest motive for rejoicing.

Having by this time studied the spectacle so as to get at the character of it and the way in which its planners wished it to be seen; being, in fact, fairly masters of the situation, we are now able to enjoy it unreservedly. Now it is that we shall wander from place to place, not seeking to understand, but yielding ourselves to the impressions which everywhere throughout this vast scheme are waiting to woo our admiration. They are innumerable, varying according as we leisurely pace afoot, stopping continually before some fresh surprise of beauty, or still more leisurely sliding over the water in launch or gondola, getting, at every turn, an entirely new aspect of what we thought was familiar.

But best of all are the impressions at nighttime, when the architecture is outlined with countless lights. Even more beautiful is the effect when the lights upon the buildings are extinguished, and only the illumination of the bridges and walks remains, for then the palaces take on a spectral grandeur, a vague suggestiveness to one's imagination. Still and solemn, these huge masses wane fainter and more illusive in the distance, until, far ahead, the dome of Festival Hall rears like a spirit-shape into the impenetrable vault of sky, a shadowy gray against the violet—inscrutably aloof, and inspiring.

THE STATE AND FOREIGN BUILDINGS

OUTSIDE this central effect, the beautiful feature of the grounds is the group of State buildings, not only because of the natural charm of the wooded knolls and dells, threaded by broad driveways, in which they are situated, but also because of the intrinsic interest and artistic attractiveness that so many present. It is true that many are characteristic only of the architect's addiction to the more or less good and meaningful adaptation of classic styles of architecture—structures that, but for the names upon them, would be as little associated in one's imagination with one State as with another. But these are plentifully interspersed with designs that exhibit some originality of feeling or some definite reference to the individual State. Thus, most interesting examples of timber

THE PALACE OF TRANSPORTATION

Designed by E. L. Masqueray. A bold adaptation of French Renaissance to the needs of a railroad terminus

THE EAST SIDE OF THE PALACE OF MACHINERY

A PORTAL OF THE PALACE OF MANUFACTURES

THE UNITED STATES GOVERNMENT BUILDING

Designed by Mr. J. Knox Taylor. The Palace of Mines on the right and the Palace of Liberal Arts on the left, it offers one of the handsomest terminals to a vista on the grounds

NIGHT VIEW FROM THE CANAL

Palaces of Varied Industries and Electricity and Louisiana Monument on the right; Grand Basin, with colonnade of lights, in the center; Palace of Manufactures on the left

construction are afforded by the buildings of Washington, Nevada, Maine, and Wisconsin. Louisiana's is a reproduction of the famous Cabildo as it was in 1803, when the transfer of the territory was made; while Connecticut's represents, on its exterior, the old Sigourney mansion at Hartford, and, in its interior details, the Slater house in Norwich. The California building is a replica of La Rabida, an old mission in the southern part of the State; Mississippi's, of Beauvoir, the mansion bequeathed to Jefferson Davis by Mrs. S. A. Dorsey; Tennessee's, of General Andrew Jackson's historic home, the Hermitage; while Oregon has reproduced the building and stockade of Fort Clatsop, occupied by Lewis and Clark in the winter of 1805–6; Massachusetts, a Colonial mansion; and New Jersey, the old Ford Tavern at Morristown, one of Washington's headquarters. Nor is it to the outside of these buildings only that interest and beauty attach. The interiors abound with fine old furniture, pottery, and metal ware, artistic products and relics of the past. Indeed, in no respect does this fair show such a marked advance upon Chicago's as in these State buildings, evidences at once of improved taste and of increased pride in the finest traditions of their history.

Similarly, many of the foreign buildings are reproductions: the German, of the Schloss Charlottenburg; the French, of the Petit Trianon; the Chinese, of the country house of a Chinese nobleman; and the British, of the Orangery at Kensington Palace. Both the German and the French are furnished with a profusion of articles of historic and artistic value, being veritable museums of the national handicrafts; while Sweden, in a modest way, but with charming taste, has arrayed the interior of her unpretentious building with examples of the skill and artistic feeling of her workers in wood, metal, pottery, and porcelain.

It remains to mention one more feature of the artistic ensemble—the Palace of Fine Arts, placed upon the high ground behind Festival Hall, where it will remain a permanent commemoration of the fair. It is a building of quiet impressiveness, erected in limestone; decorated with sculpture, notably with a statue of "Painting," by Louis Saint-Gaudens of "Sculpture," by Daniel C. French, and of "Truth," by Charles Grafly. Flanking it are temporary structures, housing the foreign

FESTIVAL HALL AND TERRACES OF STATES, ILLUMINATED

THE PALACE OF LIBERAL ARTS
Showing a portion of the Sunken Gardens

art exhibits, the whole group forming a mass of unmistakable dignity.

It might be interesting, though probably fruitless, to compare this exposition with others that have preceded it. It is at least different, both because of the nature of the ground and by reason of the advantage which has been taken of it; and it will remain in the memory of those who have the good fortune to see it a recollection of superb and diversified beauty.

WHAT THE FAIR COMMEMORATES

ON April 30, 1803, Jefferson bought the Territory of Louisiana from Napoleon. Napoleon was afraid that England, in the impending war, would capture Louisiana, and he needed money to meet the war's expenditures. The stupendous results of this transaction nobody foresaw. It more than doubled the area of the United States; it rendered inevitable all the acquisitions of territory that have taken place since; it made it certain that the United States and not England or any other country would dominate the Western Hemisphere; it gave the republican experiment a success and a prestige which have liberalized the political system of every other nation on the globe; and it established one of the great date-marks in world-history.

On April 29, 1803, the United States' western boundary was the Mississippi River, its southern border was an east and west line which struck the Mississippi a little below Natchez, and its area was 827,000 square miles. The next day, 875,000 square miles were added (nearly as large an area as England, Ireland, Scotland, Wales, France, Germany, Spain, the Netherlands and Belgium)—and the cost was only $15,000,000.

The effects of the purchase began to assert themselves quickly. Spain, in 1819, ceded to us East and West Florida (the present State of Florida, the southern ends of Alabama and Mississippi, and the eastern projection of the State of Louisiana). Moving from the Louisiana province soon afterward, Stephen Austin's colonies of Americans got the foothold in Texas which resulted in the wresting of that area from Mexico in 1836, its erection into an independent republic, and its annexa-

A CORNER OF THE PALACE OF LIBERAL ARTS

THE PALACE OF ELECTRICITY

A PORTAL OF THE PALACE OF EDUCATION

Architects, Eames & Young, St. Louis. The colonnades of this building are a notable feature

tion to the United States in 1845. This precipitated the war of 1846–48 with Mexico, by which, through conquest and purchase, we gained California and New Mexico (the present States of California, Nevada, Utah, parts of Wyoming, and Colorado, Arizona north of the Gila River, and part of New Mexico).

Meanwhile, from the Louisiana province as a base, Americans had been for years moving into the valleys of the Columbia and Willamette. Thus, the territory comprised in the present States of Oregon, Washington, and Idaho, and parts of Montana and Wyoming, became ours by the Anglo-American treaty of 1846. In less than half a century, the expansion impulse generated by the Jefferson-Bonaparte annexation sent the nation's boundaries from the Natchez parallel to the Gulf of Mexico and from the Mississippi to the Pacific; our territory was rounded out to continental proportions, with a sea-line on its east, south, and west boundaries; and the 827,000 square miles prior to April 30, 1803, were increased to 3,000,000 square miles.

Impressed by our expansion across the continent, and seeing that the whole of North America, including Canada, was likely to become ours ultimately, Russia, in 1867, sold us Alaska for $7,200,000, and 600,000 more square miles of territory were added to the national domain. Hawaii, already Americanized by the westward sweep of our influence, was annexed in 1898. In the same year, as a result of the war with Spain, we gained Porto Rico, the Philippines, and the island of Guam, liberated Cuba, and established a protectorate over it, became an Asiatic, as well as an American power, and gained the dominance in the Caribbean, which has been strengthened in 1904 by the treaty with the republic of Panama by which we are to build a canal for the benefit of the world across that isthmus, and by which we control absolutely a ten-mile strip through which the canal will run from the Atlantic to the Pacific.

All of those were among the Louisiana annexation's physical influences. Here are some of its social consequences: By giving the United States control of the Mississippi throughout its entire length, it prevented the threatened secession by Kentucky and Tennessee from the East, and by creating the great West with its nationalizing ideas it established the bond which held the Union together when the South attempted to separate from the North in 1861. At the same time, it started the blaze of revolution which swept from the Rio Grande to Cape Horn and around to the Gulf of California. All that continent broke away from Spain (Brazil also seceding from Portugal), and erected itself into republics, which the United States recognized in 1822, the empire of Brazil becoming a republic in 1889. To guard the new republics, Monroe, in 1823, issued his hands-off warning, which stopped the threatened raid on them by the Holy Alliance (Russia, Prussia, Austria, and France)—the mandate which Louis Napoleon obeyed when, in 1866, Seward ordered him out of Mexico, which Cleveland constrained England to recognize in the Venezuelan controversy of 1896, which was practically accepted by The Hague conference in 1889, and which received final international sanction when President Roosevelt called a halt on Germany, England, and Italy in the Venezuelan demonstration of 1903, and got the case submitted to the Hague Tribunal.

The province bought by Jefferson holds the geographical center of the continental portion of the United States; it contains, in 1904, 18,000,000 of the country's 80,000,000 of people; and it produces an annual average of more than half the country's wheat, nearly half of its corn, and more than 45 per cent. of its food-products in the aggregate. One of its dozen States (Missouri) has more population in 1904 than the whole United States had when Washington was first inaugurated President. One of its cities (St. Louis) has more residents than New York, Philadelphia, Boston, Baltimore, and all the rest of the country's cities had at the time of the annexation. The manufactures of one of its cities (St. Louis), in a single year, would pay Jefferson's $15,000,000 price for the entire Louisiana territory more than fifteen times over. The 1803 purchase was the most profitable real estate transaction in the world's history.

The Exposition illustrates the national expansion of which the great event that it commemorates was the first step. Such a vast expenditure of time, talent, and money are represented in it that the St. Louis Fair will probably remain for decades, if not forever, the biggest exposition that the world has seen.

A NEW EPOCH IN THE USE OF POWER

THE FAIR A PICTURE OF MODERN INDUSTRY—A LONG STRIDE SINCE THE CHICAGO EXPOSITION IN METHODS OF PRODUCING ELECTRICITY—THE TURBINE AND THE PRODUCER GAS-ENGINE HERALD A REVOLUTION—A FULL TEST OF THEM AT THE FAIR—HOW MACHINERY HAS REPLACED HUMAN LABOR

BY

BERNARD MEIKLEJOHN

THE Fair tells the whole tremendous story of modern industry. The power born in the boiler-house sweeps from place to place and from building to building in a gigantic wave of energy. Six times as much power is lavished to run the Cascades as was used in the whole Centennial Exposition. A trolley-car system is maintained. At night, the Fair is made a blaze of brilliancy equaling 6,660,000 candles. Yet enough is left from the 50,000 horse-power total to maintain the steam and gas and electrical machines which exhibit in the Palace of Machinery the first great steps in industry; to drive other machines which make still other machines; to keep in motion conveyers, drills, presses, motors, and all the automatic manufacturing marvels of an industrial age. The arrangement is as simple as the alphabet. One may start at the boiler-house and learn, by proceeding step by step through the Palace of Machinery, through the Palace of Electricity, and then to the other buildings, where the final processes are in view, how any article of modern use is brought from raw material in field or mine to fit the needs of man. All along the path are marvelous machines. Human labor is at a discount; human ingenuity is supreme.

Yet the meaning of the power and machinery exhibit is not in this full picture. The machines you see are not all the machines of yesterday, nor even the machines of today. The large fact of the Fair is, that many are the machines of tomorrow—machines undeveloped when the Chicago Fair was held, machines that the Pan-American did not show, machines that are destined to work a revolution in industry. For just inside the door of the boiler-house, to left and right, are mysterious-looking gas-producers erected to furnish gas for engines in the Palace of Machinery. In some measure, these are boilers of the future. And a few steps inside the Palace of Machinery are turbine engines, ranged beside the steam-engines of the present. These, in a measure, are the steam-engines of tomorrow. And as the function of the turbines is mainly to turn electrical generators, the electrical generator of tomorrow is before you—as different from the electrical generators of the Chicago Fair as the pneumatic-tired racing bicycle is unlike the clumsy velocipede of the 70's.

At St. Louis, then, the layman can fall into step with the engineer in learning how the industrial establishments of the future must be built and equipped. For the power and machinery display at the Fair is no mere exhibit, but a contest. Fuels will be tested later on for their merits as steam- and gas-producers; types of boilers will be compared; the gas-engines must prove their efficiency; the turbines must "find themselves." Day after day the fires in the boiler-house will consume their 500 tons of coal; day after day the engines and machines will perform the work they would be called on to do in actual practice; and, as the exhibition draws to a close, the mechanical installations will stand there, judged by their actual performances.

The main part of the boiler-house is given over to colossal batteries of boilers. Cars run directly from Missouri coal-mines and dump daily 500 tons of coal into bins, whence automatic conveyors and stokers feed it to the fires. Soot and ashes and human labor are lacking. The conveyors glide about among the rafters, the coal pours down to the automatic stokers, the automatic stokers carry it into the fire-boxes, and drop the resulting ashes into a pit beneath the floor. The steam made is piped from the boilers underground to the Palace of Machinery.

Its chief work here is to turn electrical

generators. As you enter the lower end of the building, the turreted bulk of engine after engine confronts you on the left—compound, triple, and even quadruple expansion steam-engines. But in front are the towering generators—run by the steam from the boiler-house—which produce the electricity for the Fair. Beyond, an array of machines extends itself to the other end of the building. Here and there a generator looms above the metal masses, and, high above, an electric crane sweeps back and forth. A spout of fire shows, over there, where a carborundum sharpening machine is shooting a stream of sparks from a drill. There is a glint of water; a hot-air engine is pumping. An automatic conveyer is rattling away with a train of boxes. The big Krupp press—the only important exhibit of the great German iron firm—is slowly squeezing down, with its pressure of 90,000 pounds. And everywhere are the whirring of wheels and the buzz and hum of generators big and little, for the power of today is electrical power, and the type of primary machine is more than ever the generator.

Now, big as the biggest generators are at the Fair, they are not colossal. They cover less ground by two-thirds than the generators at Chicago in 1893. And the turbine generators hardly take the eye at all. Here, indeed, is the great step in advance. Ten years ago, a vast engine was set up in which the steam drove a piston back and forth, the piston drove a crank which turned a flywheel on a shaft, and a belt led from the shaft to the shaft of an electric generator some distance away. The generators are smaller at St. Louis because now the generator has been made a part of the engine. The wheel of the generator has been put on the shaft with the flywheel. And a longer step still is made by the turbine. In this, the piston has been utterly removed. The steam is led directly to expand against blades or buckets set around a shaft—to make the principle very simple—so that the resulting motion is like that a small boy gets when he blows against a paper windmill. The wheel of the generator is placed on the same shaft which the steam —beating farther along against the blades— whirls so merrily; and the whole machine is about one-fifth as large as the present-day generator, yet with equal power. Here, then, is a machine which is just as efficient as the generators employed at Chicago, and about one-fifteenth as large. There never was a greater simplification in "prime-moving" machines. Yet the gas-engine presses the turbine hard as a comparative novelty, and it, too, is a simplification. Where the turbine eliminated the piston, the gas-engine eliminates the boiler. Coal is burned not to heat water for steam, but to give off gas; and the gas is burned directly in the cylinders of an engine—the piston shooting back and forth with successive explosive combustions of gas. The gas-engine and the turbine, exhibited now for the first time as fit machines for large installations, herald a new epoch in the use of power.

But the ordinary reciprocating engines first. At the Centennial Exposition, the steam-pressure that drove the Fair reached but sixty pounds. At Chicago, it reached 100. At St. Louis, it comes to the Palace of Machinery at 150 pounds, at 225 pounds, and even as high as 300 pounds. The most distinctive French exhibit, outside of the automobiles, is a remarkable steam-engine at the very door of the Palace of Machinery, which produces 1,500 horse-power by speeding at the rate of 330 revolutions a minute. It does this by using the 300-pound steam at 200 degrees of superheat. A wonderful engine to see, all knobby as it is; with its six cylinders, it is a triumph of engineering success in what it does. Most engineers have never seen anything like it. Then there is a towered reciprocating-engine generator, which provides electricity to run the trolley-cars on the Intramural Railroad. Nearer the door is the row of four generators, whirring away to provide, under contract, the power for the Fair's activities. Looking through the white plaster model of an armature of one of the great 15,000 horse-power Niagara Falls generators, one sees in the middle of the building a lofty and beautifully silvered engine whose electricity sets every bulb at the Fair alight every evening. These generators are not the largest made, but they show the high-water mark up to date in reciprocating engines. These are of the sort that now set in motion the mills and street-railways of the country.

It is but a step from these to the new creations. Off to one side of four big generators is a machine that looks like a short section of cast-iron water-pipe, with sundry knobs and attachments, and a small electric generator at one end. This is the Parsons turbine,

already a success on steamboats, and now built for use on land. Simple? A cock is turned which admits a jet of steam at one end of the cast-iron water-pipe. As the steam rushes through the pipe, or jacket, it pushes against the blades set spirally around a shaft within, which fits the jacket very snugly. Under the impact of the steam, that bladed shaft begins to whirl till its speed is 3,300 revolutions a minute. And, as the wheel of the generator is on the end of the shaft, it sings a song that is like a continued high-pitched siren note. One knows the steady chug-chug of the reciprocating engine. This little 1,500 horse-power turbine makes so little disturbance that one cannot tell whether it is in motion or not except for the note of the generator.

Out beyond the plaster model of the Niagara Falls armature is another turbine generator, or turbo-generator. This is set up vertically. It looks like a little green-painted turret, with a railing around the top, or as much as anything like an ordinary domestic furnace. Its appearance is mysterious, for the ordinary observer has never before seen anything resembling it. The top part is a drum in which the generator revolves horizontally. The lower part is a drum containing the turbine. This is the Curtis machine —an American invention.

Within the drum of the turbine proper are horizontal wheels with buckets in them. The axle of the wheels is the shaft of the generator. The arrangement is just as if the boy with the windmill had set a series of paper wheels on his stick. The steam enters at the top of the drum, and, expanding, strikes vertically the buckets in the first horizontal wheel, making it revolve. It passes then through buckets in a stationary wheel, which rests between the top revolving wheel and the one below, and strikes the buckets of the second movable wheel already revolving because attached to the same shaft as the top wheel. Then it goes through another stationary wheel, and then through the buckets of another movable wheel on the central shaft. Thence it emerges into a condenser, which is simply a vacuum box beneath, which, to speak colloquially, sucks out the steam. The whole process may be clearer if one bears in mind that a windmill is set revolving by a current of air blown directly against the flat side of the bladed wheel. This turbine is somewhat as if a windmill were set horizontally in a box, and steam blew directly down on it, passed through the blades, blew on another windmill, passed through the blades, and then blew on another windmill. The stationary windmills set between the layers of movable windmills are placed there so that the steam may have a chance to expand after passing each wheel—for the buckets, or spaces between the blades, open out in a flare from top to bottom.

There are other turbines at the Fair, but these will suffice as types. Their great advantage is economy of space; they take up but about one-fifth of the room of an ordinary engine. As their use develops, they will be installed more cheaply, though they can now be laid down at four-fifths the cost of the older engine. With no disturbance, no jarring or shaking, they maintain a uniform motion. They are capable of very high speeds—indeed, the problem of producing a commercial turbine has been to slow down the motion, for a turbine can be made to go at a higher speed than materials can bear without flying into pieces. Some have already been installed, and the companies that make them already have orders for them from every part of the world.

Their chief use is in producing electricity. Their development came about through the gradual drawing together of electrical and steam engineering. Power for varied uses must be electrical, yet the electricity must be made by steam-engines. A decade has seen the generator move into a place on the steam-engine; and now a new development of the steam-engine has arisen just to fit a generator, so that the two now form snug parts of a single compact, noiseless machine. So smoothly does such a machine now work that a silver dollar may be stood on edge on any part of it without falling over, though the engine speed to its maximum.

The gas-engine is the other novelty of the machinery exhibit. Gas or gasolene engines have long been used. Gasolene boats and automobiles are the commonest of sights. And there is a farm in North Dakota where three five-gang plows run by gasolene are handled by only two men. One man stands at one end of the field and one at the other. The plows are started, and the men await them as they successively reach the edge of the field. As each plow arrives, the man awaiting turns it, and then waits for the next. So

gas-engines of many types are naturally shown at the Fair. It is the producer gas-plant and the engine run by it that attract attention.

Ranged in front of the boilers in the boiler-house are two producer gas-plants—one red, one green. In each, a great fire of coal is made, and the stoker keeps on feeding coal as the fires of a boiler would be fed. The coal is made to burn slowly, to give off the maximum of gas. From one of these producers the gas, after going through cleansings, is led to a reservoir—the familiar gas-tank. Thence it is fed, as needed, through an underground pipe to the engines in the Palace of Machinery. From the other, the gas is fed directly to the engine without the intervention of a tank—the fires being regulated to produce the gas as fast as needed. In the engines the gas is burned by explosions in the cylinder. As the piston is drawn to one end of the cylinder, gas is admitted to a connecting chamber directly in front of it. When the piston has gone as far as it will go, an electrical connection is formed within the gas-chamber, creating a spark which explodes the gas. The explosion drives the piston to the other end, where the same operation is repeated. The method is not unfamiliar. The significance of the installations of producer gas-plants is this: Wood, poor kinds of coal, and even the refuse of cities may be used as fuel in the gas-producer, so that power may be created at very low cost. As gas-engines are being made larger and stronger than ever before, they can now be put to work in factories. Accordingly, the producer gas-engine promises a new economical source of power for industry. Tests will be made at the Fair to discover just how much cheaper it is to burn coal for gas instead of burning it for steam, and just how efficient the gas-engine is as compared with the steam-engine.

And now pass beyond the zone of engines in the Palace of Machinery. Never before has been gathered such a collection of machines which show that the labor of man has been replaced by the activities of things of iron and steel.

That steel crane overhead is a type of the machine that moves material and product in every large mill in the country. Over in a corner is a conveyer unlike the pocketed coal conveyer in the boiler-house, and unlike the conveyer which carries boxes and barrels up and down, and along and around corners. It carries coal and grain and other small objects in every possible direction on an endless V-shaped canvas band. One man can throw it into ceaseless operation by turning a switch, as the man perched up in the crane transports great iron beams about by simply moving a lever. Examples of machines are shown, either here in the Palace of Machinery, in the Palace of Mines, or in the Mining Gulch, which shovel iron out of the ground in the Michigan iron-mines, which cut coal in the Illinois soft-coal mines, which drill rock—one drill, for example, that bores its way into granite as an auger eats into wood. One firm shows a new dredging-shovel, which unloads ore-barges by taking up a ton at a bite; and this same firm builds machinery for handling coal or ore from vessel or train to storage pile, and back again, with no help from Liliputian shovels. Vessels can even be coaled at sea from a collier a quarter of a mile away by an automatic conveyer that glides back and forth across the water. In the Mining Gulch is a full-sized aërial tramway, such as those which carry ore through the air across Utah valleys. Another kind of conveyer, like a moving car, shoots loads of iron up slanting tracks to the top of Bessemer furnaces, and dumps it automatically. Men carry things no longer. Machines do the work. At St. Louis, one can see how they do it.

When materials are carried to their proper destination, they are wrought by machines into products. In the middle of the Palace of Machinery is a fully equipped machine-shop, which uses the power from the generators to run huge machines which make parts of other machines for manufacturing purposes or turn out products themselves. Here are drills and planes and lathes which cut steel like wood. Screw, nut, and bolt machines are busily at work automatically feeding themselves with bits of iron, and dropping out the finished articles in steady succession. A machine from Germany is holding a drill against a carborundum wheel at just the right angle and pressure to give the drill the finest point. Wood-working machines are exhibited. Barrel-making machines are setting up staves and hooping and finishing barrels. A box-nailing machine is nailing boxes, driving six nails at a stroke. And as one follows the currents of power from the generators out through the other buildings, one sees the whole field of electrical activities in the Palace of Electricity,

sees the processes of mining in the Palace of Mines, and watches the automatic processes in other buildings by which materials are handled without manual labor, and shoes, hats, clothes, and furniture manufactured, foods prepared, books printed—in short, all industry which twenty years ago was carried on by men, now carried on by machines. It is one coherent story, which begins at the boiler-house, takes its big forward stride in the Palace of Machinery, and rounds itself out in a thousand processes.

The significant facts are: That electricity is the power of today and, to a vastly greater degree, of tomorrow; that the turbine, the gas-engine, and the automatic machinery show a swift advance toward cheapness, simplicity, cleanliness, noiselessness, and compactness in the units of power employed to do man's work in a preëminently mechanical age.

THE MARVELS OF AN ELECTRICAL AGE

THE MOST COMPREHENSIVE EXHIBIT OF ELECTRICAL ACTIVITIES EVER MADE—NOVEL MOTOR-DRIVEN AUTOMATIC MACHINES—A STREET-RAILWAY MOTOR OF TREMENDOUS POSSIBILITIES—STRANGE LIGHTS, RECORDING TELEPHONES, HIGH-SPEED TELEGRAPH TRANSMITTERS, NEW STORAGE BATTERIES—TELEGRAMS SENT FROM TYPEWRITER TO TYPEWRITER — ELECTRICITY PERFORMING INNUMERABLE WONDERFUL TASKS

As you enter the Palace of Electricity you hear uncanny whirrings and snappings; you see electric lights of hues and intensities that you never saw before; strange machines begin to glide or whirr or glow or click. The meaning of all these things is that electricity is put to more varied uses, and that the machinery for its utilization is now snugger, lighter, simpler, and yet productive of more results, than ever before. Professor Thomson's lightning arter, which catches and renders harmless an artificially created bolt, shot from a wire hung in mid-air to the arrester, with a crash of thunder and at the astounding speed of 1,000,000 volts; the automatic telephone exchange which connects wires without human aid; the automatic electric printing-press; the mechanical telegraph sender, which transmits messages forty times as fast as a human being; the row of motors, starting, running, and stopping in an endless succession by their own ingenious mechanism; the telephone that carries your words along a beam of light; the wireless telegraph, sputtering with its strangely caught message; the electric locomotive, moving to and fro—these and many other marvels show the many uses of electric power at work in its highest, latest applications.

The electricity used is produced by steam-driven generators. But in one corner of the building is a model of a new power-house which rests on the cliff at Niagara Falls; and, reared high at the edge of one of the most remarkable exhibits, is a full-sized model of the armature of a 10,000 horse-power generator, the largest in the world, built also for Niagara use. Indeed, some of the electrical machines are adapted, for commercial purposes, only to waterfall regions where the primary power is cheap. The main note of the Pan-American Fair, at Buffalo, was the use of electricity produced by the neighboring cataract—then 120,000 horse-power. At St. Louis, where the note is the note of steam-produced electricity, machines such as those displayed before you have so clearly proved their utility that they will now be used at Niagara to the total of 550,000 horse-power. That is a measure of the increase in the employment of electricity made by waterfalls. The spread of the coal-born electrical power has been fully as great.

How this power is produced is shown in the Palace of Machinery. Reaching the Palace of Electricity, the power performs the work for which it has been created. In transformers and in rotary converters, the voltage, or pressure, is reduced to fit the need of the lamps and the machines that the current is to serve. In the daring practice of California, where electricity is carried 300 miles, a pressure is reached as high as 80,000 volts; and on the trolley system which unites Indianapolis

with Muncie and Fort Wayne a voltage of 32,000 is in service for nearly one hundred miles. When such high-speed currents are required for lamps and motors, they are lowered to a voltage of about 110. Here many admirable types of transformers and converters are carrying out these necessary diminutions.

When the motors begin to whirr, the observer begins to see results. In the exhibit of a great electric company, one motor is large enough to print a metropolitan newspaper; another, of but one-eighth of a horse-power in its energy, is running a sewing machine. Others in the neighborhood are busy mixing dough, stirring candy, or creating breezes of constantly varied direction. Such motors are fast driving from factories the old-time belts and pulleys. When one machine is at work, the cost of energy is for only as much as that machine uses; there is no need to keep up steam enough to run a dozen machines, with long lines of shafting. A workshop rid of belts and pulleys is at once made safer, cleaner, and lighter.

A vast diversity of tools and machine-tools are shown organically united with electric motors—emery wheels, planers, drills, milling-machines, and so on. There is an electric controller promptly reversing a motor, such as might replace the steam-engine in a steel-rail mill. Meanwhile, above our heads an electric crane is picking up huge burdens and carrying them off as gently as if they were hens' eggs. Its simple mechanism, guided by a touch, is in full view.

Equally well exposed is the machinery of a trolley-car, whose base, raised, for the enlightenment of visitors, about ten feet above the floor, has its mechanism so laid bare that the layman can examine and understand clearly what has before been a mystery—the way a trolley-car is made to go. And not far away, in another exhibit, is a new motor of tremendous possibilities, to be given a full test at the Fair. So far, even on the new Subway line in New York city, it has been impossible to send along a street-railway system a current to be fed directly to the motors on the cars. The power-stations send out alternating currents, because a thin wire can transmit alternating currents over very long distances. The car motors use a direct current. It has been necessary on trolley lines to build sub-stations at great expense to convert the current from the main power-station from alternating to direct for the use of the cars. This new street-car motor will use the alternating current from the power-plant with no need of sub-station intervention. Its success—and the makers have tried it thoroughly—will mean a tremendous economy in street-railway operation. The summer's test of this and other new trolley mechanism in 60-mile runs on the Fair grounds is likely to solve some very important transportation problems. And it may be pointed out here, since the alternating current street-car motor is the type of advance—that, just as the introduction of electric motors makes a great saving in space and a diminution in wear and tear and loss as against steam-engines and belts, the electrical improvements are mainly in the same consistent direction of more snug and simple units of machinery, compact, clean, efficient, and silent.

Another forward step is the perfection of the electrical locomotive. There are two here of the latest type. The interests of steam and of electrical transportation are plainly getting together. Not so very long ago they looked askance at each other. A locomotive for mining service, making up in length for its slowness, is beside us. Not far away is a car traveling on a circular track, serving as a model of the monorail system for the projected railway to join Manchester and Liverpool. Trains are to run from city to city, 34½ miles, in twenty minutes—that is, at 103½ miles an hour. The road structure is a single rail borne on a stout triangular frame; the car overhangs this frame, and is secured against leaving its path by wheels which press sidewise against supporting metals. This railway will separate quick passenger traffic from ordinary passenger business, and from freight service. There will be no way stations; a novel feature will be a sharp down-grade at each terminal, to quicken departure and to retard arrival. The British Parliament has taken a deep interest in the line, and its builders are rapidly pushing it along. An interesting feature of its operation will be a highly developed signal-system, that will keep one full block of clear line between every two trains, for cars shooting onward at such high speed require a full half-mile to come to a stop.

Trolley-cars, in a mode familiar to everybody, are warmed in winter by electricity; a

current passing through a bad conductor is resisted and the medium becomes heated. Electric heat is much dearer than heat from fuel, yet in many cases its convenience and refinement make it preferable. The exhibit of its practical uses shows a diversity of smoothing and soldering irons for the laundry and workshop; griddles, broilers, toasters, and ovens for the kitchen; curling-tongs for the toilet-table; foot-warmers for the sick-room; with heaters for rooms whose air they do not vitiate.

Moreover, just as with every other spectacle shown at the Fair, electric cooking may be seen going on in practicable form. Those who have cards to use the restaurant at the New York State Building eat food prepared in electrical ranges, and, in the kitchen, one may see steaks broiled on both sides at once with marvellous celerity on an electrical broiler, roasts browned in an electrical oven, soups bubbling over heated electric wires. But only in districts where water-power makes electricity cheap could houses be heated and kitchens equipped with electrical apparatus as economically as when coal is used. Still, at a slight increase in cost for installation and maintenance, one could, in most well-settled communities, replace coal and gas ranges and furnaces with electric stoves and heaters that would keep a house warm and prepare food with a cleanliness, a despatch, and a convenience unknown outside of the few New York hotels which already cook by electricity.

Temperatures incomparably higher than those produced for household uses are easily attained in the electric furnace. One of its latest products, shown at one exhibit, is alundum, used as an abrasive. It is an artificial corundum, or, to speak chemically, an aluminum oxide. One may also see how graphite is made from anthracite coal in an electric furnace. Gas is used in the exhibit instead of electricity, but the process is, nevertheless, clearly presented.

The mode of making incandescent lamps from first to last shows that striking improvements have been made since 1901. The process is so much improved on the original practice that prices are today but one-fifth, or so, of those charged at first. In lighting large spaces at the Fair, inclosed arc-lamps are employed; these are today the cheapest source of electric illumination, but this statement may be obsolete tomorrow. The General Electric Company shows a Steinmetz mercury-vapor lamp, self-starting, which gives a cheaper light than an arc lamp, but of greenish color. This disadvantage is measurably corrected in another lamp by uniting a vapor lamp with an arc lamp, but the color of the resulting illumination is pinkish and not quite pleasing. The arc lamp, however, is soon to face a rival on its own ground. Professor Steinmetz has devised a lamp which burns magnetite sticks, pouring forth a beam which may displace the familiar carbon pencils. It throws its beams horizontally better than the arc light and is whiter in color. The only commercial installation of such lamps so far is in Newton, Massachusetts. Visitors to the Fair examine the specimen magnetite lamp with curious interest, but they are as much pleased with the common arc lamps burning within a red globe, so that one may watch the curious combustion of the ends of the pencils—where a powerful miniature sun is formed.

In lighting a street, a furniture factory, or a lumber mill, the hue of a beam matters little; but this is not so in factories, stores or houses where dyed fabrics are woven, sold or worn. An ingenious instrument, also exhibited by the General Electric Company, the lumichromoscope, takes rays from four distinct sources, illuminating a piece of tartan. The tartan rests within a tube. It is first examined in daylight; then, one after another, different kinds of lights are thrown upon it—an arc light, an incandescent light, a mercury vapor light, and so on. The images differ startlingly. One light alone shows the cloth just as it appears in the daylight. This is an arc-light with a concentric diffuser made of glass and having an opalescent glass shade. This form of lamp is now in use in stores where cloth goods are matched and bought. The mercury-vapor lamp, however, is a boon to photographers. But, for ordinary purposes, the display at the Fair indicates that the familiar arc and incandescent lights are still the best, though one may see a form of prismatic globe which admirably softens and diffuses the rays of the incandescent light. It is exhibited in a well-furnished room, where the effect of the illumination on ordinary surroundings is made apparent. A soft, luxurious light exposes every crevice of the room, with an utter absence of glare.

At an extreme, a telegraph operator of the quickest touch can send about fifty words a minute over a wire; an ordinary operator has but one-third this pace. A wire can carry distinctly the signals for 1,000 to 2,500 words a minute. Why, then, limit transmission to a mere fraction of this rate? Mr. P. B. Delaney, of South Orange, N. J., answers this question with an apparatus of striking ingenuity. An operator manipulating a Morse key reduces a message to perforations on a tape. This tape is then run between a pair of metallic springs, arriving as Morse characters on a paper strip soaked with a compound which changes color under each electric pulse. Between cities 1,000 miles apart, as Chicago and New York, this system transmits 1,000 words a minute; between New York and Philadelphia, say, 100 miles from each other, a speed of 2,500 words a minute is feasible. Mr. Delaney suggests that this rapid telegraphy be allied with the post-office, so that a telegram of 50 to 100 words sent from St. Louis to New York could be delivered within an hour or two, and at a rate so low as to place telegraphy for the first time at the service of all the people.

There is probably no commercial machine which works so far below its possibilities as the telegraph. It is true that messages are sent over the same wire in both directions at the same time; and, on one line between New York and Philadelphia, the wire is used simultaneously for telephoning also. But normally a wire is not taking one-fiftieth of what it might take. And here is one of the advantages of the electrical transmitter; it could keep the wires used to their maximum. Important business mail, in which the time of transmission is of very great moment, might be sent by telegraph. A typewriter operator could write out the tapes by simply manipulating a keyboard. The tapes could be rolled and sent to the telegraph office. The tapes emerging at the other end could be rolled—automatically—and sent to the person addressed, whose typewriter operator could write out the letters from the tape fed automatically across the top of her machine. This system would have all the secrecy of mail, and a wonderful saving of time.

But telegrams are nowadays sent with no wires at all. The DeForest wireless telegraph has two stations in the Palace of Electricity sending messages to each other, and on the grounds it has a signal-tower 300 feet high. DeForest messages have been sent 600 miles at sea, and are now bearing Russo-Japanese war news to the London *Times* and the New York *Times*. Land messages have been transmitted sixty-four miles, skilful attuning keeping the signal free from interference by foreign wireless messages originating but five miles off. The DeForest receiver embodies an electrolytic principle, the signals increasing the resistance of the local circuit of the receiver. This increase of resistance makes itself heard as a sharp crackling sound in a telephone. The Marconi receiver, exhibited in several forms, is constructed on a different principle, employing a tiny tube filled with a pinch of metallic filings which cohere as signal waves impinge upon them; it is the detection of lessened resistance from moment to moment which reveals the message. A DeForest automobile, with a pole to catch signals, is exhibited as used by the United States Government. A wireless telephone, operated all day long, is one of the attractions of this marvelous Palace of Electricity. Now that wireless telegraphy has reached the point where an ocean steamer can keep in communication with land all the way across the Atlantic, it has vindicated itself as a commercial acquisition to human facilities.

A short distance apart in the Palace of Electricity are the wireless receivers and a display of cables and cable instruments. It was but forty-five years ago that the first cable was laid across the Atlantic. So soon as this, an immeasurably less expensive means of communication has been carried to successful operation. And here, as in several other electrical exhibits at the Fair, is a startling fact symbolized—it is brought home to one hard—that electrical advance takes marvelously long strides from decade to decade, longer than have been taken in any other human effort at control over matter.

RURAL AND AUTOMATIC TELEPHONY

The display of telephone operations, beginning with an historical representation of the changes in telephone instruments and running to the contemporary telephone exchange with the girls at work, and thence to the automatic exchange, to the telephone receiver that is receiver and transmitter in one comfortably held in one hand, with the box at a distance—and to the telephone that records

messages in one's absence, has large facts for background. We use the telephone more than all Europe—thickly settled as it is—and Canada. There is a suggestion of diffused prosperity and of keen business activity in such a fact as that. Only one-fifth as many telephone calls were made as letters were sent in the year of the Chicago Fair; last year, despite the vast increase in mail, there were two-fifths as many. Even since the Buffalo Fair, the mileage of telephones in the United States has tripled.

Within the past five years throughout the Union, a good many rural telephone lines have been built, uniting groups of farmers with one another and with the nearest country towns. Such of these as run along wire fences are untrustworthy in wet weather, and are at all times liable to provoking accidents. The best plan is to do what city folk do—build a line with solid posts, stout wire, and modern instruments. A progressive Chicago supply-house installs such plants as part of their business. They are emphatic as to the desirability of substantial construction, which proves cheapest in the end. Telegraph and telephone interests, once bitterly at war, have now measurably composed their differences. This is mainly due to the devices which send telegrams and telephone messages over a wire at the same time without confusion. The lines for long distance telephony are of copper, and in this and every other detail are the best conductors in the field of communication; they are leased systematically for certain hours daily by leading firms as their private telegraph lines.

A remarkable development in recent telephony is that of automatic instruments, which dispense with the ordinary manual-board so as greatly to reduce the staff required for operation. One of the electric companies of Chicago exhibits complete outfits, such as it has installed in a chain of twenty-five cities, Chicago heading the list with an exchange of 10,000 instruments.

SOUND CONVEYED BY LIGHT

Shortly after he perfected the telephone, Professor A. Graham Bell devised the radiophone, which commits a vocal message to a beam of light. This apparatus is here delighting hundreds of hearers every day. Its feats of natural magic turn on the singular property of selenium by which variations in a beam of light cast upon the metalloid cause corresponding variations in its electrical resistance. One speaks or sings at a mirror which throws an intense beam of light to a distant mirror, in which a selenium focus is united to a telephonic receiver. In the present case, but a hundred yards or so divide the mirrors; they have worked with equal success twenty miles apart. This weird invention may yet prove an important resource in war, should other means of communication break down.

Its performances duly enjoyed, we pass to the Bell historical display, in which appear the first crude telephones, with their successors, down to the instrument which bears the voice from Boston to Omaha, and may any day carry one's words beneath the surging Atlantic. Yet the story of the telephone is a story of but thirty years.

WRITING TRANSMITTED

Here, for a few minutes, we pay a visit to the United States Government Building, where we examine two remarkable instruments. The first is the telautograph of the late Professor Elisha Gray, of Chicago, which at any distance exactly reproduces one's handwriting or drawing as executed with a pen or pencil electrically connected. Close by is the Poulsen telegraphone, which records, by varying degrees of magnetization on a moving steel wire, the message from a telephone. At any time afterward, this wire may be run through a telephone, repeating its message with a clearness thus far denied to the phonograph. This invention, recording, as it does, messages received during one's absence, opens a new breadth to telephonic utilities, and is plainly fraught with great value in news service, where a single operator may communicate with scores of newspaper offices widely separated. And in all its applications this device gives telephony what it has hitherto lacked —a record which shall be as satisfactory as the written message of the telegraph. A noteworthy fact is that the impressed wire, but one one-hundredth of an inch in thickness, may be tightly coiled like thread on a spool, without the least confusion of the delicate and varying magnetization of the metal. A momentary application of a strong magnet to the wire utterly banishes all impressions, so that the wire is serviceable again.

Thus within the scope of the Fair, visible

in action, are the elements of a system of telephony whereby a man may call up his own office from a distance, making his own connections, and then proceed to his office, take down his own telephone transmitter, and listen to his own message. All the intervening stages between voice and ear have been taken by modern electrical machines.

STORAGE BATTERIES

Returning to the Palace of Electricity, we go to the Edison exhibit, of fascinating interest. Here are Edison's first electric locomotive and car, a gimcrack affair and yet the parent of the elaborate equipments of today. Beside us is his first dynamo, which had probably about one-half the efficiency of modern machines—a creation of 1881 and already antiquated. Then follow case after case filled with his early lamps, fixtures, and meters, long since radically improved so as to seem quite old-fashioned. In the workshop of this inventor, one of the greatest of all time, so rapid is progress that a single generation suffices to bring a masterpiece of skill to the museum shelf.

One of the recent inventions of Mr. Edison is his steel-nickel storage-battery, specially designed for automobiles. As here shown, it weighs but sixty-five pounds for each horse-power exerted one hour. Such a battery, with its freedom from heat and odors, its safety and ease in management, is preferable, as a motive power, to gasolene or steam, especially in crowded cities.

Much has been expected of this battery. Brought into commercial use, its practical meaning is this: A pleasure automobile can be equipped with a motive power, the mechanism weighing but 500 pounds, which will drive the machine at touring speed—one automobile with the Edison battery went from Boston to New York in forty-eight hours, including all stops—for sixty miles without recharging. The cost of recharging at power-stations will run from about five cents a horse-power to eighteen cents a horse-power, according to the expense of producing electricity in different neighborhoods. For spurts, high speed can be maintained. The mechanism will not wear out easily. In the tests of the battery, one man spent day after day driving an automobile over cobblestones until he had made 4,000 miles. The plates in the batteries were more efficient than when he started. Further, in keeping the cells filled with fluid, the automobile owner does not have to put in potash; he simply adds a little distilled water. Indeed, a child could run and care for such an automobile.

So far, however, the chief use of storage-batteries has been in cabs and in motor trucks, for lighting purposes, and for street-railway power-houses. Of quite other pattern than the Edison battery is the "chloride accumulator" of the Electric Storage Battery Company, of Philadelphia, here exhibited in a model house of fifty-four cells charged with energy equal to 22 horse-power exerted for an hour. This group of cells might well serve to light a country villa. Installations on a large scale are employed in office-buildings and in central power-stations to supplement an ordinary current during the rush hours of business. In St. Louis, the local traction system uses a storage-battery of this type which could exert 2,500 horse-power one hour.

In use, the storage battery for such a purpose acts like a huge automatic sponge that absorbs and discharges at need. A battery of many cells is attached to the power-house generator, and also to the railway system. When the cars are not using all the power the generator produces, the surplus flows into the storage-battery; when the generator is not supplying enough to run the rush-hour cars, the reserve supply in the storage-battery flows out over the wires. Ingenious electrical mechanism makes the change at just the right moment. At the Fair, one may see the many horse-power load of a bank of lights thrown suddenly on a battery. There is not even a tremor in the cells.

MEASUREMENT

Now that electricity is produced on a huge scale, it behooves the engineer to test his apparatus with the utmost nicety. For this purpose, if he would employ the most accurate and delicate instruments, he must, perforce, obtain those of the Weston Electrical Measuring Instrument Company, of Newark, here exhibited in full diversity. An ordinary portable instrument is guaranteed to be correct within one five-hundredth part of the truth. On special order, they are made and guaranteed to be correct within one one-thousandth. Using such an instrument, it is easy to detect the feeble current excited when two metals are warmed by the hand at their junc-

tion. By research as to alloys which vary hardly at all either in dimensions or electrical resistance through a pretty wide play of temperature, Mr. Weston has succeeded in giving his measures a new excellence.

During the Fair, the United States Bureau of Standards Laboratory will be in operation. This Bureau has charge of the standards of length, weight, volume, electrical pressure, and quantity, and so on. For a moderate fee, apparatus is officially tested by this Bureau.

FOREIGN EXHIBITS

But little space remains for a word about foreign exhibits. Those of Germany in the Palace of Electricity include displays of physical and chemical as well as electrical apparatus, all testifying to the thoroughness, the skill, and the philosophical insight that have given Germany the lead among nations in original research. Jena glass, without brittleness when suddenly cooled or heated, and opening new worlds in the telescope, the microscope, and the camera, is here exhibited. Great Britain and France are worthily represented, France showing the original Gramme machine, which marked an epoch in the conversion of mechanical power into electricity. Great Britain displays many excellent instruments, notably those from the University of Cambridge.

But it is the output by Japan that makes one pause the longest in this foreign department. The electricians of Japan have thoroughly learned how to design and construct dynamos, motors, telephones, and all their whole sisterhood of instruments. When decoration appears, it has the unmistakable Japanese stamp, reminding one of fans and screens from the Island Kingdom. In one point, the Japanese exhibitors teach a lesson: everything they show bears its price plainly marked.

Nor are these all the electrical wonders at the Fair—indeed, one could not catalogue them, for everywhere one goes, electricity is at work doing remarkable things. In the Palace of Electricity further marvels are manifold. One may see carborundum abrading-machines at work—the utilization of a product the first sale of which was at a rate of $450 a pound. It is now turned out of electrical furnaces by thousands of tons a year, and is cheap. A new transformer for charging automobiles is there which practically replaced elaborate machinery with a little glass tube in which a mercury vapor glows brightly as the current passes through it—another electrical simplification. To switch off an electrical current of high speed and power would mean proximity to lightning, for the breaking of contact means a "spark"—an appalling blue flash—that has been known to leap fifteen feet. You see here switches that slip slickly through oil-baths where the spark is smothered. There has been a widening application of electricity to the treatment of diseases. There are "fool-proof" things—electrical switches, for example, that will do no other than throw a current on by degrees, no matter how rashly an impulsive workman may wish to hurry the connection. You may see a regulator at work which keeps lights at a uniform brilliancy; it actually floats on a field of magnetism, and wavers up and down as the load on the generator varies with the switching of lights on and off. An electric mine locomotive runs along with no trolley; it trails behind a feed wire running out from a revolving reel, or winding up as the locomotive goes back and forth in the imaginary mine-chamber. A graphic recording ammeter, for testing the quantities of electricity used in different kinds of machinery, is already on exhibition—the first one of its kind ever made. It will probably be used in the electric railway tests. A set of meters shown at work will convince the citizen that his own electric meter does not lie.

The specific things that mean most to industry, however, are the electric locomotive, the alternating-current motor for street-railways, the automatic telephone and telegraph inventions, the wireless telegraphy installations, the improved storage batteries, and the generators and motors that show a marked advance in simplicity of construction since the Chicago Fair.

Europe is still a little ahead of us in manipulations of electricity for scientific purposes, and Germany and England in high-speed street-railway installation. But, in the other wider and more directly productive applications of electricity to industry, and to the uses of daily life—on a colossal scale—this exposition shows the United States preëminently foremost.

TRANSPORTATION AS A MEASURE OF PROGRESS

THE INTERESTING SPECTACLE, THE HISTORICAL STORY, AND THE SCIENTIFIC LESSONS OF THE EXHIBITS OF TRANSPORTATION — THE LARGEST LOCOMOTIVES IN THE WORLD — STEAMSHIP PROGRESS — AUTOMOBILES — "THE SPIRIT OF THE TWENTIETH CENTURY"

BY

ISAAC F. MARCOSSON

IN the centre of the Transportation Building, on a large turn-table, stands a locomotive weighing, with its tender, one hundred and sixty tons. Outlined against the white rafters of the huge building, it looks like a long steel racer; and, as it revolves slowly, its driving-wheels whirling, it is the very embodiment of "The Spirit of the Twentieth Century," as it is officially labeled. Radiating from it, on four miles of tracks and sixteen acres of floor-space, are exhibits that explain the whole evolution of transportation, from the most primitive mule-cart to the private palace-car.

HISTORIC ENGINES

The arrangement of the different machines of transportation into groups such as railway, steamship, and automobile mechanism makes it comparatively easy to get a comprehensive view of the whole display. The best way to see it is to begin with the railroad exhibit, the largest and most important, which occupies the centre of the building from end to end. Entering from the east, you first see the Baltimore & Ohio section, which includes the historic models from the Field Museum, telling the whole story of the development of the use of steam-power for transportation on rails.

The first crude idea of a high-pressure boiler is represented by a large kettle over a fire, mounted on wheels. This same idea, slightly improved with a beam attached to a wheel, stands alongside it. The original model of this was very small, and was the invention of William Murdock, in England, in 1723. Murdock operated the model on his kitchen floor.

The first engine to run on tracks is the model of one originally used on the tram-car railway at the Mythòr-Tydvale railway in England. The rails were laid on stone settings, and some of the original rails and supports are displayed. On this engine was a horizontal cylinder. The wheels on which the engine rests are nearly six feet in diameter.

George Stephenson, whose name is associated with the first successful achievements in locomotive construction, and whose statue may be seen in the middle of the exhibit, built an engine in 1812 with rough wheels and a cog track. A model of this is shown. The prevailing idea was that smooth wheels could not draw a load over a smooth track. In 1814, however, at the Wytan colliery in England, by means of a heavily loaded truck, the weight being equally distributed, it was proved that smooth wheels adhere easily to the track, and move loads more easily than rough wheels.

At the extreme northeast end of the historic exhibit stand models of the three engines that participated in the famous test from London to Manchester, England. These engines proved to England the efficiency of steam-power for transportation. The test was made by George Stephenson's "Rocket," Timothy Hackwerth's "Sans Pareil," and John Ericsson's "The Novelty." The "Rocket" made thirty miles an hour, and received the prize.

In America, however, before the London and Manchester tests, John Hedley had built an engine called "Puffing Billy" because of the puffing steam. It was made like a grasshopper, the legs of the steel insect moving the wheels of the truck. This model is one of

the most ungainly of the group. It remained, however, for Peter Cooper to build the first locomotive to draw a car in the United States. It was called "Tom Thumb," and it ran over the Baltimore & Ohio tracks from Baltimore to Ellicott City, a distance of thirteen miles, in one hour and twelve minutes. Thus began railroad travel in the United States. The famous "DeWitt Clinton" train, consisting of an engine and three passenger-cars, built like stage coaches and each carrying nine people inside and six outside, which is part of the New York Central & Hudson River Railroad exhibit, was operated for the first time in 1831. The original train, which ran seventeen miles an hour, is to be seen, and alongside is the "Empire State Express," representing the perfection of modern railway speed and comfort, which has attained a maximum speed of one hundred miles an hour.

Meanwhile, locomotives were taking a definite shape. By an accident, James discovered, in 1832, that he could cut off the supply of steam. A model of his engine shows a crude steam-valve. The first eight-wheel locomotive, built for the Baltimore & Ohio Railroad and weighing twenty-two tons, at that time the heaviest in the United States, is seen. The first engine built by Mr. Matthias W. Baldwin, founder of the Baldwin Locomotive Works, was "Old Ironsides," and it is part of the exhibit. It was first run in 1832. The weight of the locomotives gradually increased, until, at the Philadelphia Centennial Exposition, the Baltimore & Ohio showed an engine weighing fifty tons. This locomotive looks very small alongside the locomotive called the "Director General," weighing 100 tons, exhibited at Chicago. But the "Director General" is dwarfed by the monster Mallet-type Baltimore & Ohio freight locomotive, which weighs 233 tons, and which is the largest and heaviest locomotive ever built. It was especially constructed for heavy mountain grades in West Virginia. It towers above every engine about it, and looks like an iron citadel.

THE LOCOMOTIVES

Having followed the construction of the locomotive from the crude expression of high steam-pressure to the engine capable of hauling 100 loaded freight-cars, it is interesting to go on to the exhibits of the builders of locomotives. Fifteen years ago, 130 pounds of steam-pressure was the highest obtainable. At the St. Louis Fair there are twenty locomotives each capable of steam-pressure of 235 pounds. As the American locomotives have been built larger, so has the boiler capacity been increased, and, with an increased steam-power, the hauling power has been increased.

The locomotive builders are represented by twenty-six locomotives, the heaviest being the "Santa Fé," which, with tender, weighs 190 tons. It is the largest passenger locomotive in the building. There are two locomotives on raised tracks outside the building. One of them, owned by the Burlington road, hauled a train weighing 562 tons 202 miles in four hours and twelve minutes.

The principal locomotive of the American Locomotive Works is the one on the turn-table. This is the joint exhibit of the builders and of the Big Four Railroad, the owners. The driving-wheels are run for exhibition purposes by a dynamo, which also moves the turn-table. The American Works display eight large locomotives of the latest patterns and construction. The Rogers Locomotive Works has three large locomotives.

THE TESTING-PLANT

As you pass between rows of silent locomotives, suddenly you hear the puffing of one under full steam, and you come upon a sight never before witnessed at any exposition. Mounted high in the air, with every wheel turning, with steam hissing from every escape-pipe, with black smoke rising from its stack, and with coal burning under the boilers, is a freight locomotive. An engineer sits in the cab at the throttle, and a fireman shovels coal into the box. The engine quivers and pants, yet does not move an inch forward. Men crawl over it and under it. It is a locomotive being tested at the testing-plant, which is the principal feature of the Pennsylvania Railroad Company's exhibit.

The plant is not a spectacular show only, but a mechanical laboratory. Its work is of permanent value to locomotive construction. For twenty years, American locomotives have been increasing in weight and power every year. But the increase was largely external. The refinement of mechanism was not analyzed. The economic value of the engine had not been studied. Seven years ago, Mr. Willard Smith, of Chicago, the owner of *Railway*

and Engineering Review, and a student of all kinds of railway transportation, and now Chief of the Department of Transportation exhibits at the St. Louis Fair, conceived the idea of a laboratory to find out, first, how much work a locomotive can do, and, at the same time, to test all the mechanism. He wished to establish a science of locomotive investigation. A small plant of this kind was in operation at Purdue University at Lafayette, Indiana, but working locomotives could not be tested there.

Mr. Smith tried to secure an endowment for such a large plant from wealthy railroad men. They approved the plan, but declined to support it. When the Pennsylvania Railroad asked Mr. Smith to suggest an exhibit at St. Louis which would be not only original, but useful, he suggested the locomotive testing plant, with the understanding that engines of many roads should be tested. The suggestion was adopted, and a laboratory was built at a cost of $250,000. The tests are made under the joint auspices of the Exposition, the Pennsylvania Railroad, the American Society of Mechanical Engineers, and the American Railway Master Mechanics' Association. The report of the results obtained will be submitted to the associations as part of their mechanical research.

The driving-wheels of the locomotive being tested run on smaller supporting wheels, whose axles are connected with absorption brakes operated by high water-pressure. The engine is attached to a draw-bar, which, in turn is attached to a traction dynamometer. This dynamometer is imbedded in a solid concrete foundation. Instead of pulling a train, the locomotive pulls at the draw-bar. When the locomotive is fired up, and the throttle opened, its driving-wheels begin to revolve. They turn the smaller supporting wheels, whose resistance may be increased by the absorption brake. The more power that is turned on the supporting wheels, the greater the work required from the locomotive to overcome the frictional resistance. The measure of this work—the work done by the locomotive—is made on the traction dynamometer, and is reduced to foot-pounds. By means of delicate apparatus, the amount of pull exerted at the draw-bar is automatically recorded on rolls of paper.

But the amount of work done by the engine is not the only result obtained. Economy in coal and water is proved. The water used in the boilers is chemically treated, measured, and purified; the coal is cleaned and weighed.

By means of calorimeters attached to the engine, the amount of energy produced from the coal and absorbed by the water is accurately measured. Everything is, therefore, scientifically recorded.

The ideal conditions which govern these tests make it possible for all kinds of locomotives to be tested in the same way—measured by the same standard. Heretofore, the practical tests of locomotives were track tests, where the conditions varied with every test. During the Exposition, American, German, and French engines will be tested.

THE HUDSON RIVER TUNNEL

Just east of the testing-plant is a section of the Hudson River tunnel, at New York City, to be built by the Pennsylvania Railroad. The section shown will be part of the tunnel. It is 21 feet in diameter, and is composed of eleven pieces of iron, each one weighing 60,000 pounds. There will be two tunnels, one for east-bound and one for west-bound trains. The total cost of its construction will be $25,000,000, and five years will be required to build it. Near this tunnel section is a large model of the Pennsylvania station in New York, which will be connected with the tunnel. There is also a large cross-section of the City of New York, showing the proposed subway connection, which will enable a man to travel on the same car from Washington to Long Island City without change. To reach his destination, he will pass under the Hudson River, under New York city, and under East River. Now it is necessary to make three changes. The river trips are made at present by ferry.

ELECTRIC LOCOMOTIVES

Electric locomotives will haul the trains through the Hudson River tunnel. Ten years ago the only electric locomotives in use were run for hauling ore-cars in mines and small tramway-cars in the yards of steel-rail mills. Today the Baltimore & Ohio Railroad is using electric locomotives weighing 165 tons to haul trains through the Montclair tunnel, near Baltimore. These engines go as fast as steam locomotives, and they are safer and cleaner for long tunnels. They produce no gases, which sometimes cause explosions.

A little while ago, the New York Central & Hudson River Railroad ordered thirty electric locomotives for use in New York. These will be attached to the trains just before the city is reached. In the long tunnels in the hot season passengers may sit with their windows open without fear of soot and cinders.

In hundreds of mines in America, England, France, and even far-away Japan, the electric locomotive is in use, pulling the ore-cars where formerly patient mules pulled them. In the large yards of rail- and steel-mills electric locomotives move heavily laden cars, doing work formerly done by small steam locomotives. All these large mills have their own electric power-plants. They have found it cheaper to use the electricity for motive-power.

What, then, is the significance of the wide and constantly growing use of the electric locomotive? Simply this: Wherever possible, steam-power is being superseded by electricity. The miners have found that they can haul more coal in less time than by old methods; the rail manufacturers have found a use for power hitherto wasted; the railroads have provided cleaner, safer transportation through long tunnels and in congested city streets.

As the use of the electric locomotives has become more general, the mechanism has been improved. In the Palace of Electricity you can see electric mining locomotives, fitted with electro-magnetic switches, with which a man can control a current that it required five men to control ten years ago. These switches are substitutes for men's hands.

FOREIGN RAILROADS

East of the Pennsylvania exhibit is that of the London and Northwestern Railroad, England's largest railroad corporation. Historic interest in this exhibit centres in the original saloon-coach built in 1842, for Queen Adelaide, the wife of William IV. It is the first royal private car ever built. It is like a stage-coach on trucks, and is 21 feet in length. There are three compartments, which are open to the inspection of fair visitors. The upholstery is cream brocade. The baggage was carried on a platform in the rear of the car. On this coach was the first screw coupler used in England.

The royal coach rests upon a model English road-bed. The 90-pound steel rails are laid on seasoned Baltic ties. Felt is laid between the rail and the tie to prevent the cars from jolting.

The average speed of the London and Northwestern is fifty-two and a half miles an hour. English trains are required to make faster time than American trains, for the reason that on account of the comparatively shorter mileage more trains must be run.

A model of King Edward's private car shows a furnishing simpler than the private cars of American railroad presidents. In the car are bedroom, library, and smoking-room. A model of a standard English sleeping-car in use on the London and Northwestern Railway contains eight compartments. The beds are laid across the car, unlike the American sleeping-car berths, which are made up parallel with the car.

The engine mileage of the London and Northwestern every three hours would make a journey around the world. The number of tickets, which are 1 1-4 inches in length, sold during the past ten years, would make a white belt around the earth.

The exhibit of the East Coast Railway, familiar to so many American tourists, shows a model of an English locomotive, lighter than the American locomotives, but capable of the same speed. There is also a model of the Firth of Forth Bridge, the largest cantilever bridge in the world. The East Coast Railway and its connecting lines wind through districts bound up in English history and romance.

The railroad from Stockton to Darlington, the first operated in England, is part of the East Coast system. It was opened for traffic in 1825. The engine was operated by George Stephenson. The train was preceded by a horseman to clear the track of obstructions. Stephenson's birthplace, at Wylam, is on the line.

Rhodesia, the contribution to the British Empire made by Cecil Rhodes, is represented in transportation by an exhibit of the British South Africa Railroad, which has 2,000 miles of road. Photographs of Bulawayo ten years ago show rows of Kaffir huts; pictures of Bulawayo today show a busy city, with imposing buildings. There are 750,000 square miles in Rhodesia. Literature descriptive of this rapidly developing region is distributed in large quantities.

Two kinds of German locomotives are to be

"THE SPIRIT OF THE TWENTIETH CENTURY"

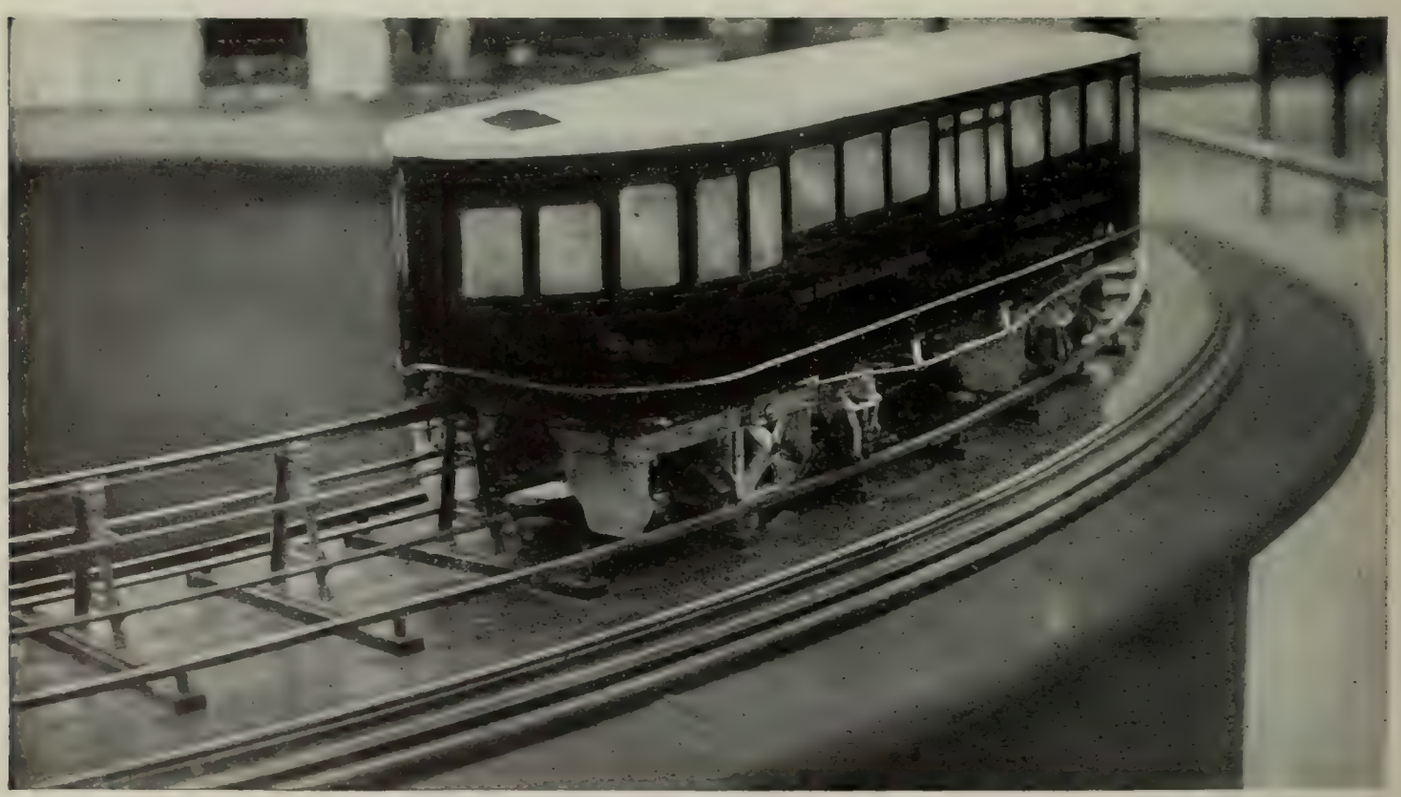
The spectacular exhibit of the centre of the Palace of Transportation

PRIMITIVE TRANSPORTATION
Not an ounce of metal was used in making the cart

seen in the German transportation section, the Von Borries and the Henschell. The average weight of these locomotives is seventy tons, about the same weight as the English locomotives, and considerably less than the weight of those built in America. The German locomotives on exhibition at the Fair are fitted with super-heaters, which give a strong steam-pressure.

STREET-CARS

The first trolley-car used in the United States, in 1887, at Richmond, Virginia, was 18 feet long, heated by a stove, and built on

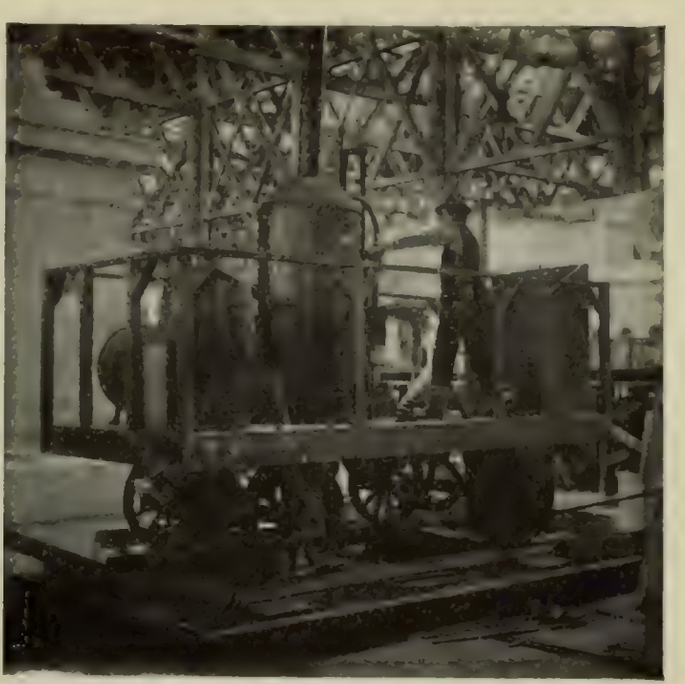


A WORKING-MODEL OF A NEW RAILWAY-CAR
To run between Liverpool and Manchester at 80 miles an hour

QUEEN ADELAIDE'S COACH
The first royal railway carriage constructed

one truck. The seats were hard benches. Today the most approved interurban cars are 45 feet long, upholstered, and heated by electricity. The exhibit of street-cars shows, with original cars and models, how our city electric transportation has developed.

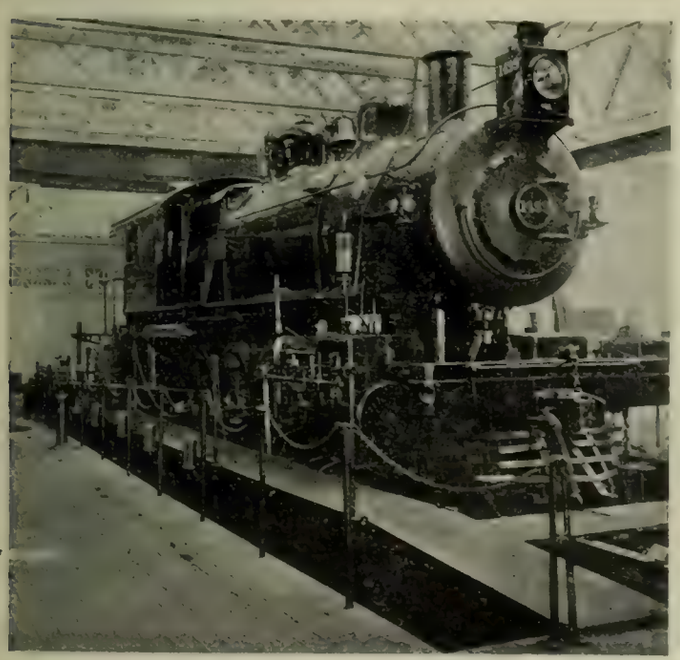
The newest street-cars exhibited show that the tendency in street-car construction is for comfort. For example, in the latest electric cars there are no straps for the people who stand. Instead, there are handles on the backs of the seats, easier and more comfortable for the use of women. Some new cars exhibited by the American Car Company have double floors to deaden the sound of the motors. There are wide elbow-rests at the windows. The capacity of street-cars has increased from eighteen people in 1887 to sixty in 1904. Cars with seats on the roof are to be seen. Short electric cars for export use



THE FIRST LOCOMOTIVE TO DRAW A CAR IN THE UNITED STATES

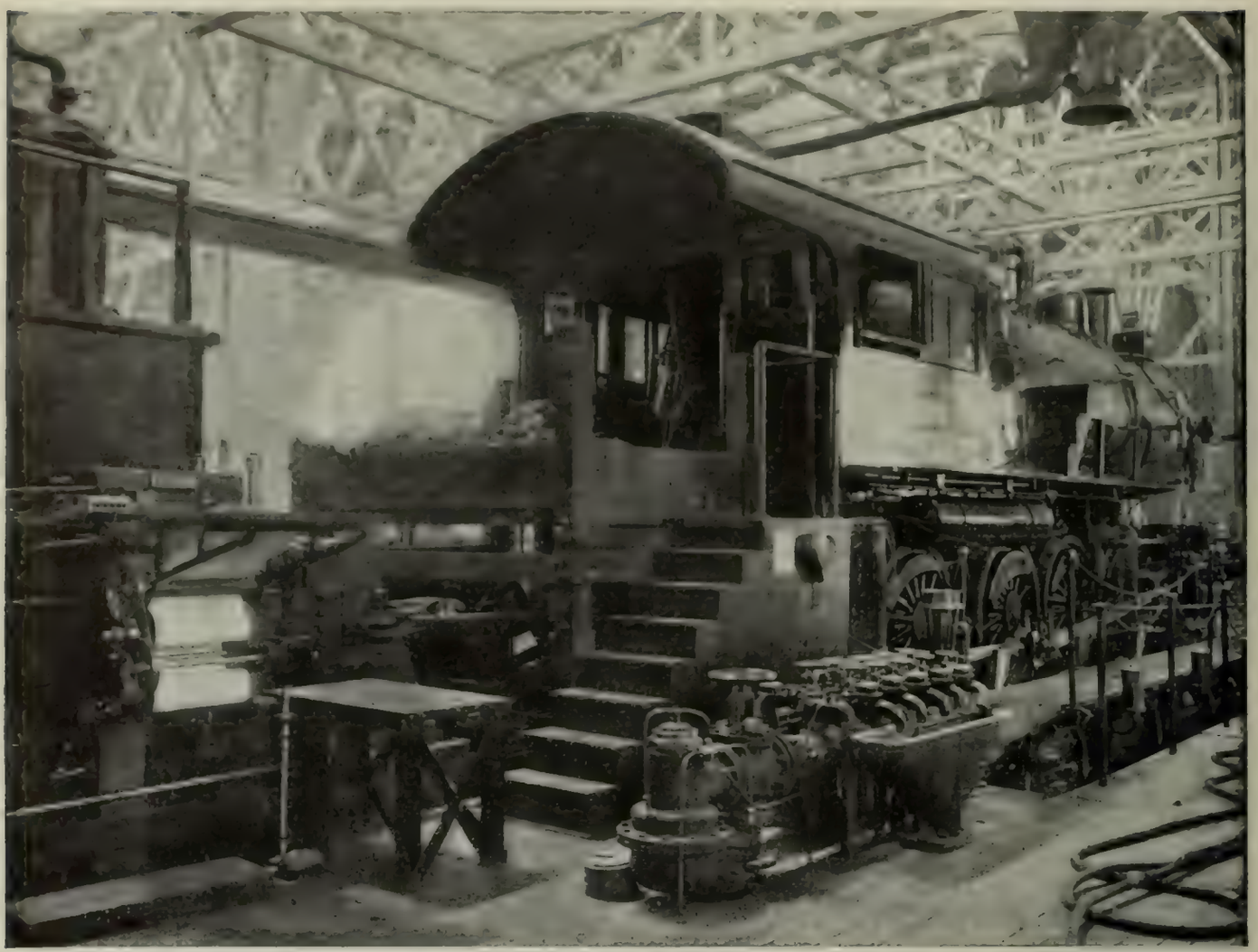
in Buenos Ayres may be seen in this section. One of the long cars for the New York subway is here too.

But the tendency in new street-car construction is not wholly for comfort. Safety is combined with the latest inventions. On the majority of electric cars, should disaster befall the motorman, the car would plunge on, with current unchecked, often to wreck. In the Palace of Electricity may be seen the safety-clutch handle, a knob attached to the controller. The motorman presses this knob down with his palm as he operates the controller. Should he faint or be injured or lose



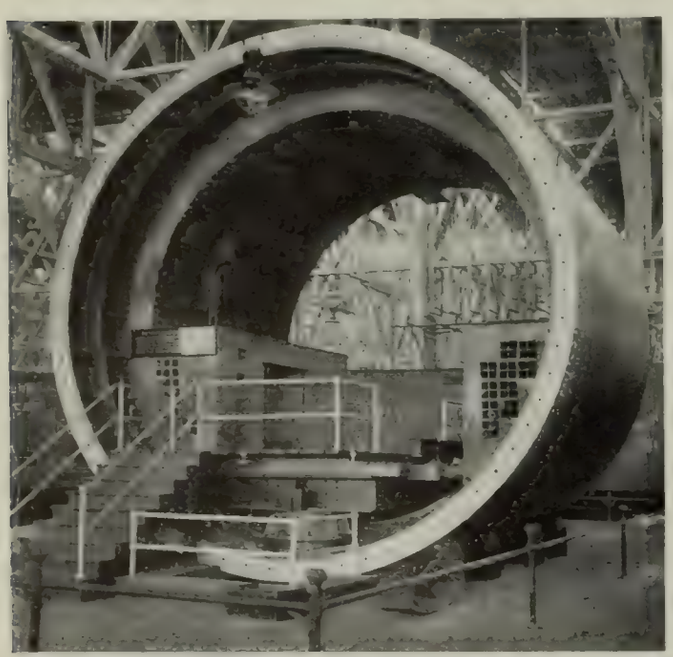
A 150-TON LOCOMOTIVE

THE "ROCKET" AND THE "NOVELTY"
Models of famous engines in the London-Manchester test



THE LOCOMOTIVE TESTING PLANT

control of the car in any way, the moment his hand is removed from the handle the knob flies up, shutting off the current and turning on the air-brakes, thus automatically stopping the car at once.



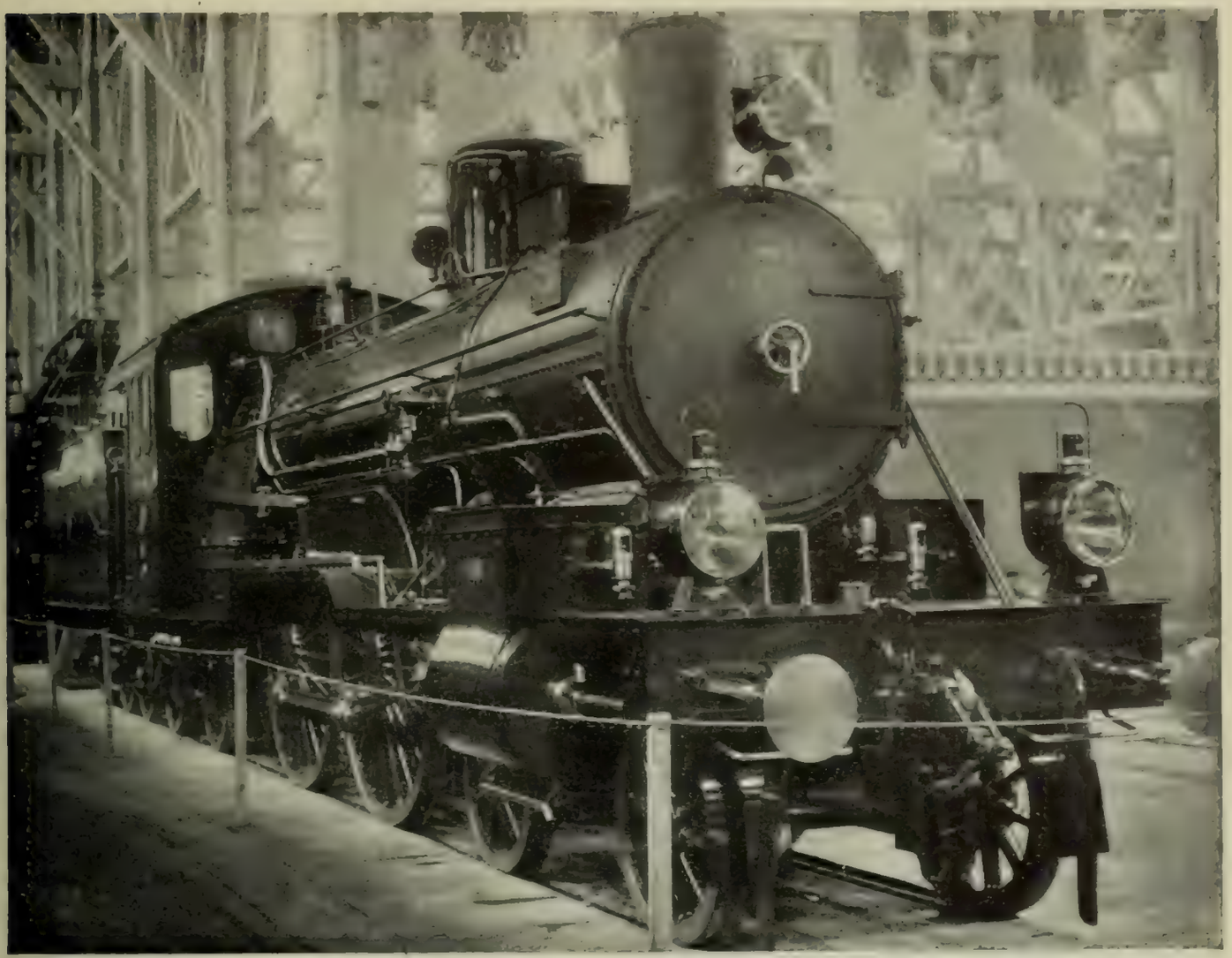
A SECTION OF THE NEW RAILWAY TUNNEL UNDER THE HUDSON RIVER

AUTOMOBILES

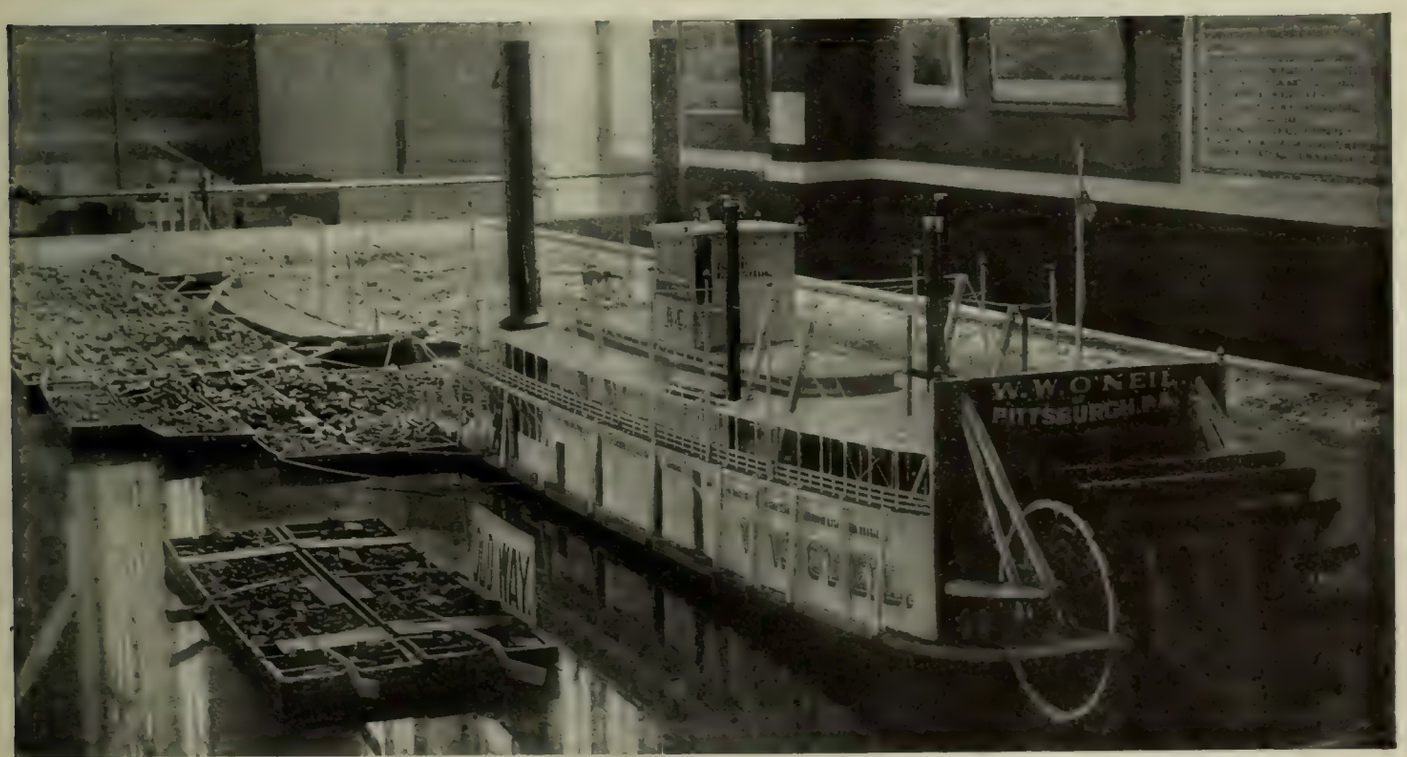
At the Chicago World's Fair there was no exhibit of American automobiles. In the northeast corner of the Palace of Transportation at St. Louis, under a yellow-and-white canopy, are two acres of automobiles, representing nearly a hundred American builders. The exhibit is made under the auspices of the National Association of Automobile Manufacturers.

One hundred and forty cars are shown, ranging from the first Duryea gasolene machine, that traveled 100 miles in nine hours, to the swift electric car that easily travels forty miles an hour.

The newest use of the motor-car is for the railway inspection car. Formerly, those short cars were operated by hand. One exhibit shows them equipped with gasolene motors. The Japanese government recently ordered sixty of them. Among the cars



A GERMAN LOCOMOTIVE



THE OLD AND NEW WAYS OF PROPELLING BARGES

A FAMILY PARTY SEEING THE FAIR
Groups like this may be seen anywhere

A DETERMINED SIGHT-SEER

shown is that used by Mr. M. C. Krarup in his remarkable automobile trip across the continent. It is a gasolene car. The distance from San Francisco to New York was covered in sixty-two days.

Automobiles are used by letter-carriers to collect mail at the Fair grounds. It is the first use of the automobile for this work yet made in the United States.

Occupying a corresponding place on the other side of the building is the exhibit of forty foreign automobiles, all French. Built for roads much better than ours, they are generally finer in construction than the American cars. The majority are gasolene. The largest and most expensive is a Dietrich touring-car, built like a coach and valued at $18,000. The owner can sit inside the car, and, by a switchboard, direct his chauffeur. On the board inside are these directions: "Go fast," "go slow," "left," "right," "stop," "go home." A list of these directions on a celluloid plate is before the chauffeur. The man inside indicates the way he wants to go by pushing a button which points an arrow on the chauffeur's plate outside. This car is finished in mahogany, and has a buffet.

The French cars are trim and graceful. They are built for long journeys over good roads, while American cars are adapted to worse roads. The French machines are more expensive than the American.

PALACE CARS

American railroads lead the world in the luxury of their equipment. Since the first sleeping-car in the United States, in 1867, the advance has been rapid. The Chicago World's Fair showed a tendency in Pullman cars toward ornate decorations. The Pullman exhibit at St. Louis, however, reveals a change for comfort and simplicity. For example, in the latest day-coaches there is a swinging wooden door a few feet inside the car door at each end to prevent draughts from the frequent openings of the outside door by the conductors. The overhead racks are being superseded by spaces for storage of baggage under the seats. The chairs in the chair-coaches revolve. In the standard sleeper, electric lights are sunk in the window-frame, so that people in the berth may read after they retire.

The private car, exhibited by the Pullman Company, is sumptuously finished in Louis XIV. style. It is fitted with a bathroom and

library. The dining-car is finished in Flemish oak. The whole Pullman exhibit is on a scale to impress the fact that $66,000,000 is invested in sleeping-, private, and dining-cars in the United States.

and eight hours, the models of the large vessels in the service are shown down to the *Carmania*, now building, which will be of 65,000 horse-power, and which is expected to make the trip considerably

A COUPLE FROM THE COUNTRY — AND ONE FROM THE CITY

Transportation by sea is fully represented. The evolution of fast transoceanic travel is explained in the exhibit of the Cunard Line. Beginning with the model of the *Britannia*, of 403 horse-power, the first steamer in the company's service, which made the trip from Southampton to New York in fourteen days under five days. The *Carmania* will be 672 feet long.

A life-preserver, 30 feet in diameter, and suspended by masts, marks the entrance to the North German Lloyd Steamship Company exhibit; guarding the west entrance are heroic figures of Roland, the knight of

THE INDIANS ARE AN ATTRACTION ON THE PIKE

A GROUP OF BOERS

medieval times, and Bismarck, the maker of modern Germany. Inside the circle formed under the huge life preserver is a model of the company's piers at Hoboken.

The Hamburg-American Line is represented by a cross-section of the *Deutschland*, which made 23.51 knots an hour, the fastest time across the Atlantic.

A man who has never been aboard an ocean steamer may get a good idea of the construction and arrangement of such a vessel by the longitudinal section of the *Kaiser Wilhelm der Grosse*, which is illuminated by lights in the rear. In this exhibit is shown a new kind of single propeller, designed for transoceanic liners. The blades are braced by heavy steel bars. Propellers now in service have no such brace.

The White Star and American Steamship lines have sections of cabins and saloons which show luxurious equipments.

AIR-BRAKES

In 1872, when air-brakes first came into use, cars of a long train were stopped one at a time. The high-speed automatic air-brake which is exhibited by the Westinghouse Air-Brake Company is capable of stopping both sections of a train that has broken in two on a grade.

The exhibit contains a small working-model of suburban cars stopped with new automatic brakes that couple the cars and steam-pipes at the same time. There is also a working-model of the regulation Westinghouse air-brakes operated on six trucks.

The new magnetic brake, which stops a trolley car going at high speed in half a second, is demonstrated by a model of a truck operated by electricity. It is started at the rate of twenty miles an hour, when, suddenly, as it is apparently about to smash into the bumper posts at the end of the track, the magnetic brake is applied by the turn of a lever, and the truck stands still.

GERMAN RAILROAD STATION

Detached from the Palace of Transportation, but an essential part of the transportation exhibit, is the model German railroad signal-station covering two acres of ground between the Palace of Administration and the Forestry Building. It consists of the station-master's office and the electric signal-towers. There are seven tracks. The operators sit in the towers and operate switch-boards which regulate the switches. Modern iron German signal-posts in use on all German railways are here. A vital difference between German and American switching is that under every German interlocking switch is a small dynamo which generates the power to turn the switch. American switches have no such arrangement. There are fewer wrecks from open switches in Germany than in the United States. The station is one of the exhibits of the Royal Prussian Railroad Commission, and was installed at a cost of $65,000.

TOW-BOATS

At the south side of the building, just west of the Cunard exhibit, is a striking example of the advance in transporting coal by water. In a miniature river stands the giant tow-

boat *W. W. O'Neil*, owned by the Monongahela Coal and Coke Company, of Pittsburg. Massed before it is a tow of thirty-two coal-barges, representing the usual work done by this steamboat. The barges are grouped about two model barges in the centre. In actual size, these barges contain 725,000 bushels, or 32,000 tons of coal. It would require 1,000 railroad cars, or twenty-five trains, six miles long, to convey the same amount of coal on land. The *W. W. O'Neil* is a type of the latest tow-boat. Her engines are 1,500 horse-power. Alongside this massive steamboat, with its large tow and representing the new method of conveying coal, is shown the old way of carrying coal down the Mississippi and Ohio rivers, represented by two barges lashed together and propelled by long paddles, operated by Negroes. Frequently these barges were months in going from Louisville to New Orleans. The *W. W. O'Neil* tows thirty-two loaded barges the same distance, and returns with a load of empty barges, in thirty days.

THE ESQUIMAU LADY AND THE BABY-CARRIAGE

The steady progress of Mexico in the arts of peace and war is shown in a comprehensive exhibit located west of the Baltimore & Ohio historic section. In one corner is a model light-house. Elaborately embroidered and silver-mounted saddles, so popular with the Mexican vaqueros, may be seen in number mounted on wooden horses. A well-built tally-ho indicates that carriage building has advanced, while a model of the harbor of

ANXIOUS LEST THEY SHOULD MISS SOMETHING

ALL SORTS AND CONDITIONS OF AMERICANS

Salina Cruz shows an achievement of Mexican engineering. Considerable space is devoted to statistics of the Post-Office Department, which has attained a high degree of efficiency during the past ten years.

MISCELLANEOUS EXHIBITS

Near the centre of the building, just east of the Brazil section, is a group of Field Museum exhibits, showing primitive means of transportation, from the dromedary that crosses the hot African desert sands to oxen drawing cumbersome carts made entirely of wood, in Spain. A hogshead of tobacco, attached to a pair of oxen, shows the method of hauling in Colonial Virginia days. There are mule-litters used in Jerusalem and pack-llamas in service in South America. This whole exhibit is a necessary link in the story of transportation.

The motor-boat is represented by large and small models from ten to sixty horse-power. The power for these boats is acquired from gasolene, which is cheaper than steam-power. All the motor-boats shown are pleasure boats.

At the extreme east end of the centre aisle, displayed in three rooms, is the exhibit of the Aerou Swiss War Museum. This museum contains relief models of all the great battlefields of history, and many of those of wars in which the United States has been engaged may be seen. For example, the map of Gettysburg field tells comprehensively the whole story of that notable engagement. The Confederate forces are indicated by red squares and the Federal armies by blue. Accompanying the map is a lucid diagram showing the progress of each day's fighting. This exhibit is one of value.

In the wagon exhibits, which occupy large spaces at the west and northwest sections of the building, is the latest convenience for transporting the sick or injured. It is called the invalid carriage, and can hardly be distinguished from a brougham in general use. It is fitted with a lounge for the patient and folding-chairs for the doctor and nurse. It is designed to avoid the publicity that the conventional ambulance creates.

Twenty-five years ago, railway and street-cars were heated by stoves. The exhibit of car-heating companies shows processes of heating by steam, hot water, and electricity. Thus, a great danger of burning coaches after wrecks is, in a measure, avoided.

ONE WAY TO SEE THE PIKE

Formerly, when trains were wrecked, great difficulty was experienced by wrecking-crews in removing locomotives from the débris. Mounted on a flat car is one of the strongest steam-cranes ever built. It can lift a 200,000-pound locomotive as easily as an ordinary derrick raises 500 pounds of stone.

At the Chicago Fair, the largest freight-car displayed had a capacity of 80,000 pounds. Scattered on various tracks in the railroad exhibits are pressed-steel cars with a capacity of 100,000 pounds. It is a result of the increase in the weight and hauling power of locomotives. Refrigerator cars 90 feet long, equipped with complete cold-storage plants, may be seen.

THE SIGHT SUREST TO ATTRACT A CROWD IS A MILITARY PARADE

In the German section is a reproduction of the Royal railway station in Berlin. In the same section are photographs of the noted Elberfeld-Barmen electric railway. The cars are suspended in the air from iron girders, and travel at the rate of sixty miles an hour.

The Germans also show a balloon as a method of swift transportation. Indeed, the whole German section is an application of rapid transit of all kinds.

WHAT IT ALL MEANS

The engineer who operated the first railroad train in the United States died recently.

THE GIGANTIC STATUARY IN FRONT OF A PIKE SHOW

Within the lifetime, therefore, of a single man, the whole remarkable evolution of steam-power for transportation, practically a thing of yesterday, has been made. From fifty tons, the locomotive has grown to the 230-ton giant. The limit of weight has been reached. The refinement of mechanism must now be studied. It is being done in the testing-plant, the work of which points the real significance of the whole transportation exhibit—the desire to find out just what the locomotive can do. For, pressing the steam locomotive for a larger place in the world of work, is the electric locomotive, which is rapidly being adapted to useful activities, and behind it lies the problem of the superseding of steam-power for land transportation.

A BIT OF THE ORIENT ON THE PIKE

THE PEOPLE AS AN EXHIBIT

BY

WALTER H. PAGE

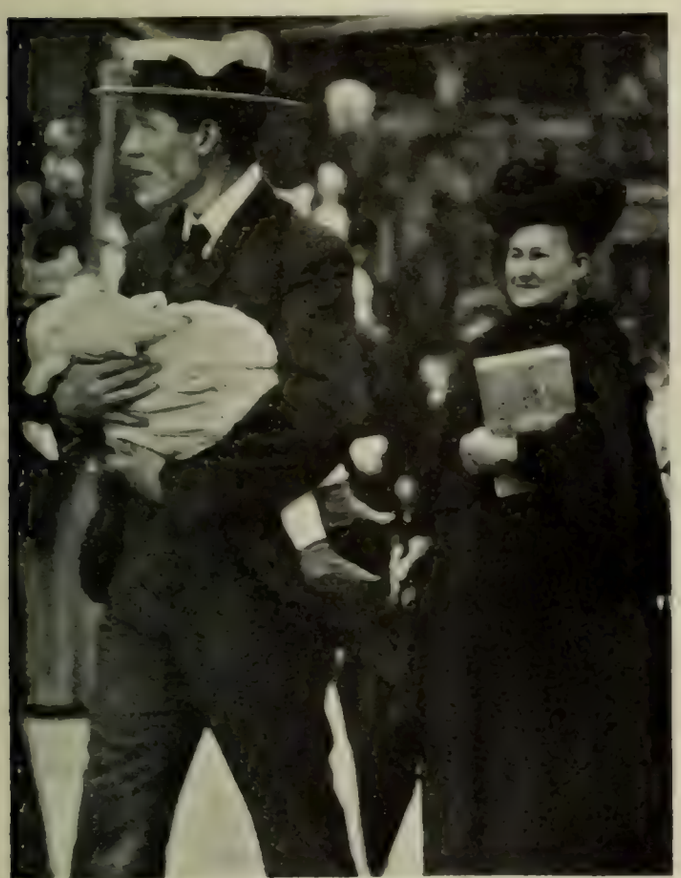
IT is a dull person who does not enjoy the crowds of people. At no other place do the masses of American folk from every part of the country go in family groups. You may see good representatives of every class of people that ever goes away from home.

They all come, too, in a holiday mood. You will commit no impropriety by beginning a conversation with anybody. You may make the acquaintance of a farmer and his family from Kansas, a teacher (of either sex) from Massachusetts, a cotton-planter from Georgia, a cattle-raiser from Texas—all within an hour or two, if you have even the slightest knack of making yourself interesting.

The people are in a holiday, communicative, inquisitive mood; but it is not an idle mood. They are very much in earnest. If you stand a moment, for example, at the German exhibit of artistic rooms, you will hear one woman say to another, "I see how I can make my dining-room much prettier." Everywhere they are learning something. Wherever an idea may be got, there is a crowd. They ask questions frankly and directly. "I wish to know how to do this." "I want this." It may be a typewriter that will write with two colors of ink; it may be a new kitchen utensil; it may be a new idea in education. A young woman, accompanied by two beautiful children, was looking at the specimens of work done in the Menomonie (Wisconsin) public schools—work in drawing and in wood and in iron and in sewing. "And this was done," she said to the person who explained the exhibit to her, "by children no older than mine? My husband is a member of the school-board in the town where I live; and we must have courses of study like these."

It's a constant inspiration to watch this

never-ending stream of intelligent, inquiring, cheerful men and women, whose dominant mood is a mood to learn. They are using the Fair, as they use everything else, to lift their lives higher. The cheerful and frank earnestness that they show is as interesting a fact as you can find in the world. "I put them against the world," said a widely traveled man, when he saw great piles of corn in the Palace of Agriculture, over which is a placard "Grown by the Farmer Boys of Illinois," and attached to every pile of ears is the photograph of the boy who grew it, with his name and address.



ACHING ARMS DO NOT COUNT IN THE FACE OF SUCH MARVELS

THE LADY BROUGHT A HEAVY FUR COAT—AND HER HUSBAND CARRIED IT THROUGH THE HOT JUNE DAYS

You may discuss great fairs—their advantages or disadvantages to the cities in which they are held, the losses they cause stockholders, the wisdom or the unwisdom of the appropriation of public money to them—the fact remains that they play an important part in the education of the people. And they reveal the eagerness of the people to learn. The unrestricted opportunity of our democracy has brought an unrestricted ambition to know both useful and beautiful things. The people are at school here; and the wise exhibitor is the exhibitor who teaches something. No good idea is lost on these people.

The feeling that you have, after wandering about for weeks in the crowds—and the crowd changes every few minutes, whether you stand still or go on—is that every art and industry and every application of science and of ingenuity will, sooner or later, minister to American life over the length and breadth of the land.

"We need Japanese artists to work among us," I heard one man say to another, at dinner in a public place. "We must teach their method—put their point of view to our pupils." And he asked a Japanese gentleman near him how many Japanese artists are at work in the United States. In precisely the same tone, I heard one man say to another, as he stood by the great boilers in the power-house and asked questions about the automatic coal-stokers: "Well, John, this convinces me. We must put these things on our furnaces." The teachability of the masses of the people is the great social fact that a fair demonstrates; and many of them are apt pupils.

Their frankness and their good humor are

THE INDIAN LOSES NO TIME IN MAKING FAIR ACQUAINTANCES

universal qualities. Nobody loses his patience. A cheerful helpfulness seems to be an American trait. If you offered to carry a countrywoman's lunch-basket or her baby, she would consent if she were really weary; and, if you proved a pleasant companion, she would invite you to share her lunch. When you and her brood and her husband and his mother and four friends had all eaten, she would carefully pick up the paper and egg-shells, and send one of the boys to put them in a trash-barrel.

A CHINAMAN ON THE PIKE

The country people are here—thousands of them. You see old men dressed in their "Sunday clothes"—long black coats and black trousers. Old fashions and odd fashions, and no fashions at all, there are in abundance. But you do not see the "hayseed." The countryman of the comic papers does not exist.

Perhaps there was such a person a generation ago, but his son has money in the bank. At least, he has good "store clothes" on his back. He does not use bad grammar. His wife is well dressed; his daughter even better; and his children are neat. They attend good schools. They make a better appearance by far than the village folk of a generation ago made.

You see Scandinavian faces, Irish faces, of course, now and then Italian faces, Hebrews too, and German features. But none of these appears in sufficient numbers to disturb the general impression of the prevailing American appearance, tone, and attitude of mind. They all seem to be American citizens. Everybody has a manner that shows a sort of proprietary interest in the Fair, and in the Republic itself. You hear them talk about what *we* are doing to teach the Indians or the Moros; what *we* are doing in electrical advancement; what *we* are doing in naval practice or in the propagation of fish.

Just as the "hayseed" mode of dress has passed, so have passed, also, the coarse joke and the exaggerated manner of the period of Mark Twain's early books. The affectation of roughness and of coarseness in speech or in deportment—you see nothing of this among the people anywhere here.

But you do notice not only the acute patriotism indicated by their interest in the exhibits of the United States Government (we get few hints in political newspapers and discussions of the genuine pride that the people feel in our country and in our government), but you discover also the passing of the narrower provincialism of a few years ago. Everybody who comes here—country-folk and all—has an intelligent interest in the foreign exhibits, in the foreign buildings, in facts about the life, the work, and the arts of other peoples.

The outdoor parts of the Fair hold their attention, too, especially the horticulture and the sports. Appreciation of manly sports is fashionable under this consulship; but it is

very genuine. If one could take a measure of the deep change that has come in the character of the people—say, since the Chicago World's Fair—by reason of their love of games and contests and sports, it would show a surprising transformation. The increasing love of shrubs and flowers and landscape is an oft-told story; but every day one may see hundreds of evidences of it.

A man who seriously considers the great social and political problems that beset us, and who knows that their solution at last must depend on the character, the intelligence, and the teachability of the masses of the people, will find the people the most interesting exhibit at the Fair; and he will come away from a month's observation of them and mingling with them with a renewed confidence in the soundness of their character and judgment.

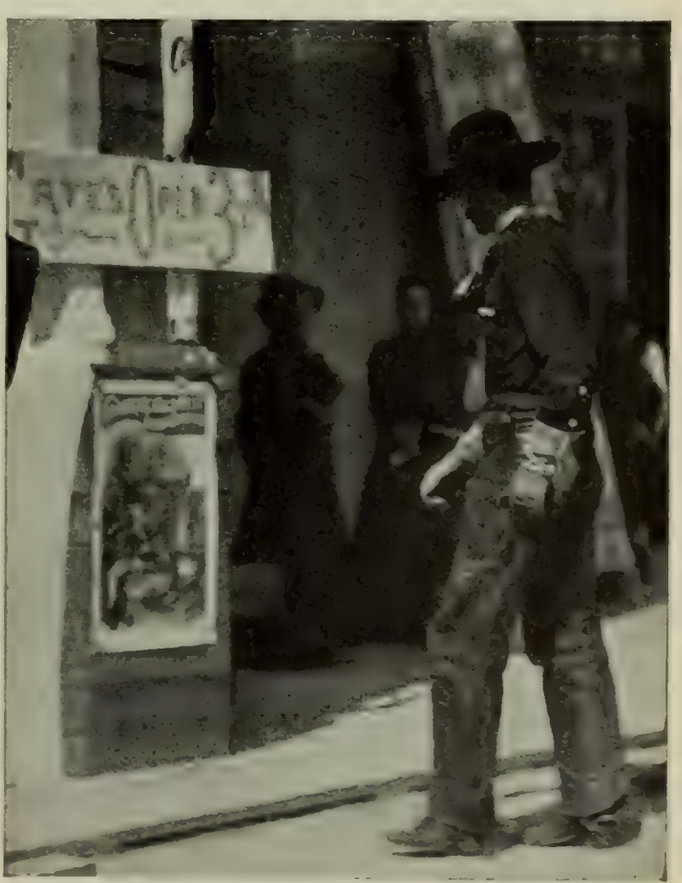
It would be a foolish effort to guess what subjects the great mass of the people are most interested in. But it is significant to see the women everywhere studying the exhibits that give hints of better home-building—the cooking-school, the food exhibits, the furniture, the education exhibits; and the men gather wherever machinery is shown, especially if it be in motion. The easy, American adaptation of machines to doing the work that muscles once did shows itself in the crowds that you see here.

Another feeling that ripens into a conviction is that we are yet in the exploiting era of our development. You expect to be invited to settle in Oklahoma. But you are hardly prepared for this invitation: "Come east, young man, and make your home in Rhode Island." Canada has elaborate exhibits and much "literature" designed, avowedly, to tempt the American farmer to the wheat-fields of the North. "The German educational exhibit," remarked an American scholar who was trained in Germany, "is admirably devised to attract young Americans to university work in the Fatherland." The note of exploitation is heard everywhere—not vulgarly; but, in all truth, we are yet in our exploiting era. The future holds more than the past has yielded.

Even a cursory study of machinery and of processes brings the same feeling. Everything is in an experimental stage. Many machines that were new when seen at Chicago eleven years ago have now chiefly a historical interest. Close beside every inventor is a scrap-heap.

THE TWO COUNTRY LADIES IN THE CLUTCHES OF THE "BARKER"

Everything is a passing show, except the soil and the people; and we have only begun to learn the capacity of either land or men.



IN FRONT OF A PIKE SHOW

THE HON. DAVID R. FRANCIS

President of the Louisiana Purchase Exposition Company

The man who made the Fair

THE IMPROVEMENT OF EDUCATION

A COMPREHENSIVE AND WONDERFULLY DIVERSIFIED DISPLAY—SURPRISING UNIFORMITY IN THE METHODS OF THE DIFFERENT STATES—AN AGE OF MANUAL TRAINING—THE SCIENTIFIC ACTIVITIES OF THE COLLEGES—HOW FOREIGN EDUCATIONAL INSTITUTIONS COMPARE WITH OURS

BY

OTTO HELLER, PH.D.,

OF THE FACULTY OF WASHINGTON UNIVERSITY, AT ST. LOUIS

FOR the first time in exposition history we behold education fittingly housed in a splendid palace of its own. This building covers a floor-space of 290,000 square feet, and, because of its pure classic architecture, is by many pronounced the most satisfactory of the Exposition buildings. On its construction the sum of $400,000 was spent. For the grandeur of this scale two reasons are assigned. First, there has been an improvement in expositional modes, so that educational exhibits are capable of greater attractiveness than formerly, and the modern methods are applicable to a wider range of subjects. In the second place, the present educational era lays more stress on the tangible and demonstrable. Both statements are proven by an inspection of the building.

The classification adopted by the chief of the department, Mr. Howard J. Rogers, comprises seven groups of exhibits, dealing severally with elementary, secondary, and higher education; special education in fine arts, in agriculture, in commerce and industry; and special forms of education.

The emphasis of repetition is placed on some leading features of the pedagogic practice of the day. In a country whose schools are not forced into uniformity it is amazing to observe such unison as is here seen.

Here is a salient point in the difference between the schools of Europe and our own. They lead the public sense; ours follow it.

Just now there is a loud and general clamor for manual training, but not, if I interpret the State exhibits rightly, for the type of schools known as "manual training schools," and created, if I mistake not, as a result of the work shown at the Philadelphia Centennial Exposition. That sort of school is growing obsolete. Nowadays, manual training is taught in nearly all grades of schools, but only a moderate amount of time is allotted to it. This, to be sure, is not the first impression gained from the State exhibits. The temptation to exhibit actual and tangible results of their labors has evidently been too strong to be resisted by teachers, and the layman, as he wanders from cabinet to cabinet, begins to wonder if *only* manual training in its various forms is taught nowadays; if reading, writing, etc., are no longer part of a public school education. It is quite reassuring to be told by those in charge that such is not the case; that this vast amount of wood-carving, forge-work, and dainty stitching is done in instalments of time no greater than those assigned to other studies.

The results of the whole movement, which is so entirely in accord with the predominance of technical education, show clearly that the American child—boy or girl—has a decided natural aptitude and love for working with the hands. It is pleasant to note that this gift is being so intelligently guided by the early artistic training of the child; by the calling of his attention to the simple, graceful lines and forms to be found everywhere in nature, and to their easy and satisfactory adaptability for ornamentation of all kinds. We who went to school fifteen or twenty years ago cannot but note with surprise the importance now attached to training the artistic perceptions in many and varied ways.

As the most telling results of such training, may be cited the work of Sophie Newcomb College, of New Orleans, La., in pottery. It is not generally known that the Newcomb pottery was first made at that school. The industry has grown rapidly, but is still in the hands of women who are, or who have

been, students at Newcomb. The designs for the decorations are all made from the local flora, and no design is ever duplicated.

In wood and metal work, the "Arts and Crafts" style seems to be uppermost. The furnishings and furniture of the Minnesota State Building were all made by pupils in the high schools of Minneapolis and St. Paul.

Of course, manual training may not everywhere be raised to the dignity of higher industrial art. In many places, if not in most, it subserves purely practical ends. A striking instance of fully awakened resourcefulness is furnished by a Massachusetts boy's wireless telegraphy instrument—all put together from near-at-hand materials. The core consists of a gas-lighting coil; the armature, of the wheel of a pulley and a piece of sheet zinc; the contact-screw was taken from an old stove, and the spark-point from an electric gas-lighter. This piece of work shows also how manual training may be interlinked with studies requiring only head-work: which leads me to comment upon another out-standing characteristic of modern schooling—I mean the tendency toward "correlation" of all subjects taught.

The extent to which the idea may be carried is demonstrated by Principal W. A. Baldwin's (Hyannis, Mass.) scheme of "industrial-social education." His exhibit elucidates the art of conducting a school wholly "on a business plan." The pupil is stimulated to cope at first hand with actual commercial problems. He undertakes, say, to rear a brood of chickens for profit. To carry the venture to a successful issue, he must occupy himself with many questions of varied scientific import. He must learn something of business—correspondence, banking, etc.

This will seem to many a startling enlargement of the notion of the school. But it is claimed for that kind of school that the early preparation it imparts for the practical side of life does not detract from the ethical and esthetic value of its instruction. In a less-pronounced form the correlation of school work is carried on almost universally.

A wing-frame, in the California booth, enables us to follow a class of children on an excursion into the country. Their experiences serve as the basis for short compositions. They have learned much about the local geography and the products of the region. For example, they can mark the location of orange orchards on the county map; they know how to draw, or to paint, an orange, and to report intelligently on its qualities, uses, shipment, etc.

In the Mississippi schools, they have even gone so far as to stop all teaching of physics, to make room in the curriculum for the systematic study of cotton—from its rational cultivation up to the time when, in the higher classes, it is woven into cloth of elaborate design.

Missouri, Massachusetts, and Pennsylvania have interesting exhibits of local insects of all kinds, collected and most daintily mounted by the children. The pupils are taught what insects are injurious to vegetation and how they may be exterminated; and, with this army of young hunters after them, we hope soon to see the last of the gypsy moth and kindred pests.

Another direction in which the notion of the school is steadily extending makes for a closer and more lasting connection between school and home. In this regard, the evening schools of Massachusetts are interesting, with their classes in printing, millinery, dress-making, home-nursing, typewriting, and similar subjects for young people past the school age. Courses of illustrated evening lectures also are frequently given.

It is obviously impossible to give a description of each separate exhibit. Besides, nothing would be gained by it, since, as before remarked, the State displays are almost tediously similar. Aside from the vast amount of basketwork, wood-carving, metal-work, blanket-weaving, and other varieties of manual work, they consist for the most part of photographs of school buildings, of classroom work in all branches from kindergarten to school of pedagogy, and a rather modest array of copy-books, note-books, and collections of exercises. The schools of many States show original compositions on literary or historic subjects, appropriately illustrated, sometimes by small photographs or cuts from magazines and newspapers—more often by original sketches.

Too little attention is evidently paid to penmanship. The vertical handwriting seems to have come into general favor. Whatever may be said for it on the score of hygiene and simplicity, it is not superior to the old-fashioned writing either in beauty or in

legibility. The "Spencerian" style, thank goodness, has had its day. Yet the handwriting of the American boy and girl, by comparison with that of school-children in Europe, is unformed and wholly without an individual character.

Very gratifying is the universal introduction of the laboratory method in the teaching of science, in particular, physics, chemistry, and biology; and, quite in line with it, the spread of the school library. Book-cases containing dictionaries, cyclopædias, other books of reference, and, in the field of literature, at least the major classics of England and America, are finding their way to the smallest country high school. Even below the high-school grade, the use of the library, thanks to such enterprises as the New York State Traveling School Library, is on the constant increase.

As for the modern environment of teacher and scholar, a marked improvement is visible in the external and internal architecture of school-houses and in the equipment of the schoolroom. Even the so-called "rural schools" are now, as a rule, well built, well lighted, and well ventilated. Exceptionally fine specimens of school buildings are shown by Pennsylvania and Minnesota. Great strides are being made in the suitable decoration of halls, corridors, and, especially, classrooms. School-boards are at last discovering that no mysterious pedagogical virtue clings to the blank, staring wall. In St. Louis, and in many other places, there is much private agitation for surrounding the child with a more esthetic atmosphere. Women's clubs all over the country are taking an interest and active participation in beautifying the schoolrooms with reproductions of famous paintings and statuary.

Several art firms are making a specialty of supplying this newly created demand. A. W. Elson & Co., of Boston, show a good selection of framed photographs of a high quality. Far inferior in value, but very much cheaper, are the "Perry pictures." Prang exhibits a series of simple pictures in three colors, suitable for very young pupils. A. W. Mumford, Chicago, has a complete set of studies of birds and flowers in their natural colors. The two last-named exhibits are calculated, not so much to develop the child's artistic sense, as to teach him to recognize plants and birds as he meets them in nature, and to serve as models for instruction in drawing and painting. This method, by the way, would be frowned upon by the drawing-teachers of Sweden or Japan, who use only the natural model.

A fair idea of what is being done in the higher art education may also be obtained. The Chicago Art Institute, the Boston Normal Art School, the Boston Museum School of Fine Arts, the Pennsylvania School of Fine Arts, and the St. Louis School of Fine Arts are the principal exhibitors. The students' work in drawing, painting, sculpture, pottery, and other crafts is highly creditable. The installations of the Massachusetts Normal Art School and the St. Louis School of Fine Arts are models of good taste. In the last-named exhibit, a very handsome fireplace, and, to the left of it, an elaborately carved and decorated wooden chest, deserve special notice; so does the ornamental brass and copper work of the Massachusetts Normal Art School.

It is not possible to dwell lengthily on the innumerable exhibits belonging to the groups of special education in agriculture, commerce, and industry, and of the education of defectives. The agricultural colleges show rapid development along their special lines, as: animal mechanics, study of the products of the earth and their care, of insect pests and their eradication. The Massachusetts Agricultural College shows, among other things, colored imitations of edible and poisonous mushrooms. At last, seemingly, our rural population is to be enlightened on the nutritious and highly palatable qualities of edible fungi, on which subject Americans are still so densely ignorant.

The State school exhibits include, along with institutions for the defectives, viz., the blind, the deaf and dumb, and the feeble-minded, a number of institutions for the reform of the wayward. Half-way between the regular and the correctional school, and, like the latter, of a greater sociological than pedagogical interest, comes a school of more recent origin, intended for children who, because of their rebellious disposition, cannot be governed by the ordinary public-school discipline. Rhode Island has seven schools of this sort, so-called "schools for individual work," to which the intractable are sent; here individual attention is given them, and they are returned to the regular public

schools as soon as their conduct allows. In a class of sixteen children in one of these schools, nine are colored.

Practical demonstration enables the visitor to see some interesting phases of public and special school instruction. In the large and handsome booth of the city of St. Louis regular exercises are conducted in various branches. One may also see an Indian school in actual session.

As object lessons to the visitor, such demonstrations have their value, although, of course, the natural atmosphere of the school-room, and, with it, one of the essential factors in education, is wholly lacking when the teacher and the pupils have to "perform" their work amid such surroundings and in the presence of an audience.

The State institutions for the blind and the deaf and dumb of Kansas, Missouri, Illinois, and Nebraska have sent on whole classes of pupils. They are quartered on the Exposition grounds, under the care of their regular teachers, and receive their daily lessons in the Palace of Education. The blind are taught reading and writing by the Braille method. The curriculum includes, besides the ordinary branches, music and manual training. To see blind boys, aged from twelve to fifteen, handling files, saws, chisels, planes, and other tools with the greatest precision and in perfect safety seems almost like a miracle. The equally beneficent results attained by modern methods in the teaching of the deaf and dumb are likewise made apparent.

COLLEGES AND UNIVERSITIES

The exhibits of the American colleges and universities are situated within the court of the Palace of Education. It cannot be said that this department of the educational exposition is at all representative of the activities of this country in the field of "humanistic" and scientific education.

The authorities of these institutions have apparently realized the difficulties in the way, and, as the easiest solution, have simply abandoned the purpose of adequately exposing a modern college or university curriculum. In this section of the educational exhibit, if in any, combination was required to invest the display with real educational significance. Had the colleges of each prominent type united their forces, we might obtain a bird's-eye view of the prescribed course, the elective course, and the group-course systems. The seven "New England colleges" do, as a fact, occupy a booth in common; only, the arrangement is hap-hazard and, educationally, meaningless. Other institutions content themselves with providing a well-furnished resting-place for the weary visitor. In others still, much, far too much, space is taken up by pictorial and plastic representations of the college buildings.

Unfortunately, this is a sign of the times; we are making much ado about brick and mortar. Why should college buildings be deemed worthy of being made the ostentatious feature as a strictly educational exhibition, unless, indeed, they happen to be surpassingly beautiful or to possess a remarkable fitness for the work that is carried on within them?

Owing to the perfunctory dealing with the true essentials, college exhibits here mark no advance over that made at Chicago in 1893. Yet there has been a very pronounced progress made in collegiate education since then. The university, and even the college, of today is justly ranked according to the scientific activity of its faculty. Consequently, the chief elements of a rational university exhibit can only be the results of the instructors' scholarly labors, made visible in the form of publications or otherwise. In the foreign exhibit this is thoroughly recognized: in the American, only Harvard and Johns Hopkins give central importance to the work of their professors. Both exhibit the collected writings of the whole teaching body, and full sets of the serial publications of the university. Johns Hopkins, for instance, demonstrates by an array of more than three hundred doctors' dissertations produced by its students, how energetically the cause of original research is being furthered by that university. Other exhibits of special value, in the Johns Hopkins booth, are: a series of unexcelled drawings, showing various pathological conditions in the human body, by Mr. Max Broedel, the acknowledged master of his art; the "diffraction gratings," of the late Professor Rowland, which are used to produce the spectrum of the sun or of incandescent substances for examination and measurement, in the place of prisms; an apparatus designed by Professor Mackenzie (now of Bryn Mawr) for the verification of Newton's law of gravitation.

The Harvard booth is no less interesting. In the centre stands a kiosk lined with transparencies of the "Draper Memorial Photographs." The photographs are taken to determine the double character of certain stars. Before they were photographed by this method, stellar spectra were fixed on the plate only one at a time, and only about one-quarter of an inch in length. Since then a thousand spectra have been shown on a single plate. We note further in the Harvard booth a number of the celebrated glass models of flowers from the University Museum, very perfect specimens of Blaschka's art. The case also contains enlarged sections of the same flowers. Out of the 1,500 new compounds discovered in the Harvard Chemical Laboratory, 250 are exhibited. Two "zoötropes" are kept in operation, demonstrating, by means of X-ray photographs, the movements of the stomach and intestines during the digestion of food. There is, further, a fine collection of pathological microphotographs. A Minot (wheel) microtome is shown—an instrument especially designed for making serial sections of organisms for microscopic slides. Finally, the scope of medical education as it is carried on at the present time is well indicated by a good model of the new Harvard Medical School that is to be erected in Brookline. The school has lately been endowed with a sum of more than three million dollars, by Messrs. Morgan, Rockefeller, and Sears, and Mrs. Huntington.

TECHNICAL SCHOOLS

The higher technical schools are partly included in the exhibits of the universities, since in this country most universities carry on an engineering department. This is true, for instance, of Cornell, Yale, Harvard, and Columbia. The independently organized technical institutions do not occupy space commensurate with their prominence. The exhibit of one of the smaller and lower schools of this kind, the Bradley Institute, of Peoria, Ills., is in some respects the most satisfying, because it conveys a clear notion of the work of that school in the usual high-school branches, and also in the handicrafts. The department of horology exhibits a clock entirely made by students.

The architectural arrangement and decoration of the exhibit made by the Massachusetts Institute of Technology, the leading school of the technical type in the United States, is highly pleasing. The exhibit itself is purely graphic.

The Worcester Polytechnic Institute has on view a number of practical exercises, selected from the experimental part of a course in elementary dynamics. Each of these exercises is performed by the student after the corresponding part of the theory has been taken.

FOREIGN EXHIBITS

To the American teacher the foreign exhibits will unquestionably be more instructive than those of his own country. As in some other departments of the World's Fair, the German section is the richest in material. Its study is facilitated by a thoroughly methodical arrangement which seeks to bring out the organic interrelation of all the parts. The problem is admirably solved, thanks to the great pedagogical knowledge and practical sense of men like Professor L. Bahlsen, who spent many months in planning and building up a most complete exhibit. Indeed, it may be claimed without exaggeration that the German Government has shown to what point education is capable of exhibition. At the same time, Germany proves at St. Louis, if the proof be needed, her superiority in the field of science and what is inseparably connected with science, the higher education. It is greatly to be regretted that the unity of the exhibit was disrupted by locating a part of it outside the Palace of Education. This became necessary because of the extraordinary extent of the German exhibit. In the Palace of Education it occupies more than thirty compartments, covering, in all, 27,000 square feet of floor space. An additional area of 10,000 square feet is taken up by the German educational exhibit in the Palace of Electricity.

Comprehensible and almost self-explanatory as the arrangement is to the pedagogical expert or student, the layman will do well to avail himself of the aid of the special department catalogues that have been prepared for his guidance.

The exhibit, as a whole, was designed to be illustrative of German education in its entire range. It comprises, accordingly, the "Hochschulen"—i. e., university and ad-

vanced technological school; the "higher schools," corresponding to our colleges and the upper classes of the high school; "Mittelschulen," corresponding to our high school in the lower grades; lower and elementary schools, and schools for the defectives. Thanks to the uniformity of German schools, it was feasible to represent each branch of the system by a single example, save where an advantage was to be derived from a parallel. The German school system, despite its great regularity, is far from monotonous; in truth, it is more richly differentiated than our own. There are, for instance, no less than twelve distinct types of "higher" education of the undergraduate character: the humanistic "Gymnasium," the "Realgymnasium," the "Reformgymnasium," which by dint of greater flexibility is able to prepare for both university and engineering school; the "Alumnat," "Paedagogium," three kinds of "Realschule," Girls' High School, Girls' "Gymnasium," and Teachers' Seminaries for Men and Women; not including special schools for commerce and the industries. Each department of the exhibit is methodically subdivided. For example, we find in the "Hochschule" group a separate archæological, medical, etc., section. Beyond this there is a still further subdivision. The medical section has subsections for therapy, pathology, anatomy, surgery, bacteriology, etc. A complementary feature of the German exhibit is a lecture hall with a seating capacity of one hundred, fully equipped with experiment tables, apparatus for projecting pictures on the screen, and mechanical appliances for instantaneously darkening the room. Here lectures and demonstrations are given for small audiences of specialists. Lectures of a more popular interest, as on color-photography, are given from time to time in the German Pavilion on Art Hill.

Perhaps the most lasting contribution of Germany to the educational exhibition at this World's Fair is a four-volume series of monographs, written by eminent scholars. The collection, which is edited by Professor Lexis, may be inspected in the "Court of Honor," or main entrance to the German section. It was prepared expressly for St. Louis, and is the most complete and authentic exposé of German education in all of its forms and aspects. Only a very few objects in this very remarkable exhibition may be rapidly pointed out at random: the model of the restored Roman citadel at Saalburg, as showing a practical achievement of modern archæology; the splendid model of the "Technische Hochschule," at Berlin-Charlottenburg, the largest single building in the world devoted to educational purposes. In the medical subdivision, the graphic elucidation of the present campaign for the suppression of tubercular diseases; the anatomical and pathological specimens preserved in the so-called Kaiserling fluid, in which they retain their natural colors for an indefinite time; colored casts illustrating various special surgical operations. In the division of scientific instruments, many fine pieces of apparatus used in astronomy, meteorology, optics, and so forth.

The German instruments have the highest reputation for accuracy and durability. Many of the instruments, including a large electromagnet and an oscillograph, are shown in operation. Of special interest is the "ultramicroscope." Through its lense, particles hitherto invisible may be plainly distinguished. Of striking novelty are the small chemical vessels of molten quartz—the only ones of their kind ever made. Their prices run into the hundreds, but they have the advantage of being practically indestructible. They may even be dropped at white-heat into cold water without danger of their breaking.

Of great historic interest is the laboratory of a sixteenth-century alchemist, in the German educational section of the Palace of Electricity. Opposite it, in exact reproduction, Liebig's first laboratory (1835) is seen. The chemical industries are well represented by their products. Truly astonishing is the delicacy and great variety of artificial (chemical) perfumes produced by one firm.

This brief sketch conveys no adequate notion of the educational importance of the German section. Teachers of the higher grades can do no better than to devote several days, or at least one whole day, to its study. As the school exhibit is arranged according to the subjects taught, each teacher can find, without loss of time, whatever is of special professional interest. With the charts, models, specimens, etc., used in connection with a subject, go the text and principal reference books. Those following pedagogy as a science will not neglect to inspect the collection of German pedagogical writings

surrounding, very appropriately, the bust of Herbart. In every division of the German section the visitor is sure of courteous reception and generous assistance by the gentlemen in charge.

THE FRENCH EDUCATIONAL EXHIBIT

Architecturally, the "key" of the educational exhibition is the exterior of the French department. Its interior, too, is very attractive, and, not having been separated into many small cabins, like the German, it gives the impression of great spaciousness. Without aiming at the comprehensiveness of the German exhibit, the French have succeeded in giving a fair idea of the educational activities of their country, notably of the city of Paris. A too large part of the exhibit, however, is surrendered to things that have nothing, or very little, to do with education—a miscellaneous assortment of posters, such as are used by the police and other authorities of France for public announcements. It is plain that France has tried to combine the educational with the sociological feature. But many of the objects shown seem, even sociologically, irrelevant. Nevertheless, the exhibit made by the French Department of Public Instruction, taken by itself, is capital.

One feature of the public-school system of France (and of other European countries) deserves to be adopted here. Connected with the training-schools for teachers are so-called *écoles annexes*, where the novices put in a week of service, afterward submitting a report on their observations and experiences. If such a system be used with the proper moderation and care, there need be no danger of its converting our school-children into "experimental rabbits." The fact is, on the contrary, that they are exposed to that danger when placed in charge, as is very often the case in this country, of a teacher who is without any class-room experience whatsoever. The St. Louis method of appointing annually a certain number of "apprentices" is a long step in the right direction.

THE BRITISH SCHOOL EXHIBIT

The British school exhibit is considerably smaller than the French, and less inclusive. Yet, aside from university—i.e., "graduate"—work, which in the French exhibit is represented by many publications, all types of schools have a place in it. Very fine is the decorative work shown by the Glasgow School of Art, the Royal College of Art, in London, the Craft School, of Bethnal Green, London, and the Arbroath High School of Art, which gives a six-years' course. Britain's superexcellence in the teaching of art, especially "industrial art," can hardly be called into question. Work of a very high grade is also done in the British schools for the defectives. The Royal Normal College and Academy of Music for the Blind is especially worthy of mention.

OTHER FOREIGN EXHIBITS

Italy lays a decidedly one-sided emphasis on art and crafts teaching. Beautiful as much of the carved wood, glassware, and forged metal is, the exhibits, as a whole, have a commercial character, which is only relieved by the numerous portfolios with technical designs.

Mexico's exhibit leaves one in the dark as to whether our neighbor republic is also trying to keep abreast with the present practical tendencies in education. Scientifically, Professor Pastrana's "Nepho-meter" is the *piece de resistance* of the Mexican booth: an apparatus designed to measure the fractions of the sky covered by clouds, and provided with a helioscope in order to facilitate the observation near the sun and for observing the halos. The mineral exhibit is good, so is that of the Mexican *Materia Medica*. The rest is nearly all manual work—the lace-making and embroidery being worthy of high praise. Among the samples shown are some admirable pieces done by little girls of from nine to twelve years of age. The manual work of the boys bears an entirely utilitarian character.

THE SWEDISH EXHIBIT

We may conclude this sketch of the educational department with a brief description of what is in some respects the most instructive exhibit within it, namely, the Swedish. It is neither large nor ambitious, but it comes nearer than any other to portraying the actual school-life of its country. Several of the rooms are furnished and equipped as school-rooms. One is a class-room in an elementary school; another a kitchen, for a cooking-class; a third a Sloyd-room, with three tables, one each for cardboard, wood, and metal work: with each goes a case of tools.

The exhibit emphasizes also the importance attached in the schools of Sweden to bathing, gymnastics, and games. A set of "playing-tools" is shown for the last-named purpose.

The total impression gained is highly favorable to Swedish education. The people of Sweden—in fact, all Scandinavians—respond very readily to the present efforts made to prolong the schooling of the adults, by the establishment of "People's High Schools," similar in grade and method to the continuation schools of Germany and the United States, but frequented mostly by men and women past the age of twenty.

In conclusion, it must be said that a single cursory review cannot attempt to do full justice to the educational departments of the Louisiana Purchase Exposition. Taken all in all, the yield of the enormous labor and expense invested in this feature of the huge enterprise is such as to warrant every teacher in the land in making the pilgrimage to St. Louis. If American teachers will avail themselves in large numbers of the opportunities for observation and comparison there afforded, the educational activities of our country are bound to receive a strong and most beneficent stimulus.

A PANORAMA OF FORESTRY, FISH, AND GAME

CONCRETE EXHIBITIONS OF THE METHODS OF PRESERVING FORESTS AND UTILIZING BEAUTIFUL WOODS IN THE UNITED STATES AND OTHER COUNTRIES—AN UNPRECEDENTED DISPLAY OF HUNTING AND FISHING EQUIPMENTS—WILD ANIMALS AND COUNTLESS KINDS OF FISH—THE WHOLE OUTDOOR WORLD BROUGHT INTO VISIBLE AND ENJOYABLE COMPASS

BY

H. H. KOPMAN

NO hunter, fisherman, woodsman, explorer, or naturalist, however much he had learned from books and travel, can fail to get much information from a visit to the Fish, Game, and Forestry exhibit, in addition to renewing association and acquaintance with the forest, the prairie, the mountain, the jungle, the desert, sea and stream, and the denizens thereof. In the space of a few acres, a large and well-selected proportion of the woods, the fishes and the feathered and four-footed game of the world is assembled. Tropical things are near neighbors to products and specimens of temperate, and even arctic, latitudes.

Inside the building, in charge of Doctor Tarleton H. Bean, honorary Curator of Fishes in the American Museum of Natural History in New York city, the prominent exhibits include the big game of the West, from Colorado, Washington, Montana, and Oregon; and, in private collections, the same class of quarry from the Indian and African possessions of Great Britain; the largest gun collection even made for an exposition, representing a great variety of types, from both American and English makers, and including the remarkable collection of historic firearms belonging to the United States Cartridge Company, which shows the evolution of modern guns; reels and fishing-tackle in profusion; the greatest collective timber exhibit ever made by the Southern States; large live fish and game exhibits, made by Missouri and Pennsylvania; a special exhibit of much beauty, and the utmost significance, by the United States Forestry Bureau; absorbingly interesting displays from foreign countries, notably Japan and Germany; and several State collections of direct interest to the naturalist, because they represent the various fauna of North America. By examination of the exhibits of Louisiana, North Carolina, Virginia, New Jersey, and New York, especially because of their arrangement, one may get very fair ideas of the comparative status of wild life—especially bird-life.

Of the game, probably the most astonishing is the British collection of such related Old-World tropical creatures as the eland, the hartebeest, the gemsbock, and the gazelle. The variety is almost incredible.

The exhibits of the older countries show intimate knowledge and long specialization. Several of the "newer" countries of the world, especially Mexico and several of the Central and South American States, notably Venezuela and Brazil, have a great mass of material, but their resources have yet been exploited only in a superficial way. But Argentina shows a forestry exhibit that argues a clear-cut development of the lumber industry. In the main, however, the tropical American exhibits are mixtures of the gaudy birds of the equatorial regions and the valuable fibres, woods, and nuts and berries of the hot countries. They demonstrate how remarkably prolific are these lands, but how successfully industry may be applied to the undeveloped riches is not shown to a very great extent. Other exhibits that fail to point any particular lesson, serving merely to emphasize the richness of this world in arboreal and lower animal life, are the displays from the East, such as the collections from Ceylon and Egypt. The trophy of the hunt and the adventure in jungle or desert are the prominent themes of their exhibits.

The exhibit of Great Britain runs to guns and big game, and the display is a well-ordered one; and there is an exhibit by the Marine Biological Society of the United Kingdom, giving, by specimen and by chart, many of the most important results of the study of marine life for which British naturalists have become celebrated. Of absorbing interest in this exhibit is the case of specimens of the larval stages of the lobster and other crustaceous animals. These larval stages are the small creatures that form the greatest percentage of plankton, or floating life of the sea. Another significant part of the British exhibit is what the Royal Scottish Arboricultural Society has to show of its work, which consists in naturalizing various foreign trees, especially those of America.

The veneering work, in which France was so long a leader, may be seen in a profusion of exquisite finishes. The artistic things the French do with the woods that they import from the East and from the American tropics are especially striking in the case of veneers cut from one burl or one section of clear-grained wood and matched to form a double or quadruple repeated pattern. Specimens of the French staining of fine woods are as brilliant as they are delicate.

As the exhibit story tells how countries differ in the degrees in which they have specialized on certain resources, so it is with the different parts of our own country. We see indicated all degrees of wisdom in caring for what we have, and all degrees of efficiency in making use of it. As the West has hardly yet recovered from the first paroxysms of felling the redwood and destroying the bison, so its exhibits turn chiefly upon the variety and excellence of its big game, its big fish, and its big trees. But the States of Washington, Oregon, and California narrow down their exhibits more rigidly either to the fisheries or to the forestry wealth of the Pacific Coast. The New York, New Jersey, and Pennsylvania exhibits, however, are the ones that show the best outcome of long contact by all kinds of interested agencies with natural resources. Man has there attained, by education and by science, the proper relation to the waters and forests and their denizens. Thus it is that we see the fruits of purely scientific investigation in the work of expert commissions. New York, exhibiting under the auspices of its fish, game, and forestry commissions, has an outdoor exhibit illustrating forestry methods. Indoors, beside the large collection of animal life, is shown what has been discovered of the relation of injurious insects to forest trees. One particularly interesting case contains models of familiar foliage and fifteen kinds of familiar insects that prey upon it in New York.

Pennsylvania records the excellence of her fish laws and her whole study of the fish-question. An instructive case is that of the birds and mammals that prey upon fish. There are several simple objects that tell a story of pressing importance to this country. They are nets and other forms of fishing devices confiscated in Pennsylvania because they are illegal or were illegally used. A fyke, a castnet, and a seine of rather small size are among the collection, and they were confiscated by virtue of the most comprehensive fish laws in this country. This law looks to the interests of both the sportsman and the commercial fisherman in contradis-

tinction to the "pirate." Consequently, it has gained great efficiency through the general approval of public sentiment. Devices that may be legal in one kind of water or at one season cease to be so in other kinds of water or at other seasons.

New Jersey's work in economic biology is illustrated by very fine studies of tree-injuring insects. But the glory of New Jersey is the mosquito campaign exhibit, a resumé of what has been done, and of what the State expects to accomplish. Briefly told, the problem is one of the draining and the filling up of the breeding-places of mosquitoes. The exhibit shows the enemies of the mosquito and how they may be utilized.

Allowing the fullest credit to the Pacific States that show their unparalleled opportunities in soft-wood production, the Southern States, nevertheless, give an exhibition of both soft-wood and hard-wood wealth that could be rivaled by few parts of the civilized world today. Kentucky, Tennessee, Arkansas, Texas, Louisiana, and Mississippi, and even the South Atlantic States, stand together in a great delegation that inevitably attracts attention to the remarkable timber wealth stored away in this large area. The exploitation of the woods of these States, especially of kinds but lately come into favor, such as the black gum, the displays of the variety of utensils, appliances, and simple implements made from these woods, besides their greater uses for furniture and vehicle manufacture and for house and ship building, assure the continued development of the centre of the South as capital continues to move into that incalculably rich section.

This forestry exhibit was made especially convincing in two forms—one, the House of "Hoo-Hoo" (which was destroyed by fire in June), a lumbermen's association; and the other, the exhibit in the Forestry Building by the Southern Longleaf Lumber Manufacturers' Association. This association has spent much money to make an attractive demonstration of the purposes for which the long-leaf pine is fit. Both in finishing and in high-class construction with Southern yellow pine, the association has given the public a lesson of the highest import. In the "House of Hoo-Hoo," one room, both the floor and wainscoting, was of pine. The wainscoting showed a veneer in which the alternate panels were pieces of the curly wood so often cut from the burls. Stained dark, this wainscoting was singularly attractive. The same construction of cypress, stained a Flemish green, had an artistic individuality; while the red, or sweet, gum, usually reserved for the most ordinary purposes, took a mahogany stain, and as a wainscoting plainly comes into the front ranks of finishing woods.

The Alaska Packers' Association, of San Francisco, besides exhibiting their mere output of a wonderful industry, has made one of the most striking shows in the building. A scenery panel, 100 feet long, shows the home of the salmon. The picture, with its rocks and waterfall, is a representation of the country about the mouth of one of the great salmon streams. The packing is shown by a set of the machines used in one of the canneries. The cleaning of the fish, the cutting of the cans, the packing and sealing, are all done by machinery. Sometimes they turn out a quarter of a million cans a day; yet, as a public-spirited agency, they sustain three hatcheries, out of which fish are taken to stock public waters on the Pacific Coast.

Broadcast over the Exposition area, some exhibits indoors, others outdoors, are the five separate exhibits by the United States Government. The United States Fish Commission and the Bureau of Forestry show lessons of supreme interest by their compact exhibits.

The Bureau of Forestry makes two displays, one an approximate demonstration of forestry practices, and the other a collection of transparencies and colored panoramic views showing all phases of the forest life and problems. Besides these, there are the mammoth bird-cage, exhibiting many of the treasures of the National Zoölogical Parks, and an exhibit made in the United States Government Building, by the National Museum, comprising part of the general Smithsonian display. Together with the bird-cage, this exhibit by the National Museum is intended for the dissemination of purely academic information, and for such purposes seldom has anything so successful been done.

The low, square, temple-like building of the government's fish-exhibit is the repository of animal forms the most curious to be found at the Exposition, and of collected records bearing upon the vast work that the government has undertaken and accomplished in the past generation in maintaining a

normal supply of its aquatic food. With the hatchery demonstration and the central pool of seals and various forms of tortoises, principally snappers, soft-shells, and terrapins, are the tanks of both fresh-water and salt-water fishes. The fine collection of live material repays all the study one can give it. What a rich resource this is!

In addition to the display of a great variety of fish-life, there are exhibits of fish-culture and related scientific research, of fishing-methods, and of the products of the fisheries. Of great interest is the statistical table showing the present annual yields of the States of the Union. It shows Virginia with the largest output in pounds (nearly four hundred millions), and, returning, next to Alaska, the largest income (more than $4,500,000). New York is next in output. Alaska, with no more output than the State of Washington (about one hundred and twenty millions of pounds), more than doubles the value of Washington's annual catch, giving an income of $5,600,000, putting that Territory in the lead over the rest of the country in the value of income from fisheries.

The science of pisciculture is shown in the now familiar phenomena of hatching fish-spawn and in other processes exhibited by the fish commission. One of the most interesting of these is the special care of lobster-fry while in the larval stage. A laboratory and houseboat combined is provided with lateral tanks in which the water is agitated by paddles, thus keeping the fry and their food on the surface of the water, and preventing the suffocation, starvation, parasitism, or cannibalism that would otherwise occur. The scientific work of the fish commission includes a model of the deep-sea investigation steamer "Albatross," the vessel that has seen more service of the kind than any boat in the world. Along with this are deep-sea fishing and collecting apparatus.

A collection of beautiful plates of the various and curious fish-fauna of the Hawaiian Islands, and a more limited number of drawings of the fish of Porto Rico, make known splendid opportunities for wealth of which only the smallest advantage has been taken.

The recent vital extension of the work of the United States Bureau of Forestry has called forth the most beautiful and wonderful exhibit of this kind that the government has ever made. An arcade, whose walls are practically made up of transparencies of two- and three-foot photographic scenes in forest lands all over the country is the principal feature of the exhibit. The scenes in the arcade on one side nearly all relate to the Rocky Mountain and Pacific Coast forests; those on the other side to the eastern half of the country. There is a splendid relief-map showing the forest distribution in the United States, and the extent to which the government has secured control or supervision over the forests.

The work of preparing and installing this unusual exhibit was done by Alfred Gaskill, of the division of dendrology, and specialist in forest investigation.

Next to preserving and perpetuating the forests that are now standing, the greatest concern of the forestry bureau is to overcome the difficulties connected with gradually foresting the treeless section. Every part of the exhibit emphasizes this fact. On the map, one sees symbols showing plantations made by the bureau. It is at once noticeable that these symbols cluster thickly in the north central part of the Great Plains region, where man most keenly feels the hardships of a lack of trees. In the outside exhibit of the bureau, there is a model plat showing how the government advises the planting of trees about western farms for windbreaks, for timber production, and for the preservation of the watersheds and the flow of streams. Jack pine and white spruce are recommended for cold northern prairies. For the semi-arid upland prairies, the mixture is green ash, Russian wild olive, and western yellow pine. In the river bottoms of the southern two-thirds of the Middle West, the model farm shows either hardy catalpa alone or mixed with black walnut, while sycamore and Carolina poplar answer for other parts of the same region. For various parts of the arid plains, a number of trees are exhibited as available. Both black and honey locusts, pines, osage orange, Russian mulberry, are found in the list. Pictorially, this part of the work of the bureau is placed before one in scenes in the West where trees have been planted along irrigation ditches, and where they would help in the protection of watersheds. The scanty forests on western slopes, so important to irrigation, but destroyed by repeated fires, the sand-hills of Nebraska that it is proposed to forest, and a scene in a part

of the West where irrigation and the concommitant tree-planting have won fertility from the desert, are sufficient to drive home the value of tree-planting in the West.

Preservation and perpetuation of forests over the country at large, irrespective of sections, is explained in as many ways as the subject of tree-planting in the West. The map shows districts in which there are State or private forests in whose management the advice of the bureau has been asked. The largest number of such tracts are in the Great Lakes region and in the East, particularly New York and New England. But the largest individual tracts are in southeast Texas, where more than a million acres are managed under government direction, and in California, where the whole of the State forest policy is being so guided. The selection of trees for forest plantations in all parts of the country is advised by actual plantings in the outside exhibit, as in the case of trees shown for windbreaks.

The American lumber operations, so immense that they are appalling, are brought to mind by two pictures, one of which shows the original condition of a Pacific Coast redwood forest, and the other the site of a forest of these enormous trees, now containing only stumps on land that is being turned into pasture.

The revelation of the genius of a people reaches no such point of vividness in other forestry and fisheries exhibits as one sees in every foot of the unobtrusive wonderland that the Japanese have put together. Of no other nation displaying resources at the Exposition is the combination of simplicity and of artistic finish in work of every description so prominent a characteristic. In the welding of this fitness and beauty to every occupation, the Japanese have achieved many results which have not been approached in the similar activities of other nations. One questions with extreme doubt whether there has ever before been brought together so astonishing a composition of the finished products from the "waste" that lies about those who cull the forest and the sea to add their resources to the material wealth of the earth. Their ingenuity in finding apparently unsuggested uses for various materials is repeatedly demonstrated. Perhaps nothing in their exhibit gives more conclusive evidence of their resourcefulness than the wood-shavings which they give a form closely simulating watered silk. This material they call chip-braid; and, made from some woods, it has a finish that easily rivals the artistic silks of special finish. It would be hard to conceive a hat more closely adapted to the esthetic and, doubtless, to the practical requirements of women than the tasteful works in millinery that are made from the more substantial grades of the chip-braid. Trimmed with actual silks, or with the more silk-like grades of the chip-braid itself, and with flowers of subdued colors made from the braid, but apparently never trimmed with feathers or birds, these hats are extraordinary examples of variation in uses of a single material. The Japanese take hold of a waste product and extend its uses to every probable application. There is no telling what they will do with any product. Its ultimate reduction to components is not to be guessed at by what is obvious to the Caucasian. The knowledge that even in this country seaweed is used as a food to a moderate extent does not prepare one for the surprise felt in coming upon the bizarre products that the Japanese turn out of this material, little valued among most other peoples. One of these is the shiny, faintly creamy *kaku kanten*, that they make from the gelidium, or tengusa, and that they put up with ribbons, and fasten together as a haberdasher fastens his wares. It appears to have less substance than the foam of the waves. In its fragile solid state, the *kanten* is compared by the Japanese to isinglass. Another seaweed having a remarkable value is the *funori*. It is made into sheets, and from this a kind of starch can be made. A paste, also, that is substituted for wall-plastering has a wide range of usefulness. It is doubtful whether any other nation has grappled more closely and boldly with the questions of actually increasing the production of natural wealth than Japan in urging the oysters to faster secretion of pearls. Cultural pearls, of less value than purely natural pearls, but entirely obliterating the merits of the imitation pearl, are among the curiosities shown. The cultural pearls are the results of introducing mother-of-pearl in round pieces into three-year-old spats. This piece of molluscan surgery is a method secret to the Japanese. After it has been performed, the young oyster is returned to the water, and for four years is permitted to add secre-

tions to the jewel nucleus introduced within its body. The exhibited specimens of cultural pearls are objects of genuine beauty.

The definiteness and simplicity of the industries that have grown out of the use of the bamboo and the coniferous trees, and of the stable products of the water, the salmon, cod, and herring, the sardines, anchovies, and mackerels, the lower life, prawns, shrimps, bivalves, and marine algæ, appear characteristic both of the resources themselves and of the methods of industry of the people who turn the resources to account. It is the clean-cut exhibit of a clean-cut people. Yet there is an ethereal element in the simplicity of it all, the suggestion of lightness and freedom.

Great as one would expect to find the development of the net and its uses by a people engaged so largely in fishing, the Japanese do things with the net that bespeak the cunning of the race. There is a picture of a jaunty party of noblemen in surroundings that would suggest tennis, who are preparing for no less piquant amusement than the snaring of wild ducks by means of comparatively small nets. These gentlemen are in the royal preserves, and standing at "passes" where the ducks will come in low flights at certain hours, they will sweep in the hapless birds as nonchalantly as the butterfly hunter rakes in a fine specimen that sails overhead within easy range. The seine for taking large schools of sardines is a study for the fisherman. Taking advantage of the schooling of the sardines, and the tendency of fish in schools to keep away even from an obstruction which singly they could pass, the Japanese make the long wings of the net very coarse-meshed, the openings in some cases being almost a foot across. By parallel drawing of the wings, the fish are kept headed in the direction of the small-meshed bag. The advantage consists, of course, in the greater lightness attainable for the wings where the mesh is so coarse, and the consequent opportunity to lengthen the wings. Such nets are made several hundred yards long, and extraordinarily large schools of fish can be surrounded.

Germany is the home of forestry as an exact science. One of the simplest illustrations of German methods, yet likely to arrest attention because it is curiously made, is a model comparing a grove of evergreens in a natural state of denseness with a slightly thinned stage of the same sort of grove, and with a much-thinned condition. The model is eloquent of the inherent German tendency, the desire for neatness and particularity. The little model has that quality that we define as "Dutch" when we see a garden too stiff and lacking in unstudied effects of beauty, but it forces us to recognize the German as a resolute reducer of the number of forest trees when it is to the interest of increased production.

Every step of one's way through the exhibit adds to the idea first received—that the German looks upon trees as marketable products, things that he can shape and regulate as successfully as the farmer cultivates the most ordinary crops. He studies the whole history of trees, continually applies observations at this point and at that to produce desired ends, and behold, he has the output of trees at his command! How many ways the German has contrived for acquiring this mastery is shown by maps, models, charts, and other means. Perhaps we are most struck with the perfection and variety of instruments for scientific foresting, such as the many kinds of calipers for obtaining trunk diameters, the assortment of hypsometers for determining the heights of trees.

The majority of visitors will doubtless be surprised to find that plow, harrow, and seed planter are made for especial use in the forester's work, and that the whole business of forestry is on so secure a basis that emergencies in sowing and caring for a crop of trees are met with the same consideration that the progressive farmer gives to his work, and call for the use of such devices as the steam-plow in breaking up barren ground on which trees are to be sowed or set out.

The model of a German forest-fire tower will be explained by the forester in attendance as a building considerably more than a hundred feet high, and, therefore, well above the level of even the coniferous trees. It is built like a minor coast-light, a little room on the top of a scaffolding. Connected with it is a system of semaphores, while the various towers have communication with one another through an indicator that records in each tower the location of a fire. This fire system suggests how well the German knows his forest topography and resources. It has all been estimated and mapped most accurately.

What could be more exact than the map of middle and north Germany to show the comparative forest areas and the relative abundance of the species in the forest districts? One sees from this map not only the relative forested area in every section of the middle and northern part of the empire, but he learns, by colored surfaces, in just what proportion oak stands to birch, beech, or fir, and the relation of every one of these others to the whole, and to its parts.

Maps show the history of certain government reserves for more than a century past. The gist of this story is that a definite plan has been followed to give a rotation of crops, so that where oaks stood during the Franco-Prussian War there may have been beeches in the Crimean War. Such practices have had as an important object the restoration to the soil, by the planting of one tree, of certain elements that had been taken out by another.

Besides showing what she has accomplished in practical forestry, Germany displays her genius for working toward results by long series of experiments. Tireless investigation is exposed in the map that explains the situation of meteorological stations throughout the forests of the empire. The aim of the study is to determine the effect of increased tree-planting on atmospheric conditions of moisture and temperature, and so by reaction on the trees themselves.

Two minor phases of the fish, game, and forestry exhibit that are attractive to a very large number of persons are the booths of COUNTRY LIFE IN AMERICA and other magazines devoted to kindred interests, and the pictorial exhibits made by North American railways penetrating unusually beautiful parts of the country. Exhibits of this kind impress us with the scenic splendors and the natural riches of our continent. Particularly instructive is the relief-map of the proposed Appalachian Park, in the United States Forestry Bureau exhibit. This park, while intended primarily to insure protection of the watersheds having their origin on the high mountains of North Carolina, would do more to draw men and women of a large part of this country to nature, and her problems and attractions of every kind, than any single similar act in which this government has interested itself.

THE PHILIPPINE PEOPLES

THE VILLAGES OF TRIBES, THE SOLDIERS, THE PRODUCTS OF THE ISLANDS, THE INDUSTRIES OF THE PEOPLE—THE PROBLEMS OF GOVERNMENT AND DEVELOPMENT PRESENTED AND ILLUSTRATED IN A REMARKABLE WAY

BY

ALFRED C. NEWELL

PERHAPS the most instructive part, and surely one of the most interesting parts, of the Fair is the Philippine Reservation. It shows the condition of the savage tribes; it shows the most advanced civilization; it shows what the United States has accomplished during its rule of the archipelago; and it shows the nature of the Philippine problem in all its phases.

It is the largest exhibit at the Fair, and covers forty-seven acres of rolling woodland. The approach is picturesque. Bounding the reservation on the north is Arrow Head Lake, a wedge-shaped body of water, whose southern shores are dotted with bamboo huts and houses—the homes of Moros, fierce river pirates of Luzon. Gay red flags flutter over the villages, and cumbersome boats sway at rope moorings. Three bridges span the lake. The centre one is a massive stone reproduction of the Bridge of Spain, which crosses the Pasig at Manila. It leads directly to the Walled City, an imitation of the fortifications erected by the Spaniards three hundred years ago, to repel Dutch and Chinese invaders. Its walls have a green moss coating. Old Spanish guns are mounted on the parapets. Inside the walls is a court

containing war relics of all the Philippine campaigns. The fortifications are also accessible by two bamboo bridges.

Once across the bridge and through the Walled City, you face the reservation, which is like a scene in Manila. The buildings are arranged in two groups. In the centre of the first is a tall stone shaft, similar to those seen in public squares in Spanish cities. To the right is the Fish and Game Building, built of bamboo and nipa, the leaves and bark of the latter being used for thatch. Specimens of the wild buffalo, water buffalo, and wild boar are shown. There are a thousand specimens of fish common to the Philippines. Giant clams, from the southern islands, with shells five feet wide, may be seen. These clams, which are frequently embedded among the mother-of-pearl mollusks, often cause the death of pearl-divers. On the shores of the lake are bamboo fish-traps.

On the other side of the Plaza is the observatory, patterned after the one at Manila, from which timely warnings of the dreaded typhoons are sent to Japanese and Chinese shores. It contains a microseismograph, or register of earth tremor, which gives warnings of earthquakes. This delicate instrument was made at the Manila Observatory by native Filipino mechanics. North of the observatory is an outdoor relief-map of the Philippine Islands, 110 feet long and 75 feet wide. It was made by Father Algue, the Jesuit who keeps the observatory. From the high board walks which surround the map a good idea of the sixteen hundred islands of the archipelago may be obtained. One sees the islands as from a low balloon.

THE PLAZA SANTA CRUZ

The Plaza Santa Cruz is the centre of the reservation, and is a reproduction of a corner of Manila. In the middle of it, an imposing statue of Magellan, the discoverer of the Philippines, surmounts a drinking-fountain.

There are reproductions of the Manila Cathedral, brown and square, the Government Building—after the style of a Spanish palace—and a model of the residence of a wealthy Filipino. Seated in this square, the visitor may take in at a view the several stages of Filipino development. In the native huts, on the wooded hillsides, are the naked Igorots and Negritos; to the north the Moros disport themselves in Arrow Head Lake; in the buildings that face the square are the products of Filipino looms and hand-work; the pictures and sculpture from Filipino studios, and, best of all, compositions, drawings, and hand-work from Filipino schools. And, back of the reservation, the American Flag floats over the camps of the Filipino scouts and the constabulary.

EDUCATION

The first American army of occupation in the Philippines contained teachers as well as soldiers. Education followed the flag wherever it was carried. The first people to teach English on the islands were officers and enlisted men in General Merritt's forces. The result of educational work is summed up in the statement that more persons speak English in the islands today, after three years of American rule, than spoke Spanish in the four hundred years of Spanish rule.

The educational exhibit tells the whole significant story. Here will be found exhibits, ranging from blocks of wood turned in the Moro Industrial School at Zamboanga, where naked little savages are taught their A B C's, to essays by the students of the Manila Normal School, where Filipinos are taught to teach.

When the American troops entered Manila on August 13, 1898, there were less than 800 schools on the islands. Today there are 2,900 schools, with more than 200,000 pupils. There are 3,000 Filipino teachers in these schools, and more than a thousand American teachers. English is taught and spoken everywhere. In many of the compositions shown in the exhibit the pupils show an apt knowledge of English. The Spaniards encouraged the natives to speak only their dialects.

Work with the hands has been incorporated into the public schools. There are hundreds of examples of wood-turning, carving, painting, embroidery, basket-making, and weaving by the pupils. At the Insular Trade School, at Manila, boys are taught useful trades. The exhibit of the Schools of Agriculture, recently established at Negros and elsewhere, shows that the Filipino is willing to turn from his primitive methods of farming to modern means of tilling the soil.

A MODEL SCHOOL

But more impressive than these exhibits is the model school conducted by Miss Pilar

Zamora, a Filipino graduate of the Manila school. The school-house is a bamboo and nipa cottage, built like a bungalow. Here every day come twenty little Filipinos, recruited from the various villages on the reservation. They sit at desks built in America. The blackboard on which they crudely fashion their English letters is hung on bamboo poles. English composition, geography, and arithmetic are taught.

One of these pupils is Antaero, an Igorot boy, aged twelve. I had seen him among his own people, wearing only a breech-clout, dancing the joy-dance of his tribe, with the sunlight gleaming on his copper skin. Yet, at school he wore a coat. He is the only one of the Igorots at the Fair who can speak English. He went to an American school in Luzon two years. His face is keen and bright, and his eyes have a merry sparkle. Clad in Western clothes, he would look like a dark American mulatto.

"Did you like to go to school in the Philippines?" I asked him. "Yes."

"Do you want to go back to school there?" "Yes."

"What are you going to do when you are a man?" The boy hesitated. His people were just then beating their brass instruments, as they whirled around in a dance.

"Would you like to teach school?" I continued. "Yes."

"Would you then wear clothes like these I wear?" With a laugh, Antaero pointed to the breech-clout and said: "I like to wear string-breech." String is what he called his clout.

American teachers who have lived in the Philippines believe that the Igorots, who comprise one-eighth of the 8,000,000 inhabitants of the islands, can be emancipated from savagery.

FILIPINO ART

The educational exhibit is only part of the display made in the Manila Cathedral. As you enter the building, you are confronted by a statue of Rizal, the Filipino leader who was assassinated by the Spaniards. It stands on a high marble pedestal, and is a noble figure. It is the work of Isabela Tampinco, a Filipino sculptor. Flanking the statue are numerous busts and wood-carvings, the work of Filipino artists. In the rear is a massive shrine with a tall crucifix.

But the most interesting art display is in the Government Building, on the reservation, where there is a gallery of paintings. As you enter, the most striking picture that greets the eye is an allegorical painting, twenty by fifteen feet, representing the Philippines—a lovely maiden, holding out the olive-branch to Columbia, who is surrounded by angels, representing the arts and crafts. This painting is the work of Resurreccion Hidalgo, a noted Filipino artist, who was paid 25,000 francs by the Philippine Government Board for this picture, which will be hung permanently in Manila. Another Filipino artist, Luna, whose brother was killed in a rebellion against the Spaniards, is represented by numerous pictures. The best is that of a nude woman. There are some excellent examples of wood-carving in this gallery.

A LEADER'S VIEWS

I met here, in his office in the Philippine Government Building, Doctor Leon Guerrero, who was a member of Aguinaldo's cabinet, and is one of the most prominent Filipinos in the islands. When I asked him, through an interpreter, what would be the effect of the Filipino display at the Fair upon his own people, he said:

"It ought to stimulate them to new energy in developing themselves and the islands. Every Filipino here should be a missionary of civilization when he goes home."

"What has done most to help your people?"

"The schools started by the Americans."

Then he continued: "What we are eager to get is a closer commercial relation with the United States. We want the tariff reduced so that we may export our hemp to the United States, instead of to Germany. We want American capital to establish manufactures. We have native inventors who need only capital to exploit successful inventions. For example, a Filipino recently invented a machine to extract hemp fibre. But we don't want combinations of capital, such as your trusts." As he spoke of trusts he smiled.

When I asked him if he thought there would be more resistance to the Americans, he said "No."

"What is the attitude toward Aguinaldo?" I asked.

"All Filipinos have respect and sympathy for one who has been their leader," he said.

A MORO VILLAGE
A picturesque part of the Philippine reservation

Before leaving, I asked: "Do you think the Filipinos are capable of self-government?" Doctor Guerrero paused a moment. Then he said: "If the government of the United States expects to make an Anglo-Saxon of the Filipino, it will be a long time. If taken as they are, as Filipinos, I mean, they are capable of governing themselves—now."

Doctor Guerrero is one of fifty prominent Filipinos who are now in the United States as guests of the Insular Government. He is also a member of the Philippine Exposition Board. They have been received by the President, and have visited our principal cities. In a way, they are envoys sent from the Philippines to get impressions of the United States to take back to their own people. This is really part of the educational work that is being accomplished by the Filipino exhibit at the fair.

AGRICULTURE

Hemp, the principal product of the Philippines, forms, in all its stages of growth and treatment, the chief exhibit in the agricultural building in the reservation. The crop last year was worth $20,000,000. The agricultural building is built of bamboo and thatched with nipa. Long festoons of hemp hang from the rafters. Some of the hemp, specially cultivated, is as fine as silk. This, woven with silk by natives, makes a very attractive kind of goods called jusi. Very little machinery is used in the culture of hemp.

THE HOME OF AN IGOROT

Heavy wooden combs, used for refining the fibre, are shown. The hemp is transported in bull-carts with wooden wheels. The exhibit of Filipino plows shows a crude implement. The plowshare is molded in stone molds, and is fastened to heavy timber. There is only one handle to the plow. Deep furrows are not required for hemp.

Three hundred varieties of rice are shown. Rice culture is very profitable. It is the chief

A TREE HOUSE OF A LANAO MORO

article of food, and the cost of labor is very little. The laborers on Filipino farms receive about fifteen dollars a year.

Cotton grown on trees fifty feet high is a feature of the agricultural display. These cotton trees are peculiar to the Philippines. Copra, from which cocoa-oil is extracted, is plentiful. A large tobacco exhibit shows a product that is exported to Spain, China, and India in large quantities.

In the bamboo mines building, illustrations are given of the crude methods employed by the natives of northern Luzon in extracting gold from river bed-rock by crushing the ore between large rocks and washing out the gold deposit. Gold is found in many parts of the islands. The deposits have not been extensively worked, however.

Samples of copper ore from the province of Lepanto show valuable copper deposits. The mineral resources of the islands are almost wholly undeveloped.

FORESTRY

Among the natural resources, timber takes a prominent place. There are 48,000,000 acres of forestry. In the forestry building, which is really an enlarged native house, made of Philippine woods and thatched, and with a long veranda of bamboo, shaded with coils of rattan, are more than fifty specimens of hard wood. The most valuable is narra, which is of delicate grain and is susceptible of a finish more beautiful than rosewood. It is often mistaken for mahogany. Among the other native woods are molave, which is yellow and hard, and ebony, which is exported in large quantities for fine furniture.

One section of the forestry exhibit is given up to gutta percha and rubber, of which an annual importation to the value of more than $20,000,000 is made to the United States since 1892. Nearly all the gum chicle, used in the manufacture of chewing-gum, in the United States, comes from the Philippines. The amount exported last year was 4,500,000 pounds, and was valued at $1,500,000.

The Commerce Building, which faces the Plaza Santa Cruz and which is a reproduction of the preliminary Philippine Exposition held last year in Manila, contains both imports and exports. The principal exports are cigars and straw hats, and the leading imports are cotton cloth and canned goods. Copra, or dried cocoanut meat, which is exported in great quantities to France, where it is made into soap, may be seen in large cases. It looks like mushrooms.

WOMEN'S WORK

In sharp contrast with the almost primitive methods of farming and mining is the work of the Filipino women in the Manila Building. This building has oyster-shells instead of glass in the windows. They are split into transparent layers, and keep out the heat of the sun but let in the light. In this building is displayed woman's work of embroidery, weaving, silk garments, and elaborate wood-carving.

A group of Manila women show a large American flag woven of many small pieces of colored cloth. Matting, woven with many designs, is another example of their handiwork. In this building may be seen a round narra table, seven feet and nine inches in diameter. It was presented to Governor Taft at Manila. An old-fashioned bed, with four posts handsomely carved, is the exhibit of a group of Luzon women. These exhibits by groups or societies of women show a new spirit among the natives. They were eager and proud to make a showing of their work at the Exposition.

THE FILIPINO OF YESTERDAY
A Negrito, one of the aborigines of the Philippines

AND OF TODAY
A Pilipino scout, trained by American soldiers

ETHNOLOGY

West of the Government Building, and overlooking the Moro village, is the Ethnological Building, a low edifice with cloisters like a convent. In the centre of the courtyard is a tall tree, and perched among the branches is a bamboo house, the home of a Lanao Moro. Many of these Moros live in tree houses. They are the lowest order of the Moro tribe. Originally, the houses were built in the trees, to escape from wild animals and enemies, who could be more easily resisted in the air than on the ground.

The ethnological exhibit, collected and arranged by Doctor Albert E. Jenks, Chief of the Ethnological Survey of the Philippine Islands, is an explanation of the habits and life of the best known Filipino tribes. The lower floor is devoted to the Igorots and their various sub-tribes, the Moros, and the Negritos. The Igorots and Moros are of Malay extraction, but the Negritos, the aborigines of the islands, are a puzzle. They are very small, and exist by using the bow and arrow.

One Igorot exhibit occupies the north wing. These are the head-hunters. Their head-hunting axe is somewhat like an American hatchet. Instead of the blunt side, there is a dull point, to be driven into the victim's skull. Then the head is chopped off. Among the Mindoro Igorots, a native who has cut off twenty heads is allowed to wear on his forehead the beak of a horn-bill, dyed

crimson. One of these beaks is displayed in a case.

The Igorot wears no clothes. As a substitute for pockets, he wears a pocket-hat, with a circular straw crown, which he fastens to the back of his head. More than a hundred of these hats may be seen. Elaborate head work by the Bogobos shows a primitive color sense, like that of the American Indians.

A NEGRITO BOY SHOOTING AT A COIN

He is the best shot with bow and arrow on the Philippine reservation

The Igorots, who are an agricultural people, make scarecrows of straw, and several of these may be seen in this building.

The work of the Moros shows the Spanish influence. While the Igorots expose their bodies, the Moros use breastplates made of the horn of the carabao and linked with a brass chain. The exhibit of Moro weapons includes the kriss, a shining curl of steel—a very wicked looking weapon. There are a hundred or more bolos, a short sword formed like the Cuban machete, and used for hacking rather than thrusting. The Moros show skill in making hammered brass boxes and crude musical instruments, weaving gay blankets and making inlaid silver handles for their knives.

The implements and weapons of the Moros are better in workmanship than those of the Igorots. The Moros are lending themselves less readily to the way of the American. It is believed in many quarters that the assimilation of the Igorot men, the head-hunters, will not be difficult, but the assimilation of the Moros as a race will be impossible.

MORO VILLAGES

But far more impressive than the display of their weapons and implements in the

Ethnological Building is the living exhibit of the natives themselves. They are grouped in tribes about the reservation. Different from these are those who live on the shores of Arrow Head Lake. On the east of the Bridge of Spain, and occupying a neatly arranged village of thatched bamboo houses, which extends down to the water's edge, are the peaceful Visayans, who are more artistic than any of the other Philippine natives. They are agricultural, fond of music, and have many members in the various companies of scouts. In their village is a market-place and a theatre. The first brass band organized on the islands after the American occupation was composed of Visayans.

In contrast with the gentle Visayans are the fierce Moros, the dwellers on the shore on the west side of the main bridge. There are three tribes of Moros. Two of them, the Samal and the Lanao, are deadly enemies, and an armed guard is maintained between the villages.

DANCE OF THE IGOROTS

A daily sight on the Filipino reservation

The Samal Moros are the most intelligent inhabitants of the Island of Mindanao. They are sea- and river-rovers. Unlike the inland Moros, who have sultans, the Samal tribesmen are ruled by Rajah Muda Mand, whose brother (who is also Prime Minister) is at the

ANTAERO
The only Igorot at the Fair who speaks English

head of the Samals at the Fair. He is stately and bronze-hued, wearing the turban of a Mohammedan. All the Moros are followers of Mohammed. The Rajah's brother receives visitors on the porch of his bamboo house with fine courtesy, and touches his turban when they go. His rank is that of datto, or headman. Like all the Samal Moros, he has become a stanch ally of the United States. On the porch of his house is a row of what look like brass kettles. They are musical instruments, which are beaten with sticks by Moro girls, giving forth a crude, weird sound. The datto's house is the only one with a piazza. Near his house is raised his private flag—two blue bars on a white field. The datto's brother, the Rajah, has traveled in Europe with a retinue, and was entertained by Queen Isabella of Spain.

The Lanao Moros are the tree-dwellers. Like the Bogobo Moros, they are an inland tribe. The Bogobos wear more clothes than the Samal and Lanao Moros. They are expert bead-workers, wear multi-colored beads, and are the most pompous of the native tribes. They occupy a village of nipa huts beyond the Lanao village. On the road between the Samal and Lanao villages at the Fair is a sign bearing this inscription:

"Persons photographing the Moros do so at their peril."

THE FILIPINO CONSTABULARY ON DRESS-PARADE

THE JAPANESE BAZAAR AND THE HEADQUARTERS OF THE IMPERIAL COMMISSION

THE JAPANESE TEA-HOUSE, FRONTING ON THE LAKE

Since the Moros are Mohammedans, it is a violation of their religion to have their pictures taken.

The Moro villages are marked by gay red flags. They differ from ordinary flags in that they run the entire length of the pole, and instead of flying from ropes are attached directly to the staff. Many Moro boats are on Arrow Head Lake. Some have red-and-white sails, like craft on the Nile. The Moros show great dexterity in handling them.

THE NEGRITOS

Near the eastern edge of the reservation is the Negrito village. Here are fourteen of the island aborigines, small, black people, amiable and cordial to visitors. They can subsist upon roots and herbs. They still use the bow and arrow. The Negrito children show wonderful skill. One of their favorite pastimes is shooting at five-cent pieces, which are furnished by visitors. The five boys in the village join in the contest. They shoot at a distance of twenty feet, and one of the smallest, aged seven years, is the best marksman. Most of them have learned to say "Thank you." Their skill with the bow and arrow was put to practical use in June.

ENTRANCE TO THE JAPANESE SECTION IN THE PALACE OF VARIED INDUSTRIES

Sparrows infested the gardens of the Fair to such an extent that the Negrito boys were set to killing them with their arrows. They rarely missed a bird. There are less than 10,000 Negritos left on the islands, and it is believed that they will be extinct before a half-century. Although the most primitive of the islanders, they are not slow to adapt themselves to civilized ways. You may see a dwarfish Negrito woman sitting in the doorway of her bamboo hut, sewing with an American needle, a pair of American scissors at her side.

THE IGOROT VILLAGE

Across the road from the Negrito Village is the Igorot Village, the largest of the native settlements. On account of their dog-eating habit, they have been much talked about since the opening of the Fair. In this village are the Bontocs and Suyoc Igorots, and the Tinguianes. The Bontocs are the head-hunters and dog-eaters, the Suyocs are miners, and the Tinguianes are lowland agriculturists. The Bontoc Igorots are copper-colored, with good physical development. They have high cheek-bones, thick lips, and wear their straight black hair over their shoulders. Every man has a pocket-hat fastened to the back of his head. As these men walk or dance there is a fine display of muscles. Their only apparel originally was a breech-clout. Subsequently they were compelled to wear short silk breeches.

The Igorots have learned the value of money. A visitor stopped at a bamboo hut and offered an Igorot child a penny. The little one threw it to the ground. The visitor offered a five-cent piece, and the child accepted it. The Spaniards used silver almost exclusively, and the natives regard it as the only metal of value. All the Igorot men, women, and children smoke cigars. They seem to be continually smoking. The best way to study these people is to take a number of cigars to the village and give them to the savages. They carry cigars in their hair or over their ears.

Tattooing is common among them. A man's war record is tattooed upon his breast. Antonio, the lithe chief of the Bontocs, who is a very amiable savage, has five heads credited to him on his breast in marks of red and blue.

JAPANESE COSTUMES OF THE MIDDLE AGES

THE LAKE IN THE JAPANESE GARDENS

One of the most restful spots at the Fair

THE GATEWAY TO THE CHINESE PAVILION
The Pavilion shows in the rear

In the centre of the Bontoc village is a stone fireplace, which is the shrine of the tribe. Here they prostrate themselves to the sun every morning, and here they have their dog feasts. The dog is considered a special delicacy. They first bind the dog to a stick. Then its throat is cut while the tribesmen mumble something. It is then skinned and roasted.

The Suyocs wear short coats, but their legs are bare. In cooking, they use crude copper vessels, which they make. They have industrial traits, but barbaric instincts. Of a peaceful nature are their neighbours, the Tinguianes, who spurn the dog-meat of the Bontocs. They show a rude architectural skill in the construction of their bamboo and nipa huts. These have small balconies in front, on which the women sit and weave.

PHILIPPINE SOLDIERS

If you leave the Igorot Village just before half-past five o'clock in the afternoon, you will hear a bugle; and, if you climb the short hill to the parade-ground, you will see emerging from the huge barracks called the cuartel 200 khaki-clad Filipinos. With heads erect and swinging stride they hold a dress-parade. The American flag waves over them, and a Filipino band of eighty-five musicians plays patriotic music. These men are a battalion of native constabulary, the native police, organized to keep the peace on the islands. They are selected from the various provinces and tribes. As they form in line, it will be seen that nine wear red fezes instead of the regulation campaign caps. They are Mohammedan Moros, whose religion does not permit them to wear the ordinary head-dress. When the constabulary were recruited among the Moros, the American army officers, who organized the body and who still command them, agreed that none of the religious customs should be interfered with. The constabulary on the islands number 6,000. They have distinguished themselves in campaigns against native outlaws, and have suppressed brigandage.

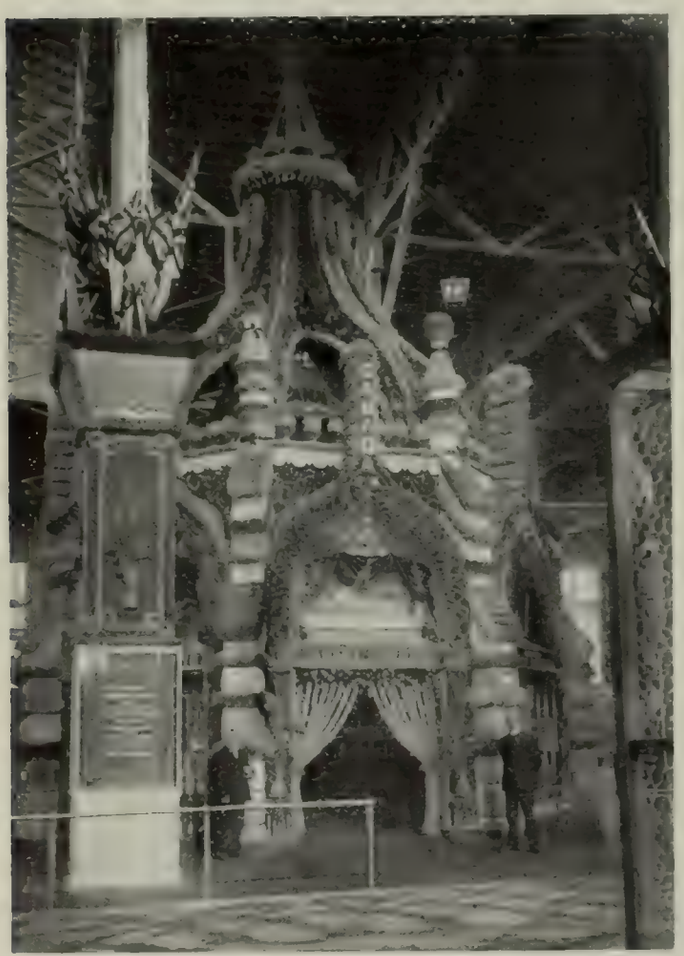
Hardly have the constabulary marched from the parade-grounds, when another bugle sounds, and, on a stretch of level turf behind which rise the tents of a military camp, march the Filipino scouts, clad in the

IN THE JAPANESE GARDENS

A model Japanese house with dwarf pines in fron

DAS DEUTSCHE HAUS
is the inscription over the German Building. A replica of part of the Emperor's castle at Charlottenburg

regulation United States blue, with service forage caps and with a Filipino band playing. These are the picked representatives of a



CANADA'S REPLICA OF THE PARLIAMENT HOUSE AT OTTAWA, DONE IN CANADIAN GRAINS

THE ROBERT BURNS COTTAGE
Erected by the Caledonian Society, of St. Louis

brigade of 5,000 native soldiers, whose mettle was tested during the insurrection, when they remained loyal to their oath of allegiance to the United States and fought their own countrymen. This efficient organization has grown from a band of scouts that led the way for General Lawton through Luzon jungles. They, too, form in line to salute the Stars and Stripes. It is an impressive sight—this long line of Filipinos in blue, stretching down the green parade-ground at sunset. It shows the real work accomplished in the Philippines—the bringing of law and order and discipline out of insurrection and ignorance—the lesson of good government.

HOW IT WAS DONE

When the Philippine Government was invited to take part in the St. Louis Fair, Secretary Taft, then Civil Governor of the islands, realized that the opportunity had come to display to the people of the United States the resources of the islands. He called a meeting of governors of all the provinces. Some were American; some were

A VIEW OF THE BRITISH PAVILION
A reproduction of the Kensington orangery

THE ITALIAN NATIONAL PAVILION

IN THE FOREGROUND IS THE BELGIAN PAVILION, SUCCEEDED BY THE CHINESE AND THE BRITISH, WITH THE PALACE OF TRANSPORTATION IN THE DISTANCE

THE BRAZIL BUILDING
The tallest and one of the largest of the national pavilions

THE SIAMESE PAVILION
The second erected by Siam at any World's Fair. It contains exhibits from the Bangkok Museum

WHERE THE SINGALESE SERVE TEA
The Ceylon national building is a tea-house

Filipino; all joined heartily in the plan. Governor Taft appointed a Philippine Exposition Board. At the head was Doctor W. P. Wilson, director of the Philadelphia Commercial Museum, and with him are associated Doctor Gustavo Niederlein, who had large experience with colonial exhibits at the World's Fair; Pedro Paterno, who was president of the Senate under Aguinaldo, and Doctor Guerrero. Thus representatives of the people who had rebelled against the United States were allied with Americans to show what had been accomplished in the

A GERMAN STREET
A picturesque corner of the Tyrolean Alps

pursuits of peace. Doctor Niederlein was charged with collecting the exhibits in the Philippines and with installing them at the Exposition.

But collecting an exhibit from more than a thousand islands, populated by a hundred different tribes, all speaking different dialects, was no easy matter. The Exposition Board set about its work systematically. It was decided to hold a preliminary exposition in Manila in 1903, which would assemble all the exhibits. Circulars were prepared in the

ONE SIDE OF THE INDIAN RESERVATION
Homes of various tribes with the Pawnee lodge in the centre

native dialects and sent to the different provinces. Diplomas were awarded to natives who made exhibits. School-teachers in remote districts coöperated. Scientists, who came over from the United States, classified native woods and mineral products. A competition was started among native architects for designs for the exposition buildings. Business men joined in the movement to make a display that would give to the western world a new impression of the Philippines. All the while agents of the Exposition Board were working among the tribes, arranging for representatives at the Fair. Some of these agents penetrated mountain fastnesses, accompanied only by guides and interpreters.

Others went to parts of the islands hitherto unexplored, and, in their work for the Exposition, secured data of definite ethnological value. In all sections of the Philippines there was fruitful activity.

When the Manila preliminary museum was opened, on Washington's Birthday, last year, more than 5,000 exhibits, many of them including hundreds of specimens of work or products, had been collected. Since that time many have been added, until the total number of catalogued exhibits is more than 70,000. The whole exhibit cost more than $1,000,000, and all but $200,000 has been paid by the Insular Government. As chief of the Bureau of Insular Affairs, which is the clearing-house in the United States for the Philippine Government, Colonel Clarence R. Edwards, U. S. A., has given the Philippine display his personal attention from its inception. Mr. Edmund A. Felder is the executive officer of the Philippine Exposition.

Thus the American people may make a thorough study of the Filipinos, from savages to educated teachers and artists. The whole industrial and agricultural resources are set forth. The natives have displayed pride and enthusiasm in the work. They have showed too, that they are ready and willing to adapt themselves to our civilization and our culture.

THE SKIN TENT IN WHICH THE PATAGONIANS LIVE

HAIRY AINU, THE ABORIGINES OF JAPAN, AT THEIR HANDICRAFT

JAPAN'S EXTRAORDINARY EXHIBIT

A WONDERFUL DISPLAY THAT TELLS THE MOST REMARKABLE STORY OF COMMERCIAL AND INDUSTRIAL ACHIEVEMENT IN MODERN HISTORY

BY

ISAAC F. MARCOSSON

WHILE the Japanese soldiers and sailors at the front use the latest inventions of warfare, their countrymen at the Exposition are exploiting the arts of peace. The Japanese exhibit tells the whole story of the empire's development with a chapter of industrial achievement and commercial expansion in every building.

"I can't lose sight of the Japanese flag, and wherever I turn I see a Japanese exhibit," said a visitor after a week's inspection of the Fair. Wherever the flag of the rising sun flies there is a polite Japanese who has something to show and something to say about it. The Japanese were the only foreign exhibitors who were ready when the Fair opened, because they planned their exposition campaign with the precision of a large business undertaking. Nearly every stick of wood used on their exhibits was brought from Japan, and was put up by Japanese laborers.

The history of the exhibit is significant. When the Japanese Government formally accepted the invitation to take part in the Fair, the belief was, even then, that war with Russia was inevitable. Other nations might have declined in the face of a costly war, but with a characteristic spirit of commercial enterprise and national pride they decided to make a display at St. Louis which should reveal to Western civilization the social and economic progress of the people. The Imperial Government appropriated $800,000 for a national pavilion. But that was a small part of the task. The business firms of the country clamored for representation, and they have made exhibits in a way that is typical of the people.

THE NEW BUSINESS SPIRIT

In every city and in many of the smaller towns of the empire chambers of commerce and associations of business men have been formed to create new industries and to foster and protect old ones and to export products wherever possible. They have coöperated for the extension of the national commerce. The product of this allied industry, therefore, is the Japanese exhibit at St. Louis, the result of a manifestation of Japanese character which must be reckoned with in the struggle for the commercial supremacy of the Far East.

Every Japanese exhibitor at the Fair, from the rich Tokio manufacturer and ship-owner to the modest carver who puts a lifetime of effort in a single piece of work, is a member of the Japan Exhibit Association. This association is an example of the new Japanese business spirit. A week after the government decided to make a display at St. Louis a meeting of representatives of all the commercial associations of the empire was held at Tokio. A business organization was made whose objects were to consolidate the exhibits and to provide a fitting appointment for them. The government appropriated a sum out of the Fair budget to assist the association in its work. Representatives of the associations were sent to St. Louis, and fully a year before the Fair opened, in every quarter of the empire, men and women were working to make and to collect the exhibits.

There are two kinds of exhibits—those made by chambers of commerce or allied business interests, and individual displays. Take, for example, the display of the Kioto Chamber of Commerce. It is a model Japanese house in the Varied Industries section, and known as the Kioto salon. The wood and bamboo was grown in the Kioto province; it was built by Kioto workmen; it was decorated by Kioto artists and furnished by Kioto merchants. It is Kioto's resources epitomized. Take the exhibit of the Association of Colliery Owners of the Provinces of Bozen and Chikuzen. It represents a capitalization of $2,000,000, and fifty mines. It shows specimens of its ore and twenty pictures of the largest collieries. The objects of the organization are to promote the mining industry, to improve trading and transportation facilities, and to publish statistics. Wherever you go in the Japanese sections you find these examples of business coöperation and the desire to display attractively and completely the nation's resources.

TRANSPORTATION

The best way to see the Japanese exhibit is to follow the various sections in the regular order of the buildings in which they are displayed. As good a plan as any is to begin at the Palace of Transportation. The Japanese transportation exhibit occupies the whole southwest corner and extends 200 feet down the main aisle.

The scope of Japan's transportation and communication service may be seen on the relief-map of the empire, 100 feet long, which is in the centre of the section. Fifty years ago such a map would have shown only the public highways over which the men drew the jinrikisha—the two-wheeled cart. There were no railways and no telegraph or telephone lines. But this map now shows a network of railways and wires, connecting thousands of post-offices.

Commodore Perry carried the first telegraph instrument to Japan in 1852, but it was not until 1869 that the first telegraph line was put in operation. It was worked by experts sent from England. The natives looked upon the line with superstitious fear and tore it down. It was necessary for the government to guard it. Today, as shown by the relief-map, there are 60,000 miles of telegraph, over which 1,600,000 telegrams were sent last year.

Twenty years ago, when the natives heard an American locomotive whistle across the bamboo stretches, they fled in alarm to the woods from the monster. The first line was eight miles long. The total railway mileage in Japan is now 4,026 miles. The capitalization of the railroads is $160,000,000. One-third of the railroads are owned by the government. Nearly all the 1,350 locomotives were made in England and the United States.

One of the most significant things explained by the relief-map is the wonderful growth of the postal service. Until 1871 letters were rare in Japan. In the feudal days only the lords were able to communicate with each other, by using scores of their retainers. As late as 1870 messages were carried from city to city by runners selected for their speed and endurance. But as soon as they acquired a Western postal service it grew with amazing rapidity. There are now

5,097 post-offices in Japan—or one for every 8,873 people. The postal exhibit includes uniforms of the Japanese postmen, who last year delivered 816,000,000 pieces of mail of all kinds. The development of the postal service has meant an important economic advance, as is shown by the exhibit of the work of the postal savings banks. At every post-office is such a bank, where savings-stamps ranging in value from one cent to fifty cents are sold. Thousands of school-children are among the depositors, who now number 2,000,000 and whose total deposits aggregate $11,000,000. But the postal service has gone a step further in public education. Through it thousands of papers and magazines are sent every year to the interior agricultural communities, and traveling libraries are enabled to reach many people. Nothing is more typical of the general advance of the Japanese people than this exhibit of its transportation and communication.

Alongside the relief-map of the empire is a relief-map of Formosa, Japan's colony. It shows six steamship lines between the empire and the colony. Another relief-map shows the Korean and Chinese coast. The map ends just beyond Port Arthur. "How about Mukden and Harbin?" I asked a Japanese in charge of the exhibit. "Just wait a little," he replied; "the war is not over."

As you leave the large maps and pass between the bamboo gates that separate them from the other part of the exhibit, you see the flag of the Japan Mail Steamship Company, which has the largest exhibit in this section. The flag has two red bars on a white field, and it stands for a corporation with a capitalization of $11,000,000 and owning eighty vessels of 259,963 tonnage. Under its flag Japan's commerce has gone around the world. The company has equipped an elaborate reception room for the inspection of visitors. It is an enlarged first-class saloon of one of their steamers, and is an ornate specimen of Japanese decoration. It was designed by Mr. Kawashima, a court artist. In it Japanese architecture is combined with European furniture. The walls are of gilt wood with carved chrysanthemums interlaced with vines. On the brocade hangings are embroidered peacocks and chrysanthemums. The ceiling is exquisitely carved. You can sit in the midst of this reproduction of Oriental luxury and watch the large locomotive puff and hiss at the testing-plant of the Pennsylvania Railroad fifty yards away.

With models of transoceanic steamers, with cross-sections of cabins, with sea-route charts, and with tables of statistics, the whole astonishing growth of the Japanese merchant marine from the primitive junk in 1860 to twin-screw 5,000-horse-power ocean steamers in 1902 is shown. Fourteen hundred vessels, 969 of which are steam, fly the Japanese flag on the high seas. Formerly the large steamers were foreign built, but the newest ships of the Japan Mail Steamship Company are all built at the Yokohama and Nagasaki yards.

VARIED INDUSTRIES

At the entrance of this section, with bronze and porcelain lanterns as outposts, is a reproduction of the ancient temple of Nikko, in front of which are draped the Japanese and Exposition flags. Like a pagoda, the temple has a second story of bamboo. The detail of the woodwork is carving representing chrysanthemums, dragons, and catalpa leaves. Instead of shrines, the temple is fitted with large glass cases, where the most delicate and exquisite examples of Japanese keramic art, embroidery, and tapestry may be seen. In the west case, for example, is a pair of cloisonné vases, green and gold, with chrysanthemums, valued at $10,000. The cloisonné pottery, in which the Japanese excel and which is represented by hundreds of vases, has been made in Japan for four hundred years. The designs are enameled on metal and highly glazed. The Satsuma pottery, which is displayed in great profusion, had its origin three hundred years ago in this fashion: A Japanese general brought a Korean prisoner to the Satsuma province. The Korean modeled a vase with soft clay and then burned it. It was a process new to the Japanese. They induced the Korean to teach them. This was the beginning of an industry which now employs thousands of people and by which Japanese art is represented all over the world.

Radiating from the temple in fan-like shape are long rows of cases and shelves where the best specimens of Japanese industrial art are displayed. To the left are the screens, many exquisitely embroidered or painted with birds and flowers; metal-work, pewter and silver articles; to the

right is the lacquer-work, which for seven hundred years has represented patient Japanese industry and art, and which last year amounted to $3,000,000 in value; ivory carving, likewise an ancient art; porcelains and lamps. To see the Delft ware would give the impression that it was a corner of the Holland section. The Japanese claim that they originated the Delft blue; that the Dutch traders of the seventeenth century who visited the Island Empire acquired the art and took specimens of it back to their country, where an historic industry was established in 1635.

Down the centre aisle of this section, and past row after row of stately vases and impressive bronzes, you suddenly come upon a model Japanese house standing amid the many wares. It is near a door, and the breezes make the bamboo hangings rustle. Like the whole Japanese section, it is cool and comfortable. It is the Kioto salon, and is the exhibit of the Kioto Chamber of Commerce. It is built of wood and bamboo, with the simple lines of the conventional Japanese architecture. There are two rooms, whose decorations reflect the peculiar symbolism of the people. The east room is the spring room, and the paintings and hangings have the very breath of the springtime about them. The crêpe hangings are embroidered with cherry blossoms, and the tapestry shows the snow-capped mountain of Fuji gleaming through the spring mist. In the picture corner (for in a Japanese room only one picture is hung) there is a graceful spring landscape. Instead of chairs, there are low stools with green upholstery. On the shelves are Satsuma vases with spring blossoms. Sliding bamboo doors separate this apartment from the autumn room, where the decorations are in harmony with the fall season. Maple leaves in the richest of red autumnal tints are worked in the matting on the floor and in the hangings. The screens and walls show white and yellow chrysanthemums. The upholstery is brown. The whole effect is quiet and restful.

In contrast with the simple dignity of this house is a sumptuously furnished Japanese room a few feet away. The walls are elaborately carved lacquered wood; the heavy silk hangings show events in Japanese history; the chairs, patterned after the temple furniture, are massive gilt. The ceiling is a wonderfully carved representation of a flowery heaven, with angels disporting among the blossoms. The value of this room, with its appointments, is placed at $45,000. It is the most costly single Japanese exhibit.

Richly carved cabinets and chairs, brass and bronze family shrines (which are set up in every Japanese house), massive urns, delicate porcelains, lacquer, and beautifully embroidered gowns complete an exhibit that represents a nation's industries that last year were worth $125,000,000.

MANUFACTURES

The Japanese section in the Palace of Manufactures shows the industrial achievement of the nation as completely as the Varied Industries section displays the ancient arts. Here, again, the flag of the rising sun first greets the visitor, and as you enter the exhibit you realize fully the extent and meaning of the fact that surprised the manufacturing world—that Japan's manufactures last year were worth $85,000,000.

Japan's principal product is silk, and the whole process of its making, from the culture of the silkworm to the finished goods, may be intelligently followed. But silk was not always the nation's chief product. How its manufacture began is another typical story of Japan's development into a successful commercial people. Eighteen hundred years ago a Chinese prince brought the first Chinese silkworms to Japan. The worms were fed with mulberry leaves. When the raw silk was obtained, Chinese weavers taught the natives how to weave cloth. From this beginning has grown the raw silk industry of Japan, which last year produced a yield worth $40,000,000.

A large part of the exhibit, therefore, is devoted to silk. Cross-sections of worms and cocoons of heroic size give the visitor an idea of the origin of the silk. There is a large model of a silkworm nursery and of a silk factory. Scores of Japanese men and women in native costume are shown at work. You will see here a series of photographs of scenes in the Imperial Silk Conditioning House, at Yokohama, where all silk is inspected by government officials and where a bureau of education for silk-workers is maintained. Sericulture is taught at the Imperial colleges of agriculture.

Having seen the origin of silk and the process of its treatment in the mills, the

visitor may go to a dozen cases showing what becomes of it after it leaves the mills. Rolls of flowered silk worth $300 each may been seen. In the shape of dresses, kimonos, tidies, fans, screens, handkerchiefs, and shirts, the silk fabrics displayed are the work of Japanese men and women. The Japanese dyed silk has symbolic figures with picturesque effects.

But silk is only one part of the display. Wherever Japan is known her lanterns, parasols and fans have gone. When you reach the fancy-goods section in the centre you get the impression that a Japanese fête is being held. Overhead are swinging strings of gaily colored lanterns interspersed with opened paper parasols. Japan supplies the world with paper fans, and the business last year amounted to $600,000. The value of the parasols made last year was $1,500,000.

For hundreds of years the Japanese have made fireworks. The American, however, is struck with the daylight fireworks, displayed in many kinds. These are merely shells of paper inclosing folded tissue-paper. The shells are sent up in the air, exploded, and the tissue-paper emerges, opening into the shape of a fountain of color, a dragon, or a bird. The display of Japanese dolls, ranging from the little geisha girls to the large Mikado type, is a delight to the little ones. Some of these dolls are gorgeously dressed in silks and look like miniature empresses. The toys show that the Japanese child finds diversion in blocks and wooden houses as the American child does.

At the west end of this section may be seen the largest exhibit of matting ever made by Japan outside the empire. The fact that 30,000 people are engaged in weaving it, that over 10,000 acres are devoted to the special cultivation of the matting grasses, and that the value of last year's product was $2,000,000, show the importance of the industry. The processes from growing grass to silk-woven matting are shown by product and pictures. There are 300 rolls of matting of all kinds. Matting made of twisted grasses is displayed for the first time. Closely allied with matting is straw and chip braid. The Okayamaka Straw Braids Association, one of the new commercial organizations, shows hundreds of yards of straw braids. Chip braiding is made from pine shavings. The Japanese saw a sample of this thirty years ago. They sent several natives to Switzerland to learn the work. These natives returned and taught other natives. This was the beginning of an industry that, combined with straw braiding, does an annual business of $1,500,000. Three-fourths of the hats worn by American women are made of braids made and twisted in Japan.

Japan has no further need to import many kinds of surgical instruments. An exhibit of delicate steel instruments, made in Tokio, shows another important advance. A group of Japan-made cameras shows that the Japanese have applied themselves successfully to another industry.

MINES AND METALLURGY

At the entrance to the mining section stands a working model of the Mitsui Mining Company, eight feet high, equipped with steel-geared shafts, power station, huge chutes, and the latest mining machinery. Electric cars convey the ore from mine to colliery. Ten feet away is a model of the Kosaka Smelting and Refining Company, the largest copper producers in the empire. At this plant is the largest furnace in the world. Electrical apparatus for separating the ore is employed. These models tell the story of a notable development.

Coal and copper are the chief mining products, the output of coal last year being 9,000,000 tons, and Japanese mining capital aggregates $350,000,000.

A striking feature of the mining exhibit is a reproduction of the famous Takashima Mine, which is on an island near Nagasaki. A geological section shows how the Japanese miners have mined under the sea. Nothing, however, is more suggestive of the scientific character of Japanese mining than the exhibit of the Imperial Geological Survey. Organized less than twenty years ago, it has rendered a conspicuous service by classifying and analyzing soils and minerals, many of which are displayed. Under its influence the Mining Institute of Japan was organized to promote the science of mining.

Outside the exhibit, the visitor may see a gilt bar six feet tall, representing in actual size last year's gold output of 96,000 ounces. Alongside is a silver bar the same size, representing one-thirty-fifth the actual size of a bar weighing 1,855,000 ounces, the silver output for the same period. This

whole exhibit is a concrete result of new methods and new ideas in a country where mining has passed from primitive to latest methods in less than half a century.

EDUCATION

"What is the best building in any Japanese town?" I asked Mr. Matsumura, the Imperial Educational Commissioner.

"The school-house," he answered.

In this brief reply is summed up the progress of education in Japan, which this exhibit compactly shows. By starting with the kindergarten exhibit you can follow the Japanese child from elementary studies to the Imperial University, at Tokio. The paper-folding of children four years old is shown. Games, handiwork, and story-telling are the methods employed. Children from three to six years old are taught in the kindergartens. The school age in Japan is from six to fourteen years. There is a compulsory education law, and the statistics posted on charts show that 92 per cent. of the children go to school. The coolie's son has the same public educational advantage as the banker's child.

Every class of public schools in Japan has an exhibit. You pass from elementary schools to the secondary schools. After four years the pupil enters the higher common school, where the course is six years. The manual-training work, which is part of the public school work, is represented by numerous examples in wood-turning. The middle schools, corresponding with our high schools, are next.

In these, English is taught. In this exhibit you can see an English composition by a Japanese girl fourteen years old that is not unlike the same kind of work by an American girl of the same age. Tuition at the middle schools costs 50 cents a month. At the higher schools, corresponding with our colleges and universities, the tuition is $1.75 a month. Graduates of the higher schools go to the Imperial University.

The work of the Imperial Department of Education is shown by striking charts. One of these shows that in Japan there are 30,158 schools. These include institutions for the deaf, blind, and feeble-minded. There are 854 technical schools. In all these schools there are 126,712 teachers and 5,469,442 pupils, or one-tenth the entire population of the empire.

Specimens of work done in the technical and art schools show the constantly broadening culture of the empire.

ELECTRICITY

Following the order of buildings, the next Japanese section is in the Palace of Electricity, where, on a map thirty feet high and twenty-five feet wide, you see a reproduction of Japan's greatest engineering achievement, the Lake Biwa Canal, seven miles long and connecting Lake Biwa with the city of Kioto, the second largest city of the empire. It was planned and built by Japanese. It provides an important water highway, irrigates an extensive territory, and its power plant makes the electricity for Kioto. It cost $660,000. You can speak by long-distance telephone from Tokio to Kobe, 376 miles distant. In 1877 there was not a telephone in the empire. Today there are nearly 25,000 telephones in use. Model exchanges and the apparatus used in Japan are part of this exhibit. The remainder of the exhibit is composed of electrical apparatus invented by Japanese.

AGRICULTURE

As cotton is king among American products, so tea is king among the Japanese. In the centre of the agricultural exhibit stands a tea-house, the exhibit of the Central Tea Association of Tokio, composed of fifty-seven leading tea-growers. Over a hundred varieties of tea are shown. Figures representing dainty Japanese girls serving tea are in the centre of the house. Characteristic of the Japanese commercial spirit is the fact that a tea company sent 100,000 packages of tea for free distribution.

Significant of the new agricultural movement in Japan is the exhibit of the three government experimental farms which is in charge of an expert who spent several years in the United States studying the methods of our agricultural colleges. Rice is the cheapest and most popular food with the Japanese people.

The crops were frequently failures, and it became necessary to import large quantities. Through the work of the experimental farms a successful fight against crop-destroying insects has been carried on. Rice at various stages of its cultivation is shown, together with specimens attacked by insects. There

are now thirty-eight experimental farms in Japan, which are really agricultural training-schools. The rice investigation is only part of a valuable work which includes forestry and irrigation.

That Japan's tobacco industry is important is shown by the large display of leaf tobacco in this exhibit. Last year's crop was 60,000,000 pounds. Next to the tobacco are the fruits, mostly persimmons, which are five times as large as those raised in the United States; pears, apples, and oranges. The largest crop is oranges. In this exhibit you may see beer brewed after the German fashion, at Tokio, and *sake*, the Japanese wine. *Shoyu*, the Worcestershire sauce of Japan, is displayed in a thousand bottles arranged as a pyramid, while near at hand are canned goods of many varieties, prepared and packed in the most modern tins. Indeed, the whole exhibit is like a section of an American delicatessen shop.

FORESTRY AND FISH

From the Palace of Agriculture a short walk takes you to the Forestry, Fish, and Game Building, where the fertility of Japanese resources is again proved.

Entrance to the Japanese section from the north is through a reproduction of a temple made of twenty different kinds of native wood. Much space in the exhibit is devoted to the work of the Imperial Bureau of Forestry. One-half of the Japanese Empire is wooded, and the bureau has undertaken to protect this. The forests are divided into utilization forests, to be cut, and protection forests, for the preservation of trees and the pleasure of the people.

Since bamboo is one of the articles most used in Japan, the display of it is considerable. Twenty varieties are here. All stages of its growth, from tender shoots, which are canned and which are as delicious as asparagus, to logs used for the construction of houses, may be seen.

The sportsman finds much to divert him in this section. Japanese fishing-tackle is shown in many varieties. Nearly all the bamboo fishing-poles used in the United States come from Japan. Following the example of the United States Fish Commission, Japan has established a fish association to protect the fisheries and punish the unlawful catching of fish. Charts showing the fishing-grounds are exhibited by the association. There are small models of Japanese fishing-boats. Salmon, mackerel, and sardines are canned extensively in Japan, and the exhibit of this canned food is large.

THE JAPANESE PAVILION

With a visit to the Japanese section of the Palace of Fine Arts, where the best examples of the works of the modern artist, sculptor and potter may be seen, the general survey of the Japanese exhibit is complete. From building to building the whole national industrial progress and achievement have been followed. To crown this trip through Japan with the final picture representing the color and beauty of the island landscape it is necessary to go to the Imperial Pavilion on the hill just south of the Exposition power-house, easily located by the Ferris Wheel, the unsightly background for a lovely spot.

When you pass between the massive feudal wooden gates, emblazoned with the royal crest, which mark the entrance, you leave behind the prosaic din of the Exposition and enter the domain of Japanese landscape beauty. On the left, gay with red paint, is the Formosa bamboo tea-house. Following the main walk, you reach the top of the hill, where, from a tall flag-pole, flies the Imperial flag of Japan. An Exposition panorama is spread before you—to the north, beyond the smoke from the power-house, is the huge Palace of Transportation, and beyond that are the tall towers of the Palace of Machinery. Far away to the right rises the stately dome of Festival Hall, while to the left is the imposing group of foreign buildings, with their bright flags fluttering amid the gardens.

But much fairer is the scene about you skirting the top of the hill. Suddenly you are in the midst of what the Japanese have not ill named, the "Enchanted Garden." A small lake gleams in the sunlight; at one end is a little waterfall, and in the centre, on a miniature island, is a summer-house. Iris grows in the water, and overhanging it are dwarf pines, brought from Japan. Along the hillside this lake winds its way between hedges and flower-beds. Metal cranes and quaint tall iron and stone lantern-posts are seen through the low trees. At the north side of the lake is a tea-house with wide galleries, where Japanese girls serve tea and where you can sit in the fragrant coolness and watch the play of the sunlight

upon the waterfall. Beds of chrysanthemums, peonies, and hydrangeas flash their color. Beyond the lake is a model Japanese house, whose bamboo shades and fresh, clean matting betoken comfort. Across the hill are the headquarters of the Japanese Commission, where twenty clerks are engaged in the business of routine work and where are also the main offices of the Japan Exhibit Association. Here, too, Baron Matsudaira, vice-president of the commission, a distinguished Japanese nobleman, receives the visitors, with stately courtesy, in a cool matting-hung room.

Near the top of the hill is a large pavilion used as general reception room. It is made of wood and bamboo, and contains examples of Japanese costumes from the feudal days of the sword-carrying Samurai to the present time. In the centre of the room hang portraits of the Emperor and the Empress. The only hint of war in the entire Japanese exhibit is in this room, in the display of the Red Cross Society, consisting of army and navy emergency medical boxes and pictures of Japanese nurses.

In arrangement and detail the national pavilion shows that, to the achievement of commerce and industry, the Japanese have brought the perfection of landscape beauty, another expression of the genius of a people who, in the art of war and the pursuits of peace, are steadily making their way to a large place in world power. For this is the real significance of the Japanese exhibit at St. Louis.

A MEASURE OF GERMAN PROGRESS

A VERY FULL AND VARIED DISPLAY OF RESOURCES AND ACHIEVEMENTS — A MARKED ADVANCE IN TASTE — AN UNPRECEDENTED EDUCATIONAL EXHIBIT — THE STORY OF A PROGRESSIVE PEOPLE

BY

JAMES GLEN

AMONG all the foreign nations exhibiting at the Fair, only Germany matches Japan in richness and splendor of display. In every "palace," in a broad, uncrowded space, blue-uniformed German guards walk about under German colors, in charge of exhibits that explain how the German Empire has forged to the front among the nations since 1871. Not merely does the German Building fill the eye with its imperial halls and stately chambers—this reproduction of Queen Sophie Charlotte's eighteenth century castle, filled with the treasures of William II. But German industry sets forth the activity that has already outstripped, in some departments, the industrial efforts of England. German mining and German farming and German forestry tell of German greatness.

All the unequaled sweep of German education, classical, medical, technical, scientific, historical, is shown in models, appliances, specimens, and pictures, with unprecedented minuteness. The highest-soaring balloon, the fastest railway car, the swiftest steamship—these are German. Germans can teach others how to live—German rooms, German carpets, German furniture, German ware, German food, German drink, are lavishly presented, with suggestive effect. Five-sixths of the German domain is in colonies oversea; the methods and results of German colonial development are made clear in interesting object-lessons. German art shows an uplift; its evidences are here. By the direct command of the German Emperor—in some measure, to reciprocate the American hospitality to Prince Henry, but mainly to tell America what Germany is—the German nation has outspread its resources and achievements in a picturesque and significant array. Wherever the red-and-black-and-white colors entwine the pillars of a section at the Fair, or the black Prussian eagle hangs overhead—and this is almost everywhere you turn—German genius has exploited itself richly and instructively.

There was an interesting idea behind much

of this. Traditionally, the Germans have been known as a people fond of the pleasures of the table, but untouched by the higher refinements of living. But since the federated States became the German Empire a new esthetic sense has developed. Of this, the nation has become more and more conscious. A new, distinctively German, art has begun to take shape. The Imperial Commission resolved, accordingly, to exhibit to the world at St. Louis what this Teutonic conception is. So, although the display of German foods in the Palace of Agriculture—the attractive dried vegetables, the bottled sausages, the conserves, and the fragrant, inimitable German cakes, the beers, and the wines obtainable by a thirsty visitor—although these give indication of the attention paid the table, the products of art and handicraft are more spectacularly displayed. Subdued and restful tints make the color schemes of furnishings in the German Building and in the German rooms in the Palace of Varied Industries. Carvings and moldings are chaste and satisfying. The furniture is simple. Candelabra, lamps, balustrades, and pottery are restrained in ornament and graceful in form. "Not too much," is the motto everywhere. Even the gifts to Emperor William from the German cities—exhibited in the German Building—are rich rather than gorgeous, and it was a controlled imagination that designed the clock which the Emperor sent as his special contribution to the Fair. Stateliness or comfort, or quiet beauty, then, is the mark of the ubiquitous German exploitations of the best German way to live.

Next, the German exhibits stamp a deep impression of the preëminence of education in the empire. One sees in the Palace of Education comprehensive museums of laboratory, dissecting-room, and lecture-hall equipments from universities and schools. But one also finds in the Palace of Agriculture a food- and drug-testing laboratory, provided with elaborate appliances and instruments; in the Palace of Electricity, a laboratory equipped for every possible test, from a delicate experiment in electro-chemistry to a comparison of dyeing substances; in the Forestry Building, all the necessary means for studying trees —and so on, indefinitely. German study is not confined to the reading of scholarly tomes or the making of purely scientific researches—it concentrates, too, on the practical business of life. Germany is the university of the world; the St. Louis Exhibition is designed to show that its educational reputation is being maintained.

Yet the Germany that makes this demonstration is but a new community. A half-century ago it was an aggregation of agricultural states, producing almost everything they needed. Now a nation, it imports one-fourth of its food, largely from the United States. Its population is a little more than 56,000,000 individuals, over whom is coming an economic change. From 1882 to 1895, for example, the agricultural population decreased about 4 per cent., and its industrial and its business classes increased 26 per cent. and 32 per cent. In the same period, industrial efficiency improved so greatly, through the use of machines, that, though the number of iron-miners decreased, the output increased one-half; and in beet-sugar production there was a decrease of two-fifths in the number of persons employed, while the production trebled. The national income increased one-quarter in the last five years. From 1880 to 1902, imports grew 104 per cent. and exports 62 per cent. In 1891, German ships carried but 52 per cent. of the German traffic; in 1901, they carried 59 per cent.—the gain at the expense of England. Germany has increased its business with the United States until it now imports more from us than from any other country, and exports more to us than to any other country except Great Britain and Austria-Hungary. The exhibit at the Fair, then, is the exploitation of a country transformed from an agricultural community into an industrial one—for the purpose of bringing its significance home to the country (one-eighth of whose population is German) with which it does the greatest total business.

The German Government Building, in its dull tone, is one of the most distinctive buildings at the Fair. It is surrounded by terraces and gardens, and to the rear is a German wine restaurant.

The educational exhibit is wonderfully comprehensive. Plans, maps, and models show the excavations that German scholars have made in Babylon and Egypt; for, in this field of research, Germans have been first. Pictures of German universities are shown. In the Palace of Electricity is a full-sized model of an alchemical laboratory of the fifteenth century, and, directly opposite, the laboratory

of Liebig, the father of modern chemistry, as it stood in 1835. Near-by, beyond a library of chemical authorities, is arranged a collection of the most highly developed chemical apparatus in the world—much of it of recent invention. Nor is this merely academic. The manufacture of chemicals is an important German industry, and the appliances—and materials, too—exhibited here and in the Palace of Education have commercial importance, for one German steel mill employs 100 chemists. Novel electro-chemical apparatus is shown—measuring instruments and electrical furnaces. Indeed, chemistry is exploited to the last detail.

There are preserved biological and anatomical and pathological specimens, models, and pictures illustrating German methods of teaching medicine, and also hospital equipments in the Palace of Education. One need not go to Germany to learn even the minutest point in German school and university education. It is all set forth in the education exhibit from bacteria down to the A B C, and back again to the kind of kayak one should take on an Antarctic expedition.

The German art is taken up in another article: it need not be considered here. In the Palace of Varied Industries are characteristic examples of German engravings, sculpture, architecture, and pottery. In the Palace of Liberal Arts, German printers present marvelous processes in a craft that the Germans have brought to a high point of skill. One firm exhibits seventy automatic printing-machines and specimens of books dear to the book-lover. The inventor of the paper matrix-plate shows printing inventions patented only this year. A firm of photographers displays examples of photographs on sensitized wood and leather. Germany publishes more books than any other country, and makes the best maps in the world; all kinds are displayed in sections in the Palace of Liberal Arts. Here, too, are marvelous scientific instruments—earthquake measurers, tubes for X-rays, vessels for liquid air, kite balloons, glass transparent to ultra violet rays, which will not pass through ordinary glass, and improved calculating machines. There are heat-proof pianos for the tropics, and other musical instruments.

The fullest possible collection is exploited of the chemicals made by the German manufacturers, who use the apparatus shown in the education exhibit, and employ the chemists trained in the university and scientific school laboratories. One may see almost every chemical known to man, from essences, oils, and dyes, to serums and rare metallic products.

Not even in the United States is so much attention paid to harbor works, dams, and canals, as is proved by the models and diagrams of the German engineering achievements.

An exhibit of the amber industry is interesting. And the exhibit of reproductions of the work of German silversmiths and goldsmiths recalls a story. When the Kaiser presented the Germanic Museum at Harvard with plaster casts of German sculpture and architecture, German citizens took the cue to make similar gifts of models of German craftsmanship in precious metals. The result is in the Palace of Varied Industries.

And, of course, Germany's unequaled toys are presented. The multifarious objects for furnishing and decorating homes and buildings could not be described in a volume; but note how well Germany proves that it knows how to live.

In the Palace of Transportation the display of models of the fastest steamships in the world speaks significantly of German trade intelligence. Germany is trying to win the trade of the world; in one light, its huge exhibition at the Fair is clever advertising. But Germany has found that, if a steamship can carry people or letters between New York and Hamburg in one day less than between New York and Liverpool, German business men have the immeasurable advantage of a 24-hours' start. The fast steamships, then, are a direct, conscious, and well-maintained assault on British commercial supremacy. Nor is Germany behind even France in automobiles—though France takes the palm at the Fair—nor behind the rest of the world in land transportation.

The exhibit in the Palace of Agriculture teaches one sharp lesson. In the United States complaint has been made of rigid German inspection of imported American foods—especially of meat. But it is clear that this is no anti-American discrimination. A laboratory is fitted up near the exhibit of German foods which reproduces the State laboratories maintained in Germany to test domestic foods and drugs as carefully as imported products. The German Government will not permit, as we permit, the adulteration o

foods; and it publishes the formulas of drug concoctions and patent medicines. Violators of the pure-food laws go to jail. One may see in the agricultural section how the tests of foods and drugs are made. Beyond is a section which gives a most accurate representation of German methods of reclaiming marsh lands, cutting off the peat for uses that range from torches to mattress fillings, and then growing crops on the layer of soil exposed. It is irrigation turned backward; the models and large paintings picture vividly how morasses in East Prussia have been turned into prosperous farms.

Nor is all the German utilization of natural resources confined to Europe. Step into the East Africa section. Here is an outfit of an African explorer: there are slabs of polished ebony. Crude African weapons are ranged behind a life-sized figure of a reclaimed Negro in khaki—one of the German colonial soldiers. Photographs tell suggestively the thickness of the forests through which German engineers have pushed the East African railway. Within the walls of this room, a visitor is transported to the heart of Africa; and he sees there how Germany is modernizing the wilderness and reaping its fruits. Altogether, the agricultural section is fascinating. There is a little human touch in the pride one of the exhibitors of food takes in a letter sent back from the recent Scandinavian trip of the Kaiser: "Your preserves, with cooking arrangements, have been tried on an outing into the hills which His Majesty the Emperor made with some of his suite yesterday, and proved very good."

In the German Section of the Palace of Varied Industries there is a series of forty-eight rooms, each one designed and furnished by an artist or architect—examples of home decoration and furnishing which show the taste of modern Germany. In Germany, at least, the days of the wholesale manufacturer of furniture seem numbered for the use of the discriminating, since modern decorative rooms, in which every piece of furniture is unique and hand-made, may be fitted up for less than double the cost of the ordinary hodgepodge from the store, and the value in durability and comfort is increased a thousandfold.

German mines and mining methods are elaborately shown in the Palace of Mining. Hospitals, sanatoria, insurance facts and figures, public health provisions, and municipal improvements are notably set forth in the Palace of Education. And, after a busy day of sight-seeing that an inspection of the whole German exhibit will fill with entertainment and instruction, a dinner within the cool precincts of the German Tyrolean Alps is one of the delights of the Exposition, as a dinner at the German restaurant is the luxury of the Exposition.

ENGLAND'S EXHIBIT THE STORY OF EMPIRE BUILDING

MASSED in every Exposition building, under the grouped flags of the United Kingdom, are the concrete examples of Great Britain's industrial achievements. In the Palace of Varied Industries, looms and spindles whirr, showing how raw cotton is made into spun yarn. In the Palace of Agriculture, English machines kneed dough and mold bread. The whole British exhibit, therefore, comprises not only products, but processes.

Until three years ago, England led the world in the production of coal. Now the United States is first. We export coal to Newcastle. But, in the Palace of Mines and Metallurgy, Great Britain shows, with maps and statistics, with improved electric mining-lamps, with huge lumps of coal, and some wonderful photographs of mines and miners, the whole extent of her coal industry that employs 900,000 men and produces 230,000,000 tons a year.

The charm and beauty of England's textile art and furniture are well expressed in the Palace of Varied Industries. At the west end of this section you suddenly come

on the model of an English country house, fresh and white, with a long piazza extending nearly all around, with dainty curtains at the leaded windows, and with ease and comfort stamped all over it. While the proportions of the conventional English country house have been maintained inside, the appointment of many of the rooms is luxurious. For example, the salon is a noble, high-ceiled room, with gorgeous Empire furniture. But beyond is a simple bedroom in blue, with cozy seats in the roomy bow-window. Two of the rooms are models of the royal apartments on the "Ophir," on which the present Prince and Princess of Wales made a trip around the world. In these state-rooms luxury is combined with comfort. The color of the boudoir is blue, and the hangings are silver and blue. In the dining-room is some rare old Wedgwood, standing in an old-fashioned mahogany cupboard.

Beyond the country house is the imposing display of British laces, silks, and embroideries, organized and made by the Royal Commission to illustrate, by means of costumes, hangings, and furniture, the employment of these textile fabrics for definite purposes. The exhibit is grouped in a noble-looking court, designed after the style of Sir Christopher Wren, and flanked by high glass cases. The exterior of the court was designed to show a series of heroic panel-paintings, with costumes from the sixteenth to the nineteenth centuries. Over the entrance of the court are the Royal Arms of Great Britain. The panel-paintings are adaptations, by students of the various schools of art in England, of famous pictures that show costumes typical of historic periods.

Ranging from the schools of London, where last year 884,610 pupils were enrolled, to Oxford and Cambridge, with the richest of scholarly traditions, the whole British educational system may be traced in the comprehensive exhibit in the Palace of Education and Social Economy. With drawings in color and models, the two most striking innovations in the system—nature study, and drawing from original objects instead of models—are effectively explained. The technical schools for the poor children of London, located in congested districts, show an educational work that is rescuing boys and girls from crime and starting them on useful and fruitful careers.

A touch of regal splendor and magnificence is given the whole British exhibit by the Jubilee presents of Queen Victoria, which are displayed in a long hall on the second floor of the Hall of Congresses, which forms one of the wings of the Palace of Administration. The building is permanent and fire-proof. Here, in twenty cases, guarded day and night by London policemen, typical "Bobbies," the pick of the force, are the princely tributes to a beloved queen from every province of her far-stretching empire. The gorgeous be-jeweled ivory caskets from Indian rajahs stand alongside the illuminated addresses from the London Jews. Canada's souvenirs are with Ceylon's. One of the presents is a tiger's skull, mounted with gold watch, barometer, inkstand, and penwiper, the gift of the Prime Minister of Hyderabad. The largest present, perhaps, is a massive ivory casket, supported by four Corinthian pillars of gold and ornamented with placques of gold. Upon the lid is a gold spray, composed of the rose, the shamrock, and the thistle. These emblems are studded with 212 diamonds —polished and rough—from the Kimberley mines. The casket is lined with ostrich feathers, and has a case of crocodile hide. It is the gift of the town of Kimberley. The total value of the presents exhibited is $6,000,000.

Distinctive among all the foreign pavilions is Great Britain's. Occupying a commanding position at the entrance to the Section of Foreign Buildings, it looks more like the wing of an old palace set amid an English garden than a temporary structure at a world's fair. It is a reproduction of Queen Anne's favorite retreat, the Orangery of Kensington Palace, and is built of red brick and stone. A structure of dignity and fine proportions, it is at once simple and strong.

After the stately grandeur of the interior of the pavilion, it is pleasant to turn to the formal garden that surrounds it. Here an attempt has been made to reproduce the kind of garden attached to an English mansion during the reign of William and Mary. The lawn is a typical British lawn, well-rolled and smooth. There are graceful terraces and shady avenues. Here and there are trim flower-beds, gay with color. But more characteristic are the yews and the box-shrubs clipped into the shapes of birds and animals.

It is a worthy setting for the representation of a mighty nation at a great fair.

OTHER FOREIGN COUNTRIES

THE pink tint of the French Building—a replica of the Grand Trianon—gives it a distinction heightened by an aloofness secured by a French garden, interspersed with statues, which surrounds it, and by a fourteenth-century iron gate at the entrance. Historical data have shown that Louis XIV.'s architect planned groups of statuary on the high balustrade of the Grand Trianon which were never placed there. These have been supplied upon the imitation at the Fair, and the spirit of the modern French republic is expressed by added representations of the arms of the nation, flanked by a figure of Armed Peace and a figure symbolical of French commerce. The building is at one end of the long main avenue of the Fair—at the other end of which is the Government Building.

Within, apartment succeeds apartment, on the ground floor only, around three sides of a quadrangle. One contains busts of famous French writers and statesmen, but in the main the whole supremely luxurious series is a commentary on the height to which the French were led by pleasure-loving kings to bring the refinements of living. Gorgeous tapestries, intricately decorated furniture, allegorical paintings, beautiful Sèvres porcelain, sculpture that gratifies rather than inspires, elaborately decorative carving, all the concomitants of beauty-loving ease, are gathered in overflowing plenty. The city of Paris, however, has a room that is explanatory, informing, commemorative. In this building France exploits its history, its literature, and its art.

France contributes an unmatched high-pressure engine in the Palace of Power and Machinery, an entertaining historical presentation of cables and cable instruments in the Palace of Electricity, and reaches its high-water mark in the really beautiful automobiles in the Palace of Transportation. Since the Gordon Bennett race was won by a French automobile, many of these have been bought by Americans. The French exhibit, taken all together, is formal, but it is the greatest France has ever made abroad.

You cannot escape Canada. Its building is on the main traveled road that leads to the doors of the Palace of Agriculture, and just below the floral clock. Crowds are constantly streaming in and out, and passers-by stop to rest on the hospitable verandas. Behind is a building given over entirely to the Canadian forestry display. Nobody can pass the effective Canadian agricultural exhibit without stopping to comment, and a striking collection of Klondike gold, in the Palace of Mines—electrically illuminated in a glass-fronted safe—is but an inescapable invitation to learn of the other mineral resources of British North America from the visible proofs set out beside it. The Canadian Department of Agriculture has a regular Exhibition Bureau.

Walk straight through the Canadian Building to the rear. You step into a well-lighted picture gallery. The first painting on the left shows a Northwest pioneer breaking his first furrows of Canadian soil. Step by step the paintings recite his rise to prosperity. The last shows a fruitful farm, with a comfortable residence, barns, herds, and wonderful crops. As you turn away from the final picture—they were all made from photographs of actual scenes—the door that confronts you leads into what? An immigration office! And already many an American farmer has studied those pictures (making vivid, as they do, the facts blazoned in the agricultural exhibit where he has fingered the heads of wheat and barley), has stepped into the immigration office, picked out a location on the huge wall-map of British North America, and made arrangements for transportation. Not for nothing has the Canadian Commission spent four years in forming their exhibit, gathering grain for their demonstration all the way from the Peace River country to the international boundary, and Canadian products from Vancouver to Prince Edward's Island. Canada at St. Louis means business.

Austria's National Building, with its blue-and-yellow walls, bright in the sunlight, greets the visitor as he comes from the Administration Building. Flanked by tall posts, surmounted by the Austrian eagles, and with

fountains playing on each side, this pavilion is one of the gayest of the group of foreign structures. The building is not only the headquarters of the Imperial Commission, but in appointment it illustrates, to a large degree, the artistic progress of the various countries composing the Austro-Hungarian monarchy.

When the Swedish Government was invited to participate in the St. Louis Exposition, along with all the other nations of the earth, the government declined to erect a national pavilion. But the Swedish people, who had thousands of kinsmen in the United States, wanted a building where their flag could fly, and where the exiles from home could find a haven during the Fair. Popular subscription lists were started all over the kingdom, and enough money was raised to erect the gay blue-and-yellow pavilion that stands next to Austria's. The subscriptions ranged from 5 cents to 5,000 crowns. The pavilion was designed by Ferdinand Boberg, Sweden's foremost architect, who volunteered his services, and is an enlarged reproduction of the home of a well-to-do Swedish farmer of the seventeenth century. A large central room is flanked by wings.

Just beyond the Swedish Building a broad red-and-white flag flutters from a staff. The flag is almost as large as the quaint little brick-and-tile cottage that stands behind it. It is the Holland pavilion, a model of the kind of house that Rembrandt lived in. This house was built by private subscription on the space originally allotted to Russia. The Dutch Government hesitated so long about making a national display that the people took up the matter. Many curious Dutch articles are shown.

The first railroad train on the European continent ran from Brussels to Antwerp in 1835. The Belgian national pavilion looks like a small railroad station with a dome. On the outside walls are panels with pictures representing views in Brussels. Under these pictures are inscriptions that show that nearly every international congress for the promotion of peace, health, literature, art, science, and religion was held in Belgium. The range of meetings is from the First International Congress of Hygiene, in 1854, to the first international meeting about sugar, in 1903. Belgium has concentrated all her industrial exhibits in this building. The interior is impressive. The dome is high and frescoed with the royal crests. On the walls are striking statistics of Belgium's industrial advances. Last year, for example, the output of steel and iron was 3,000,000 tons.

China's civilization is thousands of years older than Japan's, yet her exhibit at the Fair is one that could have been made two hundred years ago. Japan's represents the most advanced industrial achievements. China's building shows a primitive architecture; her exhibit, merely the formal things that Chinamen have labored on for centuries. The pavilion is a reproduction of a mandarin's home, with gay outposts of bamboo, near which flies the yellow flag with a black dragon. The house is gorgeously Oriental in appointment. The bedroom, for example, is a maze of silk hangings, bronze lamps, rich screens, and lacquered cabinets. All the rooms of the house open on a court. China's exhibit in the Palace of Manufactures is large and crowded with carvings representing junks and pagodas; old armor, embroidered silks, ivory pieces of curious carving, and sandal and teakwood boxes, that give out pleasant odors. But these things are old as the great Celestial Empire. No advance is represented in the exhibit; only the adherence to a tradition of patient mechanical work.

Mexico determined to give, at the Fair, a new idea of her progress from national lethargy to an industrial activity, and she has succeeded. In the largest foreign space in the Palace of Manufactures she shows a significant development. Twenty-five years ago nearly all the shoes worn in Mexico were imported from the United States. The display of shoes from Mexican factories shows the establishment of a score of factories, and a product that compares favorably with our own. Formerly, Mexico imported all her cashmere cloth; now she makes it. Typical of the industrial expansion of the country are exhibits of handsomely carved furniture, silks, plumbing supplies, and hats. Onyx, which is a leading article of export, is displayed. The nation's growth in transportation, postal service, and engineering is pointed out in the transportation article printed elsewhere in this number. The national pavilion is a replica of a Mexican house, contains a court, and is surmounted by a tower. Surrounding the building are thick cactus-beds. A large portrait of President Diaz, the republic's foremost citizen, hangs

in a conspicuous place. The whole effect of the Mexican display is to impress on one's mind the steady progress of the nation.

Crowning a hill near the Administration Building, and commanding a fine view, Italy's pavilion is one of the most spectacular of all the foreign group. It is built of white staff after the style of the classic ancient Roman buildings. In front is an imposing colonnade, reached by stone steps. At each side are massive vases with figures symbolizing Italy's greeting to the United States by wireless telegraphy, thus paying tribute to the invention of an Italian, Marconi. In front of the building are four caryatides, surmounted by bronze tripods. As an outside frieze are relief plaster figures, representing Italy's advance in art, commerce, and science. In the Palace of Manufactures, Italy has a maze of marble statuary—one of the principal industries of the country. In the Palace of Agriculture she displays oils and wines, representative of her largest export business.

Brazil supplies the world with coffee. Coffee of all varieties and its culture form the principal exhibits in the imposing national pavilion, the tallest building in the whole foreign section. Its huge white dome, where the green flag of Brazil flies, rests on eight Corinthian pillars. Twenty-one shields, representing each one of the United States of Brazil, are interspersed over the doors and between windows. Under the dome are loggias, accessible by stone steps. On these loggias visitors are invited to drink Brazilian coffee. Last year, Brazil grew 16,246,000 bags of coffee. All the other coffee-growing countries produced 3,342,000 bags. From one Brazilian town (Santo) 10,000,000 bags were exported. Large photographs show coffee at various stages of its culture. Machines that not only clean, but distribute the coffee beans according to size, have been introduced in Brazil.

Twenty years ago, the coffee crop of Ceylon was a failure. The planters then planted tea trees, thus starting a product that last year aggregated 150,000,000 pounds. In the Ceylon Building, which is a reproduction of the largest temple at Kandy, the ancient capital of the island, tea is served by Singalese, who step noiselessly, and whose gentle, sensitive faces are crowned by a mass of shining, black hair, neatly surmounted by a large circular comb. The tea is served on the spacious piazza. Upstairs are exhibited ivory, bronzes, and carved woods, typical of the work of the natives.

With a reproduction of a large Havana residence, Cuba makes her first exhibit as an independent republic. Over it is the flag that the United States has made possible. In a large court inside the building are busts of Cespedes, hero of the Ten-Years' War; Agramonte, a famous Cuban general; Marti, the liberator; and Maceo, beloved of all the Cubans. Of course, tobacco and sugar form the principal exhibits in the Cuban Section in the Palace of Agriculture.

Siam's Building, a replica of a temple at Bangkok, the capital, is the second erected by the nation at any world's fair. The first was at Paris in 1900. Guarding the entrance of the building are wooden elephants, similar to those that stand in front of Siamese houses of worship. The exhibit is taken from the Royal Museum, at Bangkok, and is intended to show art forms and technical skill of the Siamese of a century ago and the present time. No great industrial advance is shown, but the people have introduced improved farming implements, four railroads are in operation, telephones are in use, there is no public debt, education is general, and illiteracy is rare. Rice and timber are the principal exports.

The East Indian Building is an Oriental bazaar pure and simple. Externally, it is a reproduction of the famous mosque of Itmadul-Dowlab, at Agra, India, square in form, with minarets rising from the four corners. The domes are green. Swarthy, solemn East Indians, in spotless turbans, stand at the doors, which are of colored teakwood. Under the arches is lattice-work. In the centre of the building is one of the most elaborate pieces of wood-carving at the Fair—a reproduction of a temple of the Jain, a Hindoo sect. It is thirty-five feet high. The original temple is of marble, and is at Palitana, Central India. The bazaar is devoted to a display of all kinds of Oriental wares. Coffee and tea are served.

Coffee forms the principal exhibit at the Argentine Republic Building, a pink pavilion, located just behind the Austrian Building.

Nicaragua, with 200 specimens, shows the medicinal roots and flowers indigenous to the country. Coffee is also shown.

HOW TO SEE THE FAIR

IF it be possible, engage rooms before you go to St. Louis—at least find out where you may engage rooms for the price you wish to pay. If possible, do this by direct correspondence or through an acquaintance.

Rooms in good hotels are exceedingly costly, or overcrowded. The hotel-keepers put into their houses twice as many people as usual. The most satisfactory arrangement that persons of moderate means can make is to engage rooms (usually with breakfast) in some well-kept private residence. There are many such in the section of the city that lies near the Fair. The prices range from $1.50 a day for each person to $5 or more. If possible, arrive at St. Louis early in the day. Then you will have time to find rooms by daylight.

The wise fair-goer will carry only the most comfortable clothing, especially only the most comfortable shoes; for seeing any fair—this Fair in particular—is wearying. "By George," said a robust farmer, as he fell into a seat in the plaza about five o'clock one afternoon, "I've plowed all day many a time; and I know hard work as well as the next man. But this is the hardest day's work I've ever done—it uses you up." But he had no sooner laid his feet out in a comfortable position than he began to talk with enthusiasm about what he had seen. "It uses you up, but it's worth it." Knowing that you will become weary, plan for the least physical exertion possible.

If it be as convenient for you to make your first visit to the Fair at night as by day, go first at night. The main entrance is at the Plaza of St. Louis. There you will see the splendors of the illumination. Walk to the lagoon. Take a gondola and go the whole length of the canals. Then climb the steps to Festival Hall and look down. A ride on one of the automobiles about the great buildings and the State and foreign buildings will give you many good views. By ten o'clock you will be ready to go to your rooms; and you will have seen memorable vistas.

On your first visit by daylight, ride the full length of the intramural railroad, with a map of the grounds in your hand. Thus you will learn the general geography of the Fair. Then take one of the public automobiles, and you will learn the location of the several buildings. With this general information, make a definite plan for each day's sightseeing or study; and do not try to see too much.

The whole Fair cannot be thoroughly seen within less than a fortnight. (It is closed on Sundays, and the buildings are closed at night, but the grounds are open.) It cannot be thoroughly studied within less than a month.

A WEEK'S OR A FORTNIGHT'S VISIT

A day and a night given to general views and to the spectacle, select the parts of the Fair that you care most to see and visit them systematically. Any one of the large buildings will easily consume as much of a day as one can comfortably give to study. A good division of a day is to give the freshest hours of it to whatever building interests you most, and, after luncheon and a rest, to give the afternoon to some of the outdoor exhibits that make a less severe tax on the attention. The Philippine reservation and the Indian camp and school may well take a whole day.

Within a week (six days), by such a division of time one can see the spectacle as many nights as one pleases; may study the contents of six of the great buildings, and make six excursions to the outdoor and outlying parts of the Fair. A specimen day in such a plan would be this:

From 9:30 A. M. to one o'clock, spend in the Palace of Agriculture. There are nine miles to be walked in this building, if you examine all the exhibits. Rest at least an hour—two hours are better—at luncheon. From three till six o'clock you can spend in the near-by Philippine reservation. The day is gone and—your physical strength, also.

Another day: Give the morning to the Government Building; the afternoon to one or two of the foreign buildings, say the Japanese pavilion, the English and the French buildings. Again your day is gone.

In this way, after reading the descriptions of all the great subjects set forth at the Fair, select those that you wish to study and make your week's programme.

A fortnight's itinerary any visitor may

make for himself in the same way; for even twelve days of steady work by such a programme will do no more than give a general view of the whole Fair. If one proposes to study even one great department thoroughly, by asking many questions and by observing processes, a fortnight will be gone before the whole Fair has been visited. And none but the most stalwart will be likely to give even six successive days to such work; for it becomes very tiresome both to the faculties of attention, and to the feet. Old persons or persons who for any reason lack great physical endurance will do well to hire wheeled chairs. If they cannot afford this, they will do well to visit only one great department in a single day.

An accomplished student of mechanical inventions and of electricity went to St. Louis in May and took a quiet room for a month. He carried with him the notes that he had made at the World's Fair at Chicago eleven years ago, written on cards and arranged by subjects. He went to the Fair at St. Louis every morning and made a systematic study of some particular subject, taking notes on cards of the same size that he used at Chicago. He spent three or four hours studying exhibits, asking questions, and making notes. At his room, he compared the new facts that he had found out with the facts that he had written down at Chicago. "It was a month of wonderful instruction to me," he said. "Tell every young person in particular to come here, and bring cards for taking notes. They will be of the greatest value hereafter."

HOW TO FIND OUT INTERESTING FACTS

The silent visitor will learn much less than the inquisitive one. At every exhibit there is a man or a woman whose sole business it is to give information and to answer questions. In a whole fortnight you will not find a discourteous or unwilling attendant; and most of them are, of course, well-informed persons. They expect you to ask for information; and, by asking questions, you will find out things that you never dreamed of.

"Why is that pile of corn exhibited? The grain is not large, nor even." Thus spoke a visitor to an attendant at the Missouri section in the Palace of Agriculture. "That is a variety of corn that is grown not for the grain, but for the cob. Observe the size of the cobs. They are sold to make pipes. The grain is only a by-product." Almost any intelligent question will be rewarded with unexpectedly interesting information.

The relative importance of the several great subjects—such as Agriculture, Electricity, Machinery, Transportation, the Fine Arts, Education, Mining, etc., will, of course, depend on the personal knowledge and personal interest of every visitor. Every visitor, in making out his itinerary, will naturally give the two or three freshest hours of the day to the subjects that he cares most about; and he will use the others as recreation—as sights to be seen rather than as subjects to be studied. Most of the outdoor parts of the Fair (and there are dozens and dozens of outdoor exhibits) will serve as recreation studies.

The diversion given by the shows on the "Pike"—well, most visitors will wish to see a few of them. But one visit will be enough for most normal persons; for most of these "shows" are very stale and commonplace. Since the really enjoyable "Midway" at the Chicago Fair, "Cairo," "Mysterious Asia," the "Incubator," the "Imperial Russian Troupe," and half a hundred more have become cheap, if not vulgar. They give, however, no worse offense than cheapness and vulgarity. The mile of the Pike is a pandemonium. When another great fair is held, it is to be hoped that some originality will be shown in devising or selecting such diversions. These are very poor. Most of them are unworthy of a place within the inclosure. The visitor has a pyschological need of some such diversion, as every fair has a pecuniary need of them. But they ought to be made interesting.

THE COST OF SEEING THE FAIR

It is impossible to give any very helpful information about the cost of a week's visit; for no two persons have quite the same habits in spending. If your room and breakfast cost you $1.50 a day, and your luncheon 50 cents, and your dinner $1, your admission fee 50 cents, and your incidental expenses 50 cents a day—you have already spent $4 a day. A very frugal person can do more economically than this. But most visitors will find $5 a day necessary. Yet any one *can* see the Fair for half this sum; and most persons who have $10 a day to spend will be likely to spend it.

WITHIN THE CAGE OF THE WILD WATER-FOWL — PART OF THE GOVERNMENT DISPLAY

The largest flying-cage ever constructed

THE INSPIRING DISPLAYS OF THE STATES

PICTURESQUE BUILDINGS IN WHICH HOSPITALITY IS DISPENSED — TRADITIONS RECALLED AND RICH RESOURCES EXPLOITED — THE WEALTH OF THE NATION MADE VISIBLE IN THE COLLECTED PRODUCTS OF THE COMMONWEALTHS — THE UNITED STATES BECOMING ACQUAINTED WITH ITSELF

BY

"THE WORLD'S WORK" STAFF

NO experience at the Fair is more inspiring than to realize the unity of the nation in watching the United States become acquainted with itself. The State buildings are commodious and comfortable clubs and rest-houses, where people from the same State spend their leisure moments, write letters home, and read the home newspapers, kept on file. Yet nothing has so surprised the hosts and hostesses of the buildings as the number of visitors from other States. The man from Maine drops in on Oregon, or a Massachusetts family calls on Minnesota. The Californian seeks reminders of his father's home in the Missouri Building, and his grandfather's in the reproduced Monticello of Virginia. The New Yorker visits the Indiana Building because his wife is from Indiana, and the Arizona Building because his brother is mining north of Prescott. We have more interests in distant States than we stop to think of, and the fact that Massachusetts is merely across the street from Kansas at St. Louis, and that the guest of one building is at home in the other, symbolizes a stupendous national fact.

The State buildings are mainly grouped among the oaks on the Plateau of States, though a few are over to the westward. The State exhibits are in the Palace of Mines, the Palace of Education, and in the vast structures devoted to horticulture and agriculture. One need hardly describe the State educational exhibits here, for in them is an approach to a uniformity of fullness and to a level of

INTERESTED VISITORS WATCHING THE SEALS AND TURTLES IN THE GOVERNMENT AQUARIUM

ONE OF THE OPEN-AIR BIRD-CAGES OF THE SMITHSONIAN INSTITUTION

excellence—the other exhibits are more characteristic.

THE LOUISIANA PURCHASE STATES

Naturally, the States of the Louisiana Purchase make a special effort at entertainment and exploitation: Missouri leads.

Crowning the gilded dome of Missouri's State Building is a statue of a beautiful young woman, with right hand outstretched—"The Spirit of Missouri." Over the main entrance is this inscription: "Embracing within her confines the elements of an empire devoted to all the arts and sciences that advance civilization, Missouri, the central State of the Louisiana Purchase, greets her sister States and welcomes the world."

Thus the State, whose metropolis is the Fair City, impresses her visitors with the large idea of a wonderful development. She has spent $1,000,000 in exploiting her resources at the Exposition. Her State building, erected at a cost of $250,000, stands on the loftiest hill of the imposing Plateau of States, facing the Government Building. Two large halls—the Blair and the Benton, named for distinguished Missouri statesmen—contain exhibits that show the broadening culture of the State. In Benton Hall Missouri artists show their work. Here, too, is the bronze ship-bell case of the battle-ship Missouri, the gift of the citizens of the State. In Blair Hall is a model public library, containing 8,000 volumes, 1,500 by Missouri authors, who include Mark Twain and Eugene Field. Ten years ago there were practically no public libraries in the small Missouri towns. Today few are without them. The model library aims to present the institution in operation. Any visitor at the Exposition may secure a book, through an introduction by some one known by the library officials.

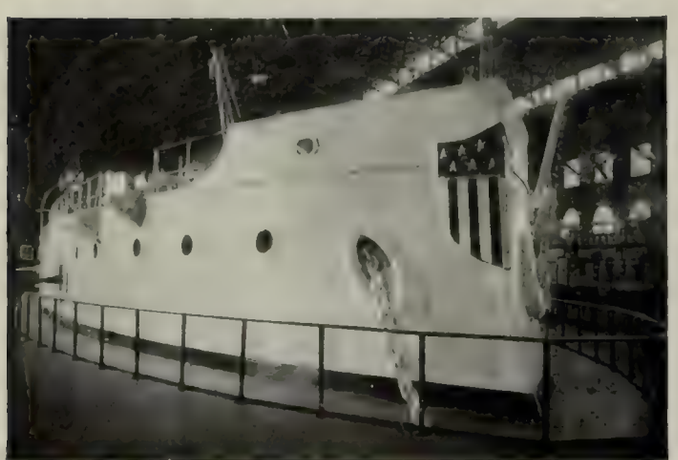
But far more significant than the stately building, with its golden dome and its stone approaches, is the record of Missouri's educational advance made in the Palace of Education. In three decades, illiteracy has fallen from 13.4 per cent. to 6.4 per cent. The average percentage of illiteracy in the whole United States for these periods was 17 and 9.1 per cent., respectively. The Missouri educational exhibit is the largest State exhibit at the Fair. A school in operation every day, with classes reciting, shows the process of education in St. Louis—whose excellent school system is given a comprehensive display. The schoolroom is rearranged every week, thus giving the opportunity to illustrate all stages of the work, from kindergarten to high schools.

THE UNITED STATES LIFE-SAVERS GIVING THEIR EXHIBITION—UPSETTING THE BOAT

THE OUTDOOR EXHIBIT OF THE UNITED STATES LIFE-SAVING SERVICE: A LADY IN THE BREECHES

A UNITED STATES GOVERNMENT DOG-TRAIN WHICH CARRIES THE MAIL IN ALASKA OVER SNOW AND ICE

METHODS OF MAIL TRANSPORTATION SHOWN IN THE POST-OFFICE EXHIBIT IN THE GOVERNMENT BUILDING



THE FULL-SIZED MODEL OF THE BATTLE-SHIP IN THE GOVERNMENT BUILDING — THRONGED DAILY WITH VISITORS

LOUISIANA

In the shadow of the Missouri Building stands the replica of the white Cabildo in New Orleans, where, on December 20, 1803, was signed the document that concluded the Louisiana Purchase, and which created the empire of our Middle West. It is Louisiana's State Building, and is the actual size of the original building. In the rear is the court-yard, surrounded by a high wall, and in the yard is the stone prison, with dungeons and stocks. In the large court-room, on the second floor, is the low mahogany desk on which the Louisiana Purchase transfer was signed.

But Louisiana, rich in the historic traditions which cluster about the great events that the Fair commemorates, has achieved a great agricultural advance. Ten years ago, much of the rice eaten in the United States was imported from Japan and Honduras. Today rice is grown extensively in Louisiana. Within this period the State has created a new agricultural activity that rivals in output her two other products—sugar and cotton. It is typical of the State's growth.

ARKANSAS

Eighty per cent. of the timber used on the Exposition buildings came from Arkansas forests. Timber is the greatest resource of this sister State of Missouri in the Louisiana Purchase States, and, in her State building, a charming Colonial structure, may be seen a library of eighty wooden volumes, each one representing a different kind of wood from Arkansas. In all, there are 120 varieties of wood in the State. Not until twenty years ago could the vast timber resources of Arkansas be developed, because of inadequate transportation facilities. The rivers were the only means of transporting logs. But now half a dozen railroads cross the State, penetrating the timber sections and hauling vast quantities to all sections of the United States, and to sea-ports for export.

The Indian Territory Building, just back of the Utah Building, is a significant supplementary exhibit to the Indian reservation in the Anthropology section. It is a museum of the agricultural and handicraft products of Indians far on the road to civilization.

Oklahoma's name blazes in electric lights over her building, an attractive structure with inviting piazza. In the Palace of Agri-

culture, she makes an impressive display of her many agricultural products.

KANSAS

Kansas presents an elaborate modern building, and, as Kansans go there in families, it provides a nursery. Facing the door in the art gallery is a spirited painting of a slight slip of a Kansas girl, standing on a stile and peering across miles of level wheat-fields. Its high-piled exhibits of grains and fodders, in the great Palace of Agriculture, its gorgeous pavilion of plumed grasses, topped with a steer made of corn kernels, recall that Kansas teaches the world how crops may be raised, stock fattened, and dairy products increased to the best advantage. Kansas produces more wheat than any other State, and in ten years it has increased its output 73 per cent. In 1901, the wheat crop alone was worth four times as much as the Louisiana Purchase, of which it is a part, cost the United States. The corn crop is even greater. No State has fewer millionaires—or paupers. There are 218 colleges.

There is no Nebraska State building, but one need not leave the Fair ignorant of the details of Nebraska life. Nebraska concentrates itself on agriculture. In the Palace of Mines it exploits its corn as gold-nuggets from its many kinds of prairie soils. A pleasant rest-room, in lieu of a State building, occupies one part of the Nebraska Section on the main aisle of the Palace of Agriculture. Once there, you are in Nebraska. For when you have looked at the stuffed form of the largest steer ever raised, and have understood why corn, running forty bushels to the acre, at 40 cents a bushel, is being replaced in parts of Nebraska with sugar-beets, running 10½ tons to the acre, at four and one-half dollars a ton, a bell rings, and you step inside a little theatre. A biograph begins to whir. Before you, on a screen, the scenes of Nebraska life fly by. The corn is planted and harvested. The sleek cattle jog by to market. A street-parade passes in Lincoln. A county fair is reproduced. Meanwhile, a courteous lecturer explains the rapid progress of the State.

MISSOURI'S IMPOSING BUILDING

The largest State building at the Fair. It contains a model public library and convention hall

THE CABILDO
Louisiana's State pavilion is a reproduction of the New Orleans building in which the Purchase treaty was concluded

IOWA

The Iowa Building, a French renaissance structure, combining the features of the old State capitol at Iowa City and the new one at Des Moines, stretches across a tongue of land between two avenues, and thus impressively faces an open road. Hospitable arrangements permit Iowans to use the building for a post-office and for an information bureau. A large auditorium is provided for meetings—not only for Iowa gatherings, but for people of other States as well. The latch-string of Iowa is out for everybody. Well-attended daily concerts are given on a huge organ, presented by President Larrabee, of the Iowa Commission, formerly Governor of the State.

Among the paintings is Colonel Thorp's portrait of General Grant, painted at the White House when Grant was president. It is unique, as showing Grant speaking.

Iowa produces more corn than any other State, and is the first State in the Union in the value of its annual yield of oats, butter, poultry, horses, cattle, and hogs. It is the banner prairie State, and its Fair exhibit is worthy of its greatness.

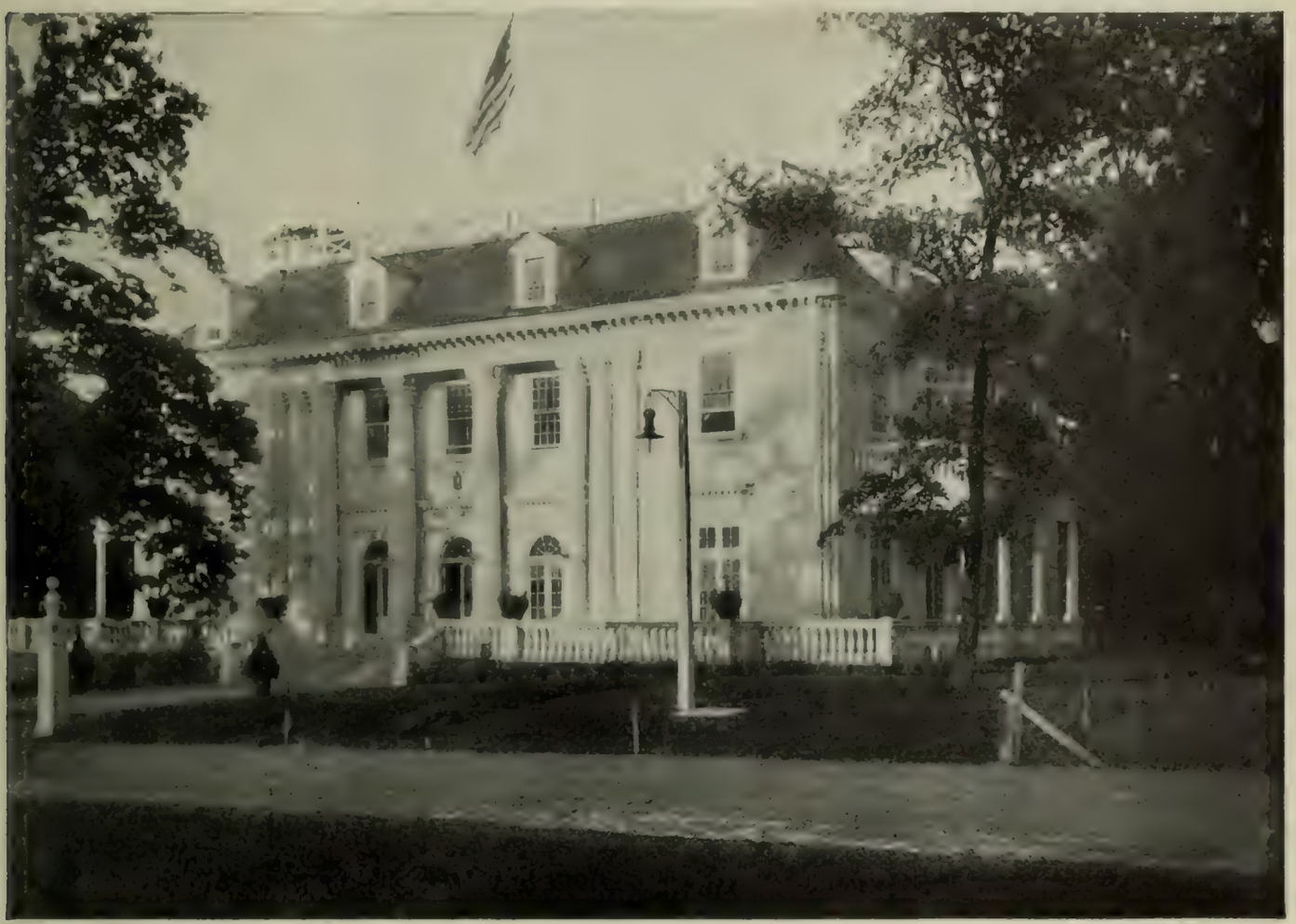
The Dakotas, which form the northern boundary of the Louisiana Purchase, contribute a worthy share to the development of the section. North Dakota has no State building, but South Dakota has an attractive pavilion, with the dome frescoed with pictures made of corn, wheat, and flax, the chief products. The State's motto, "Under God, the People Rule," is made of straw. South Dakota has the famous Homestake Gold Mine, in the Black Hills. It is the largest gold mine in the United States.

WASHINGTON'S STATE BUILDING IS SUPPORTED BY SINGLE TIMBERS 110 FEET LONG

COLORADO

Colorado makes the most elaborately arranged and beautiful exhibit in the Palace of Mines, for the State stands first in the Union in production of gold and silver, and has produced more than $847,000,000 in metals since 1859. There is a dull, gleaming pile of gold in the centre, near-by a heap of silver, and minerals of every hue, from the deep-blue of azurite to the sulphur yellow of carnotite, from which radium is obtained. So diverse are the mineral products of the State that this exhibit would make, of itself, an unusually good museum. The agricultural exhibit tells the story of the genesis of Colorado in a model of a prairie-schooner team. The rest of the display adequately disproves the comment of an English traveler in 1876: "Kansas is ugly, but good; Colorado is handsome, but good for nothing." Here are Rocky Ford cantaloups, a crop of which netted one farmer, in 1902, $250 an acre. Here are colossal potatoes—a basketful, for example, still remaining from 500 that weighed a ton. There are eight paying sugar factories in Colorado, using beets grown in irrigated soil which gives them a higher percentage of saccharine than any other beets grown in the country.

A model of Montana's capitol serves for its State Building. Montana's chief exhibit, however, is in the Palace of Mines. Gaze at the tall obelisks outside before you enter. The total amount of copper produced in the United States every year would make an obelisk eight times as large as these. Montana produces more than half of it, and, of the other valuable minerals, gold and silver. There is a tower of copper bars in the Montana section—part of the 40,000 pounds of copper exhibited—plates from electrolytic baths, which show how refined copper is secured, and costly representations in glass of some of the copper veins which Mr. Augustus Heinze and the Amalgamated Copper Company have had in litigation. They were prepared for use in court. An examination of the tangled veins explains why the lawsuits have dragged so long. Near-by is a relief-map of Butte and the surrounding mining district. It shows, in miniature, the buildings and smelters of the greatest copper mines in the world. Moreover, Montana shows the largest gold nuggets on exhibition at the Fair.



THE BEAUTIFUL COLONIAL BUILDING OF MASSACHUSETTS
A reproduction in part of Bulfinch's Massachusetts State House

THE NORTH ATLANTIC AND CENTRAL STATES

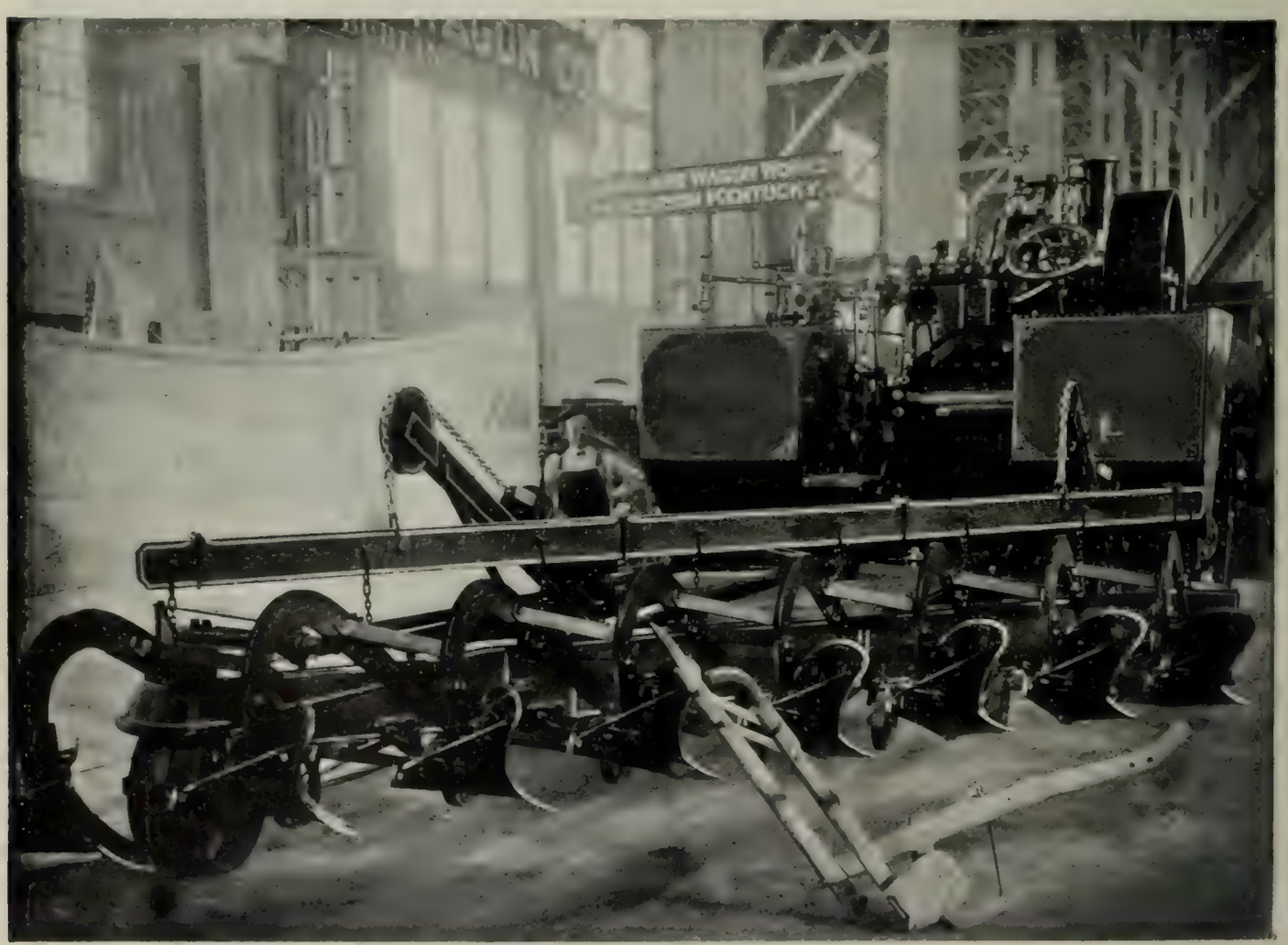
Worthy of the prestige of the Empire State, New York's display at the Fair is at once dignified and imposing. The State building, the third largest on the Plateau of States, is Italian architecture with Colonial treatment. A quadriga flanks the high dome. At the New York Building, a restaurant is maintained for the exclusive use of New York citizens. It is the only State building having such a convenience. The tables are spread in the broad balcony near a grove of oak trees, and commanding a fine view of the State group, with the dome of the Government Building in the distance. There is no more pleasant spot at the Fair grounds than here. The food is cooked by electricity. On a large plot in front of the Forestry Building New York shows the work of her Forestry Commission in growing trees. In the Palace of Agriculture she displays the products

of her fertile Genesee Valley and the spoils of her rich Adirondack forests. And, in nearly every Exposition palace, there are the concrete proofs of a mighty industrial and commercial supremacy.

New Jersey has 2,000 miles of good roads—more than any other State. Six hundred miles are being constructed now. The State, however, is making a striking display of sea-food, principally oysters, and oyster culture. The State building is a reproduction of Washington's headquarters at Ford's Tavern, Morristown. Set amid some oak trees, it is picturesque and inviting. Wearied of the reputation of having the largest mosquitoes in the country, New Jersey shows the latest means by which they may be exterminated.

PENNSYLVANIA

The spacious halls of the $150,000 Pennsylvania Building are trod by more feet than the precincts of any other State. A never-ceasing crowd makes pilgrimages to the Liberty Bell, set up within the door, under guard of the stalwart policemen who brought it through cheering crowds from Philadelphia. It is a lesson in patriotism to see the people of every State in the Union flock in to gaze at the bell. "There's the crack," say the children, delightedly pointing. To left and right of the broad, uncarpeted hall are the largest rest-rooms at the Fair. There is even a commodious smoking-room, and a post-office where Pennsylvania visitors may get their mail. The general effect of the building is that of a state-house—it is large, and public rather than cozy. Naturally, coals and coal-mining processes, and the products of Pittsburg steel mills, make Pennsylvania's chief exhibit in the Palace of Mines, for, in the manufacture of steel, Pennsylvania leads the world. The big guns and armor plate shown here are the last word in naval armament. Yet, Pennsylvania reaps nearly $208,000,000 worth of farm products every year to the $183,000,000 her huge coal and iron and oil industries yield. Indeed, she tells the story of last year thus quaintly in her agricultural display:



THE WOODEN PLOW USED BY DANIEL WEBSTER ON HIS FATHER'S FARM, BESIDE A MODERN 8-GANG STEAM-PLOW

A VAST PYRAMID OF CORN
Grown in a prize contest by 8 000 farmer boys of Illinois

Old Brindle yielded, to those who milked her, $35,860,110.

The oil wells gave up to those who pumped them but $1,088,016.

The Little Hen turned out eggs to the value of $9,080,725.

The iron mines dug out but $1,890,100.

ILLINOIS

Illinois presents a solid, square structure in the architectural style of Louis XVI. Within, tiled floors give an air of coolness, and the outdoor spread of terrace and veranda is greater than any other State building offers, for Illinois is close to St. Louis, and it was a problem to furnish sufficient accommodations for the crowds. The hospitality offered is most cordial. The fifteen commissioners cut a Gordian knot by choosing their wives for hostesses; so the building has the unique distinction of possessing fifteen hostesses, two of whom are receiving all the time.

The Ohio State Building, an imposing semi-Colonial structure, is the only one on the Plateau of States containing a hospital. In the rotunda of the building is a striking portrait of William McKinley. The building is admirably appointed, the desire for comfort superseding all ideas of ornate decoration.

INDIANA

The favorite building-stone throughout the country is Bedford limestone. It all comes from a small area of Indiana. An exhibit of the stone in the Palace of Mines is accompanied by the best exhibit of soft coal there—one immense pyramid of it. In the Palace of Varied Industries, too, and in the Palace of Manufactures, an Indiana State exhibit challenges attention in competition with the private displays. Out of the $150,000 appropriated for demonstration at the Fair, the commission expended enough to bring together a collection of needlework and decorated pottery, the work of Indiana women. The Indiana Building itself has a really distinctive interior, in cool, subdued colors, most comfortable furniture, and stained glass. The agricultural display

ACRES OF APPLES FROM IOWA IN THE PALACE OF HORTICULTURE

presents a vast pyramid of corn topped with a figure of King Corn. And, within a section in which corn has been used in every conceivable way for fanciful decoration, are panels of pictures in corn-silk, barley-heads, wheat-straw, and other cereal products, illustrating scenes of farm life from James Whitcomb Riley's verses. The educational exhibit exploits the model schools of Indianapolis.

MINNESOTA

The Minnesota Building is thronged with visitors, because its open-latticed front shows an alluring room, which draws in the passers-by. It is more easily accessible than almost any other building. All the furniture in the main room was made by pupils in the high schools of St. Paul and Minneapolis. The State takes pride in its function as a food-producing section. Its exhibit in the Palace of Agriculture is crowned with a figure carved in butter—kept in a chilled glass case—of a woman feeding bread and butter to a child. Beneath is the legend, "The bread-and-butter State." A model of the Fayal open iron mine, in the Palace of Mines, shows the process of mining ore in a great iron-producing section. A striking model of the harbor of Duluth suggests the importance of Minnesota in the lake freight business. One of the great flour-millers of Minneapolis shows, in the Palace of Agriculture, the complete process of handling flour—all the way from wheat to bread. In the Forestry Building is a panorama of a Minnesota forest, filled with elk and other game.

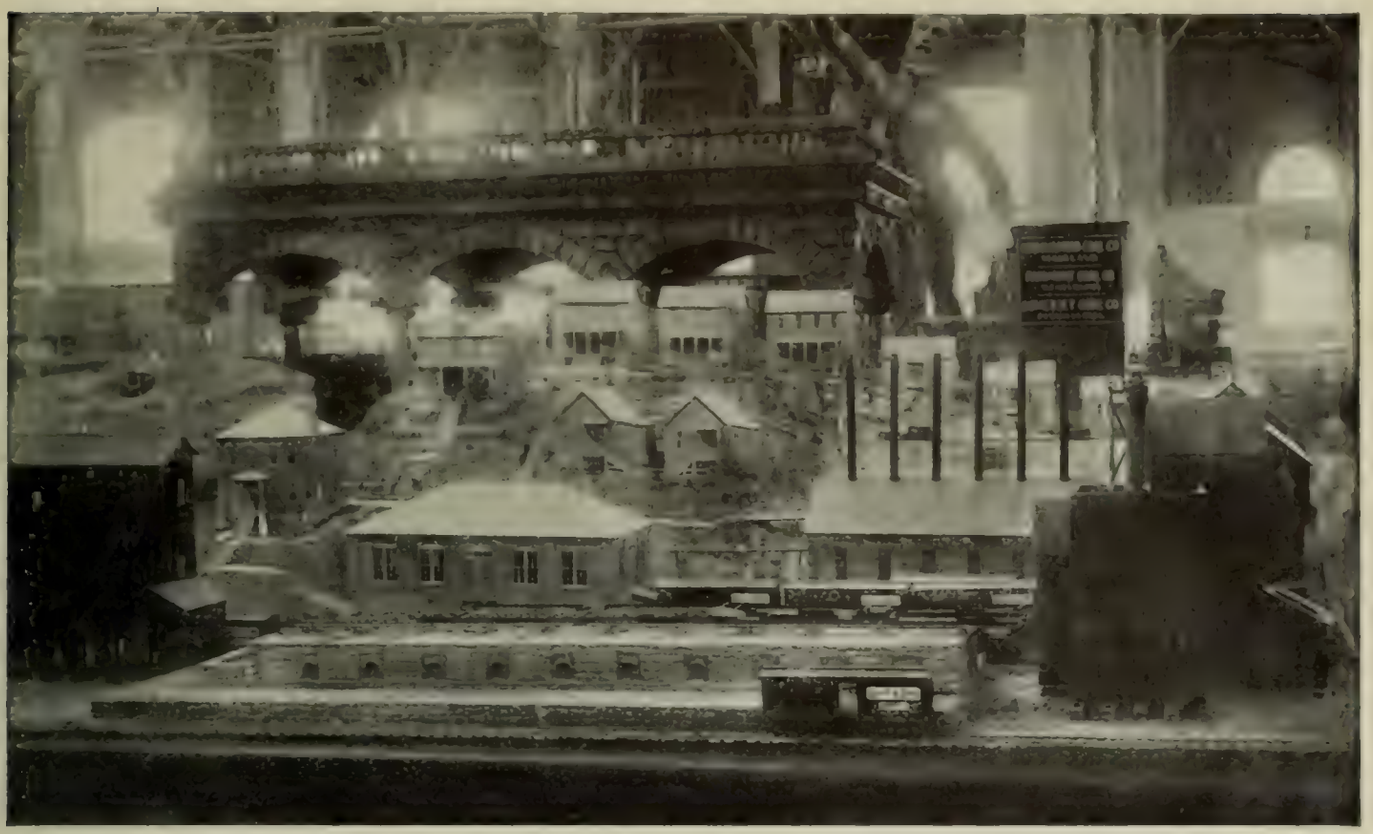
South of Louisiana's Cabildo is the quaint old English villa of Wisconsin, with plaster walls crossed with wooden braces, and a broad and cozy veranda. Its Wisconsin visitors seek the agricultural buildings and the live-stock barns for the typical Badger exhibits. The life-size milkmaid and cow wrought of butter in the dairy exhibit tell the story of the State's distinction since its forests began to disappear in the pulp-mills, for Wisconsin is the preëminent dairy State, though there is forest enough left to provide for one of the best exhibits of woods in the Forestry Building.

Guided by the State university experts, the farmers of the State have developed dairying to a science. It has been demonstrated that if the farmers of the country adopted the Wisconsin milking methods they would increase their profits one hundred million dollars a year. The State building itself, however, in an odd bit of furniture, calls attention to a little-known Wisconsin industry. It is a desk, valued at $20,000, inlaid with mother-of-pearl, which comes from the Wisconsin River and the Rock River in the southern part of the State. From these rivers and from the Mississippi are fished the clams that provide the pearl buttons and other mother-of-pearl articles of the country. That the State provides good manufacturing sites is shown by a map, in the Palace of Mines, of the water-courses. Its educational exhibit includes illustration of the best public schools in the world—those of Menomonie.

MICHIGAN

The Michigan Building is conspicuous because it offers the cool sweep of its broad verandas to the crowds of sight-seers who

A DISPLAY OF NEBRASKA APPLES



ALABAMA'S HUGE IRON VULCAN IN THE BACKGROUND, INDIANA'S ARCH OF SOFT COAL IN THE MIDDLE DISTANCE, AND IN THE FOREGROUND A MODEL OF SUCH COAL MINES AS ARE FOUND IN WEST VIRGINIA, MARYLAND, AND PENNSYLVANIA

pour from the door of the building containing the Government's aquarium. In Michigan is manufactured more furniture than in any other State, and, naturally, the building is furnished with Grand Rapids products—extremely comfortable chairs and substantial tables. The State's iron and copper mining is presented in the Palace of Mines, and the reason why Michigan apples have a reputation outside the State is shown in the Palace of Horticulture.

THE SOUTHERN STATES

Closely allied, geographically, with the territory of the Louisiana Purchase, the Southern States have contributed to and shared in the upbuilding of the country.

Kentucky, which stands at the gateway to the South, hospitably greets her visitors at the Fair in a stately building on a hill overlooking the Palace of Mines. In the rotunda is a statue of George Rogers Clark, the intrepid empire-builder of the Great Northwest. But, while Kentucky dispenses her famed hospitality at her State building, she is showing the evidences of a notable development. When the State was asked to make a display at the Fair, it was found necessary to decline on account of a depleted State treasury. The people wanted a display of their resources. They organized the Kentucky Exhibit Association, and raised enough money to build a handsome structure. It is typical of the new State spirit. Then the State appropriated enough money to furnish it. Kentucky has the largest asphalt-beds in the United States. She produces enough asphalt to make a road around the world. Kentucky grows more tobacco than any other State, and the exhibit of this product in the Palace of Agriculture emphasizes her greatest commercial activity. Her chief city, Louisville, is the largest tobacco-market in the world. With hemp, Portland cement, building-stone, coal, and pottery-clay, Kentucky displays advantageously the products that are fast giving her a new industrial prominence.

Maryland's State Building, which adorns one of the avenues of the Plateau of States, is a roomy Colonial structure. Over the mantel is the roll of honor of the State's distinguished sons, including Edgar Allan Poe and Johns Hopkins. On one of the walls is a portrait of Francis Scott Key, the author of "The Star-Spangled Banner." The first piano made in this country stands in the corner.

THE ILLINOIS BUILDING
With its wide terraces and roof verandas

Virginia, the home of Thomas Jefferson, whose genius and foresight consummated the Louisiana Purchase, entertains her guests in a reproduction of his famous home, Monticello, a building (designed by Jefferson) with high, cool halls and spacious rooms. In the rotunda stands the statue of Jefferson from the University of Virginia.

North Carolina now has more cotton-mills than Massachusetts. A collection of cotton cloths and woolen blankets emphasizes the striking advance the State has made in manufacturing. There is also a display of silk cocoons. But the progress has not all been industrial. For example, North Carolina shows many kinds of building-stones.

Patriotic sentiment and a spirit of commercial progress are mainly responsible for Georgia's exhibit. Boards of Trade and individuals united for a display that shows the State's products, principally cotton and syrup. In the Palace of Agriculture, a genuine Southern Negro mammy serves Georgia syrup on Georgia corn-cakes. The State building is a reproduction of "Sutherland," the home of the late General John B. Gordon, at Kirkwood, Ga.

The State of Alabama made no appropriation for an exhibit, but the enterprising Commercial Club, of Birmingham, used a very large sum to show the characteristic mineral wealth of the region round about it—a wealth that has made that young city one of the very foremost centres of activity in the South. Iron and coal are the basis of the wealth of that region. The happy idea was carried out of molding a colossal figure—"Vulcan"—of iron. It stands in the Palace of Mines, overtopping every other exhibit.

Beauvoir, the home where Jefferson Davis lived his last years and died, is reproduced as the Mississippi State Building. The rooms are furnished with rich old mahogany furniture, including the bed on which the president of the Confederacy died. One remarkable thing of the State's agricultural products is that they embrace everything needed by the people of the State.

Across from the Georgia Building is the reproduction of The Hermitage, the famous home of General Andrew Jackson, ten miles from Nashville, Tenn. It is the Tennessee State Pavilion. It was built by private subscription, the State having failed to make appropriation for this purpose.

As Texas is the Lone Star State, her State Building is like a star, with a tower in the middle. Texas resources are best summed up in the very original State exhibit in the Palace of Agriculture. It is a small train of cars, loaded with the State's chief products—corn, wheat, rice, and oil. A cattle-car is attached.

THE NEW ENGLAND STATES

New England's contribution is distinctive. Here is our Colonial and historical aspect to offset, in the drama of the United States, the lusty expansiveness of the Louisiana Purchase States and the West. The Massachusetts Building, with its Colonial outlines and Bulfinch façade, recalls old Salem and old Boston. In the Palace of Education are presented the results of the public spirit of the State, which make it the best-ordered community in the world—the factory-inspection system, the park arrangements, the educational activities, the public library equipment, the provisions for public health. And it is

THE NEW YORK STATE BUILDING
One of the most imposing on the Plateau of States

TYPES OF SCHOOLS NOW IN USE IN COLORADO
From the sod-and-log cabins to the elaborate brick-and-marble structures

surprising to learn, in the agricultural exhibit, that Massachusetts gets a better oat crop to the acre than Iowa, and a better tobacco crop to the acre than any other Northern State.

Maine's log-cabin hunting-lodge, set among the oaks on the slope above the Mining Gulch, is redolent of big woods that teem with game and fish. Its trophies of rod and gun, here and in the Forestry Building, suggest a sportsman's paradise. Potatoes form the exhibit in the Palace of Agriculture

New Hampshire is represented by a reproduction of Webster's birthplace, and Vermont by a typical New England farmhouse. Their exhibits spell home to many a western farmer, who glories in the rocky hillsides of his boyhood no less than in the fruitful prairie farm of the State of his adoption.

Rhode Island offers a sharp contrast to the white-and-ivory buildings of the other States in its row. Its building is a replica of a "seam-faced granite" Colonial house in the town of Lincoln, the original of which was built with a prize from the old State lottery. The interior, following other Colonial models, is simple, beautiful, and inviting. No State building is more hospitable—lucky is the visitor who enjoys the cool delights of the distinctive "cyclone cellar."

The Connecticut Building, a beautiful Colonial mansion, fitted, even to bedrooms, with antiques, and filled with articles of deep historical interest, sums up the best American tradition in beautiful and civilized living. It is the only completely and charmingly furnished home at the Fair—and nothing there is better worth seeing. It contains one pathetic memorial in a portrait of the late Richard Henry Stoddard, left with hands unfinished, because Stoddard died before the sittings were finished. Shade-grown tobacco and manufactured articles are Connecticut's most characteristic outside exhibits.

THE WEST AND THE TERRITORIES

If you climb a short flight of stairs in the Palace of Agriculture you may gaze down

on a lifelike panorama of the "Utah Valley." In the foreground, irrigated grain is growing. Back where reality merges into painting are irrigated farms running off into alkali deserts with the snow-capped Wasatch Mountains behind. Irrigation, then, tells the agricultural story of Utah where wheat and sugar-beets and alfalfa of improved varieties are grown and fruit orchards bear abundantly. The State is now planning to dam the Jordan River and use the Utah Lake as an irrigation reservoir against the dry season.

Utah's building is a cozy little yellow structure opposite the Inside Inn. In outside exhibits, you find a novel and remarkable school system, in which the pupils' lessons begin with household objects, and annually widen in scope to the garden, the farm, the town, the county, the State, the nation, and the world. In each year, the three R's and all the other studies bear on the field under study. You find in the Palace of Mines brine and salt from Salt Lake, and valuable Utah minerals—carnotite, for example, containing radium, and so radio-active itself that a piece of the crude ore will photograph objects on a sensitive plate. The State shows a marvelous vitality in developing its resources.

Idaho has chosen to build a cool little Mexican building with brick floor, and open, central courtyard, planted with grass and trees. The rooms are small, but among the coziest of the State apartments. An extremely interesting collection of Indian basketry, weaving, and pottery not only provides an exhibit, but also furnishes the interior decoration. Colossal potatoes and sugar-beets show in the Palace of Agriculture how irrigation has made the State fertile, and its mining exhibit is a treasure-house of valuable ores.

THE CABIN IN WHICH PRESIDENT ROOSEVELT LIVED WHILE IN NORTH DAKOTA

New Mexico's building is built after the style of an old Spanish mission-house, with quaint mission furniture in every room. As minerals and stones form her chief products, she makes a display that embraces all varieties. Notably beautiful are the turquoises, which are shown in profusion. Gold, silver, copper, and zinc are included in an exhibit that symbolizes a constantly increasing activity.

Wyoming and Nevada spread out the evidences of their mineral and agricultural wealth, and Wyoming calls attention to the

fact that 1,000,000 more people could find homes and livelihoods within its borders. Nevada's array of alfalfa tells the latest chapter in a history of quick development, of which a plow roughly wrought from the wagon-tires of prairie-schooners connotes the first, for this plow turned the first furrows of the original settler.

Arizona's exhibit has a strangely foreign suggestion. The Arizona Building, though American within, recalls the better kind of Mexican adobe-house; and the agricultural display, except for the colossal size of the products, might have served for a sample of Mesopotamian activity 3,000 years ago. Date palms are growing within the section, and dates are exhibited which show that date-growing is now being carried on by Arizona farmers successfully. There are huge lemons from Yuma, grape-fruit, olives—backed by bottles of olive oil, put up in Phoenix—navel oranges each weighing more than twenty ounces, plums and grapes, and ostrich plumes from the largest ostrich farm in the United States. The strongest hint of the method by which these are produced is given by the model of the Tonto Basin Reservoir in the Government Building—with seven times the capacity of the Croton Reservoir outside New York City, yet built at one-third the cost. For, though Arizona exploits its wonderful mineral resources in the Palace of Mines, the new State is fast becoming an agricultural community through the spread of irrigation.

ALASKA

Alaska is no Arctic wilderness. Its building, near the Indian Village, is not only a frequented rest-house—where other visitors far outnumber Alaskans—but an exhibit of surprising resources and efforts. Built as wings to the main square structure are reproductions of Alaskan Indian houses—with slab sides, and roofs supported by beams hewn from tree-trunks, actual Alaskan buildings of fifty years ago torn down and brought here. Grotesquely carved and painted totem-poles stand outside. Within are exhibited nuggets and golden sands from Nome, specimens sent by the Alaska Academy of Sciences, and an unexpected array of grains and fruit and vegetables grown beyond the Arctic Circle. Near them are the fruits that grow wild in the North, huckleberries, pale salmon berries, and great crimson strawberries. Beyond the dog-sleds and Yukon canoes are the piles of fur they have carried. But the civilization of Alaska arouses the greatest surprise. In the main building, upstairs, the courteous hostess points out the photographs of classes in the public schools of Nome and Dawson, Juneau, and Skagway. Beside them are specimens of the children's school work. There is a picture gallery of work of Alaskan painters. Exhibits of sewing suggest the domesticity of the members of Alaskan women's clubs. Alaska adds millions every year to the national wealth; it is rapidly gaining in railway mileage, in the output of its mines and placers, in its production of timber, fish, and furs. This progress is shown in various exhibits.

THE TOTEM-POLES OUTSIDE THE INDIAN HOUSES FORMING THE WINGS OF THE ALASKA BUILDING

A PICTURESQUE PAVILION
California's State building is patterned after the old Spanish missions

WASHINGTON

Just beyond the Fisheries Building, its pointed top 100 feet from the ground, is a wooden building that looks like a Chinese

A MISSOURI CORN-FIELD PICTURED IN CORN

pagoda stripped of ornate trimmings. Beams of wood 110 feet long rise from the ground like the poles of an Indian wigwam. In this building, which is the Washington State Building, they meet at a point and form the apex of a very striking piece of architecture. The wood was furnished by the Lumbermen's Association of Washington. Inside, Washington's resources and products are displayed: woods from the dense forests (Washington last year manufactured more shingles than any other State); fruit from her large orchards; wheat, corn, and hops from her ample fields; coal from her rich mines; and fish from her extensive salmon-canning industry. The office of the Washington State Commission is in the trunk of a fir-tree 12 feet in diameter. With the characteristic spirit of commercial achievement of the Northwest, Seattle and Spokane make effective displays. They show how thriving cities have grown from villages in less than a quarter-century, and how the spirit that makes this possible is the spirit

IDAHO'S AGRICULTURAL PAVILION

that is developing the empire of the Northwest. It has linked our commerce with the commerce of the Orient, and it has opened up a great trade with Alaska.

Every twenty-four hours 1,000,000 feet of lumber are sawn in Portland, Oregon. The State pavilion is of wood, therefore, and is a reproduction of Fort Clatsop, the log blockhouse occupied by Lewis and Clark on their famous Northwest expedition in 1805. The logs are Oregon pine. The flags of nearly all the great nations of the world fly from poles made of Oregon fir. One is on the Kaiser's yacht. Every year, Oregon grows 85,000 bales of hops and 20,000,000 bushels of wheat. The value of the dairy product last year was $4,595,000. With more than 600,000 Angora goats, Oregon produces more than 460,000 pounds of mohair every year. Oregon's development is typical of the development of the great Northwest.

CALIFORNIA

California welcomes to a comfortable gray building, constructed in imitation of the old Spanish mission at Santa Barbara, the citizens of all States, with lavish hospitality. It is like a visit to California to step within the shady porticos. And in forestry, mines, horticulture, and agriculture, the State exhibits more varied and tempting products than any other State. California produces practically all of the raisins and most of the oranges, lemons, prunes, and olives used in the United States. But the agricultural exhibit exploits more than colossal fruits and high-piled tiers of olive oil in bottles. There are wines, fish, grain, and vegetables. Some of the triumphs of Luther Burbank, the wizard horticulturist, who lives at Santa Rosa, are shown—the Burbank potato, now grown everywhere in California; the pineapple quince; sugar prunes secured by a cross between French and Hungarian prunes. The potatoes are more than a foot long, and white and mealy. A California law permits the counties to appropriate money for advertising, and, accordingly, the State display is made up of many county displays, one vying with another. There is a huge bear made of prunes in front of one county's exhibit, and an elephant in walnuts before another's.

And long as this recital is, it does not hint at one-tenth of the abundance of wonderful things the States show at the Fair.

THE EXHIBIT OF PICTURES AND SCULPTURE

BY

CHARLES H. CAFFIN

THE spaciousness of the galleries has made it possible to hang the pictures of the American exhibit without crowding, and the general effect is admirable. Whistler's "Rosa Corder," which occupies the centre of one of these long walls, could scarcely be seen to better advantage in a public gallery; nor could Sargent's large portrait of the three "Misses Hunter." Both of these pictures are among the best works of these two great masters in American art; both painted with consummate skill, the one illustrating Sargent's marvelous grasp of the actuality of externals, the other Whistler's power to suggest the mystery inherent in the fact; the mystery of character and that, too, of visible appearances, for the figure of the lady is already enveloped in the dim, uncertain atmosphere that obscures the distance into which she is receding from us.

Both of these portraits represent a standard so high that we can hardly be surprised if it is not generally maintained. Nevertheless, there are other notable examples in this American section. Wilton Lockwood's "Portrait of ex-President Cleveland" is one, and we shall appreciate its sterling qualities all the more if we happen to have seen the portrait of the same subject by the Swedish artist, Anders Zorn. For, instead of the rather brutal assertion of bulk and physical force which the latter represented, Lockwood, without extenuating these characteristics, has added a suggestion of intellectual power, and, by placing the figure in a misty atmosphere, has balanced the physical with a mental preponderance. Another Boston artist is well represented—F. P. Vinton, whose portraits are not excelled in this country for downright masculinity, for the qualities of manhood and strong character that he renders in his subjects. Another portrait painter of exceptional strength, the Philadelphian, Thomas Eakins, can be studied here to good advantage; for example, in the "Physicist, Professor Rowland of Johns Hopkins University." People on the lookout for "pretty" pictures will hurry past it; those, too, who seek artistic beauties of line, color, and lighting will not linger in front of it; but to anyone who is content to estimate a picture by what the artist has put into it, instead of by what he has left out, this slouching figure, with the hands thrust energetically into the trousers-pockets, and the head bowed in thought, as if the man were pacing up and down the room in pursuit of the solution of some problem, will represent a marvelously faithful human document.

A figure-subject, which has some suggestion of being a portrait, is "A Poet of the Montmartre Type," by Henry S. Hubbell. The man is seated at a café table; a fellow with well-cut features and considerable refinement of expression, but with an untrimmed black beard, and a soft hat above his bushy hair; giving, in connection with his loosely fitting suit and limp cravat, an air a little brigandish and very shiftless, a characteristic blend of mental vivacity and of physical and mental softness. Another extremely interesting picture, also by an American resident in Paris—Arthur Johnson—represents a nude woman sitting on a slope of grass, her figure showing very white in the shade, while through the foliage of a tree with gnarled trunk and twisted branches streams the sunlight. It kindles into brilliance patches of red and purple flowers that lie around her like scattered gems, and converts into a shower of gold the blonde hair which streams about her head; while the chance shade of a leaf puts her eyes in shadow.

Imagination also, but perhaps of a higher order, while certainly as reliant for expression upon the possibilities of color, is exhibited in "The Mystery of the Night," by T. Humphreys Johnston, another of the painters who reside in Paris. The deep blue of sky and sea is luminous with the pale light of a hidden moon, which whitens the curls of the water as

it laps against the rocks, and glimmers upon a female figure, standing immobile as a statue, the head shrouded in a thin veil which partly wraps her form. A spirit in bodily shape, or a human being spiritualized—whichever way we regard it, it is an expression of the stillness and isolation that one experiences in the infinite peace of a summer night, the mystery of apparently suspended reality when all about us is only invocation to the spirit.

Two of the men who are accounted leaders in American landscape, George Inness and Homer Martin, seem not to be represented here, while a third, Alexander Wyant, has only one example to his name. The omissions are unfortunate, since the occasion would have been a good one for thousands to have made acquaintance with the work of men who must be known by every one who seeks an adequate comprehension of American landscape painting. Nor is there more than one example: "Autumn," by Ralph A. Blakelock, who, like the three just mentioned, has passed into the great Beyond. He is their inferior in technique, but their equal, at least, in depth and beauty of imagination.

Again, foremost among living American painters, by reason of his bringing technical skill to the service of an imagination that is profoundly dramatic, is Winslow Homer, who, separating himself from men and manners, lives the life of a recluse upon the Maine coast, with the power and majesty of the ocean continually before his eyes and in his brain. His ability to realize these qualities in his pictures may be studied in two examples—"Early Morning" and "Weather-Beaten"; yet they scarcely represent him at his best. If I mention these omissions and weaknesses in the present exhibition, it is for the information of the many who, perhaps for the first time, are brought face to face with a large collection of American pictures, rather than in criticism of those who have gathered it together, since no one, except the ones immediately responsible, can form any idea of the innumerable difficulties which bristle up to thwart their plans and restrict the scope of their intentions. And the present exhibition, even with its limitations, is probably the most truly representative one that has yet been made. If so, it is because, more than heretofore, it reflects a wide territorial range, including strong work from the West and Middle States, as well as from the East, and also from Americans residing in France, Holland, England, and Italy. Moreover, it takes account of a larger number of the younger artists who are stepping up to the front.

THE AMERICAN SCULPTURE EXHIBIT

The single example by Saint-Gaudens, our foremost sculptor, is a plaster cast of his famous statue of "The Puritan," the original of which is in Springfield, Massachusetts. Stubbornly angular and assertive, it is an extraordinary epitome of the grim determination and bigoted self-assurance that blazed a path for freedom. High above it is a reproduction of the equestrian statue of Washington which was presented, by popular subscription, to the city of Paris, and now stands in the Place d' Jéna. The horse is by Edward Potter; the figure by Daniel C. French, a cast of whose recent work, a figure of "Alma Mater," for Columbia University, is also to be seen here. But more interesting than this is his colossal figure of a "Working Man." His powerful figure bared to the waist, he sits upon an anvil, snatching a moment's interval from physical toil to pore over an open book. The action of his hands and arms as he holds it, and the expression of calm absorption in the face, are admirable.

Another subject of labor is "The Driller," by Charles H. Niehaus, a statue which adorns a memorial at Titusville, erected in honor of Drake, who sunk the first oil-well in Pennsylvania. Being among the best examples of nude sculpture in this country, it may be compared with "The Hewer," by George Grey Barnard, one of a series of statues intended to symbolize the growth of civilization. In correspondence with the speculative and dreaming bent of this sculptor's mind, his statue has more of the abstract and the ideal than the other one.

As an expression of ideal sentiment, "The Kiss of Eternity," by R. P. Bringhurst, is an excellent work, the winged angel and the dead youth being composed into a most decorative group, while the feeling suggested by the treatment is tender and exalted.

Of special interest are those works which have been inspired by Indian and western life. "The Medicine Man," by Cyrus E. Dallin, is one of these, which is not only admirable in the physical facts of the horse and its rider, but interpretative also of the spirit and traditions of the race. Nor should this sculptor's

statue of a Sioux chief, which stands upon one of the bridges in the West Court, be overlooked. The group of an old Indian and boy, "The Sun Vow," by H. A. Mac Neil, is an illustration also of the sculptor's power to reach into the heart of his subject, while "The Ghost Dance," by Paul W. Bartlett, has equally a double value, rendering, in the hopping movement of the figure, the individual characteristics of the dance, and, in the expression of the face, the curious psychological condition of the dancer. Of the western life, Solon H. Borglum is the best interpreter in sculpture. "Our Slave," "On the Trail," and "Lame Horse" appear in the Palace of Art, while outside in the grounds are two fine examples of his work—"Cowboy Resting" and "Pioneer in Search of Water." His brother, Gutzon Borglum, is represented by a very spirited group, "The Horses of Diomede," a most remarkable exhibition of infuriated action.

THE EXHIBIT OF HOLLAND

In its homogeneousness of character, as well as in its high standard of technical accomplishment, the exhibit of Holland is preëminent. Two facts strike one at the outset: that these painters thoroughly know their craft, and that the subjects which interest them are the ones close to their ordinary life. They excel both in oil and water-colors; and they occupy their brushes in the representation of the streets and wharves of their cities, the meadows and canals within a few minutes' walk of their homes, and the simple scenes of peasant life; portraiture, of course, having its place also in their range of subjects.

They are continuing, in fact, the traditions of their art which were established firmly in the seventeenth century.

Amid such a prevalence of good work it is difficult to specialize, but one name will occur to every student of Dutch art—that of the veteran Josef Israels, who was the first to catch the inspiration of Millet. You may study him in one of his vigorous moods, as in "The Skipper." There are signs of storm in the sky; the vessel has been beached; the sailors are climbing down the sides on to a horse, while the skipper rides ahead of them through the surf, welcomed by his dog. How the spirit of the scene, as well as its appearance, is suggested! Again, what an acceptance of the thing as it really happened is represented in the picture of two old men "Eating"; and here, as in "Saying Grace," we get an example of Israel's mastery of effects of atmosphere. Most remarkable, however, of all the pictures here is "The Old Scribe"—dry and shrunken through sedentary habits, his supple hand holding the pen with the poise and steadiness of long practice.

Three examples stand to the name of the great marine painter, Hendrik W. Mesdag, of which especial mention may be made of "Summer Morning," with its exquisite rendering of warm, vaporous air upon the ocean.

One would like to dwell at some length upon the landscapes, but we must confine this notice to those which seem to be especially memorable, "Autumn Night," by Bernard Höppe, a canal scene, with barges moored along the bank, a windmill starred against the evening glow, and a spire in the distance rising above the village. As bracing as the latter was soothing is Louis W. Van Soest's "The First Snow," a magnificently virile picture. Lastly, there is "A Quiet Corner in Laren," by Frans A. Langeveld; a little orchard, shut in from the world by farm buildings, over the tops of which a row of trees, following probably the line of the high road, is softly silhouetted against the sunset sky. The orchard is still flecked with patches of yellow light, and, across it, a man is wheeling his barrow after the day's work. Whether studied as a whole or in detail, it is found to be beautifully painted, while the sentiment that it exhales is sincere and lovely.

THE FRENCH EXHIBIT

Neither excellence of painting nor sincerity of artistic conviction is too prevalent in the French section. Many of the pictures represent the display that is necessary to advertise their authors in the annual salons, while others exhibit the poverty of merely technical skill. But there are memorable exceptions.

L'hermitte is represented, among other canvases, by his "Death and the Wood-Cutter"; the subject taken from "Æsop's Fable" of the old man, who, burdened by his load of faggots, prayed for the release of death, but who, on the appearance of the grisly spectre, at once shifted his prayer to one for a continuance of the lighter evil. Another sympathizer with the life of the toilers, Charles Cottet, a powerful painter of very dreary subjects, sends the "Old Horse," a worn-out slave of a

gray horse, nibbling at the scanty grass upon the edge of a cliff; and that triptych in which he has represented the tragedy of the fishing life on the coast of Brittany. In the center panel the fishers and their wives are gravely taking their last supper; while the one on the left shows the men at their occupation on the sea, and the right-hand one the women watching from the land. Not a whit more attractive in the popular estimation of "pretty" is the work of Lucius Simon, whose "Strolling Circus" is hung here. From a painter's point of view, however, it is very powerful work, while one not learned in such matters may still enjoy the extraordinary shrewdness of character study developed in the pose of the figures, the expression of their faces, and even in the carriage of their hands.

Of an entirely different motive is the work of those men who have made the rendering of light, and particularly of the various phases of bright sunshine, their chief study. The late Lucien Pissarro, the oldest of them, Claude Monet, their recognized leader, Alfred Sisley, now dead, Guillaume Seignac, Maxime Mañfra, and Henry Morel are all represented by landscapes and Pierre Renoir by a face.

These two divergent points of view, the one looking toward what is most full of character and rather on the cheerless side, the other escaping into the actual freedom of light, represent the two most vital influences in France today.

THE GERMAN EXHIBIT

It is an unfortunate circumstance that the most progressive and original coterie of German painters—that which is known as "The Secession"—is not included in this collection. A considerable space is occupied with enormous official canvases, painted by imperial order, interesting sometimes historically, as in the group of portraits of the diplomats attending the Berlin Conference, but, from an artistic standpoint, without much claim to serious attention. Sandwiched in, however, are many creditable paintings, with subjects of a kind to attract the interest of the visitor, for the Germans are preëminently fond of painting incidents or of embodying ideas.

Yet if we are looking for some feature of distinctive interest, we shall pass out of the galleries containing paintings into the one that displays the lithographs. A very interesting revival has taken place in Germany of this medium of art, which not only permits of original expression on the part of the artist, but brings his work within the reach of many. A far more striking exhibition might have been made but for the complication which estranged so many of the Munich men. As it is, the most remarkable showing is made by Georg Luehring in a series of subjects which illustrate the fecundity and the weirdness of the German imagination.

THE BRITISH EXHIBIT

Special efforts were made in Great Britain that this exhibit should be an exceptionally good one, and they have been successful. Among its most interesting features are examples of the work of Sir John Millais and Sir Edward Burne-Jones. Both are dead, and were, in a way, antipodes of character, the former having the bluff heartiness of a country gentleman fond of sport, and the latter being a dreamer who sought his ideals in an imaginary past. Millais' landscape, "Chill October," is one of his most famous works, a marvelous product of intimate observation; but even more unquestionably a masterpiece is his portrait of a brother artist, J. C. Hook, a painter of the sea. The subject himself has a physique of magnificent impressiveness, so commanding and wholesome, and nothing could exceed the virile directness with which it has been rendered. Millais, at one period of his extraordinarily popular career, sank below his best, wherefore it is very satisfactory for the sake of his memory that this proof should be produced of how intrinsically great a painter he really was.

That the tradition of great portraiture still survives in Great Britain is assured by the "Portrait of Sir Walter Gilbey," by the Scotch artist, W. Q. Orchardson. Here is a characteristic type of English gentleman, fond of horses and horsey in his costume, but a man also of shrewd intellect and polished tastes; and how admirably the complex qualities are suggested in the picture! It is a veritable human document, painted with magisterial assurance.

But at the opposite pole from the directness of these two portraits is the work of Burne-Jones. He illustrates the Englishman's fondness for the embodiment of an idea in a picture, but in a way far more profound than even Leighton himself. In the examples of the latter's works exhibited here there is a

perfection of outward refinement, but in Burne-Jones's an impenetrable depth of suggestion that seeks expression in a tentative, almost pleading, way. He projected his imagination into the old days of Celtic legend, into a world very bleak, in which certain types of men and women blossomed like rare flowers. It was an age of the world virginal as compared with the present, and such was the manner of his art. It should be studied here not only in the two oil-paintings, but also among the pencil drawings and water-colors.

THE JAPANESE EXHIBIT

Of the three picture galleries in the Japanese section, one contains oil-paintings. These are by men who have studied in Paris, or by their pupils, and represent a phase of modern movement in favor of the adoption of western methods. It is not here, however, that the true genius of Japan is exhibited, and to discover what painting implies to the Japanese mind, and how it has been made a means of expression characteristic of the ideals of the race, we must study the water-colors in the two other galleries.

In the first place, the use of the latter medium has come down to the modern artist through a long period of time, generation after generation of pupils having "sat in the gate of the master," so that there is a fine tradition of painting to which each successive age can adjust itself. The painter in oils, however, has cut himself loose from this. Furthermore, he has separated himself from the motives as well as from the methods of his own art. For the motive of Japanese painting is not one of representation, as ours is, but of suggestion. The artist, for example, in painting a tree or a mountain, is not seeking to deceive you, as he would, say, into the belief that it is a real tree that you are looking at, but to give you an impression of the relation—generally a decorative one—which the object bears to the rest of the picture, and of the sentiment with which the scene inspires him and, he supposes, will inspire you.

As compared with our notions, therefore, Japanese painting is a stenographic art, or, to speak more accurately, an ideagraphic one, symbolizing the object painted. It has grown out of and conformed itself to the preference which the Japanese have for the abstract over the concrete, and their tendency to consider the end in view—the expression, that is to say, of what will stir the soul by its beauty—of more importance than the objects selected to embody it. And, as the expression is primarily conveyed by technical means, they have fostered a skill of craftsmanship in drawing, and in the arts of modeling, carving, lacquer-painting, and the decoration of porcelain and pottery, which is unsurpassed. This being so, it is very gratifying to observe that the present exhibition indicates that the Japanese fully recognize how unique their art is, and that its future must follow the direction of their own traditions.

The artist who more than any other has been instrumental in arousing Japanese art from the lethargy into which it had fallen by the middle of the last century, and in preserving it from western innovations, is Hashimoto Gaho. A deep student of the past, he does not believe in merely copying the old methods, however admirable they may have been, but he uses what he has learnt from them to express what he calls "Kokoromochi." This, as nearly as it can be translated into our words, seems to mean the vital character or essence of the object painted, which motive is not so dissimilar in a general way to that of our impressionists.

Since Hashimoto Gaho is recognized in Japan as the great master among the moderns, the visitor will do well to study these six pictures, which were painted especially for St. Louis, and use them as a test of comparison with the work of the other men, and also as a clue to the understanding of the whole exhibit. The student of Japanese art will find these pictures very beautiful. To one who is a stranger to it, none of them will be more readily comprehensible and enjoyable than "Winter Morning and Wild Ducks." The sun is mounting, a disc of pale luminosity in the vaporous sky, against which the distant reeds present a faint and mysterious labyrinth of lines. Those nearer to the front shiver in the rising air, spiking it with their long leaves. They have lost the grace and suppleness of life, and rise out of the snow like spectres, distorted, dry, crackling their joints. Three of the ducks in the middle distance seem to be still roosting; in fact, all through this part of the scene there is a suggestion of suspended animation. But in the sky the light is stirring, and in the foreground is the main flock of birds. They stretch their legs, preen their feathers,

and one has slipped into the water. But they utter no sound; they are not yet lively, they are still a part of the isolation and stillness which prevails around them.

Perhaps by this time we have reached the threshold of the artist's mind, and can peer in and get some idea of what he is striving to express, and, if so, we shall be coming to an appreciation of the exquisite fitness of the means by which he has interpreted his thought. Regarded simply as a decorated panel, how charming is the arrangement of forms and spaces! Then what an economy of means! Four planes of delicate wash and a few piquant accents of line and color. Nothing but what is essential, and everything so piquant with suggestion. Popular taste among us demands what it styles a finished picture; but a picture is finished when the artist is satisfied that what he wished to suggest has been expressed.

We shall notice, however, in looking around the gallery, that some of these Japanese artists express themselves with more labored and methodical use of line. They are the ones who correspond, in a general way, to our academical painters; and, while their work represents a notable amount of skilful craftsmanship, we may doubt if it involves the "Kokoromochi" that Gaho talks about.

Since economy of means and an abstract quality of expression are recognized by the Japanese as main virtues, it may strike one as incongruous that, in much of the sculpture exhibited here, there should be so frank and free a use of objective realism. To this a cultivated Japanese will reply that the public like this kind of thing, and, accordingly, it is provided for them; but, while he admires the ingenious skill displayed, for example, in the various groups by Kaneda Kanejiro, he will probably rank as more artistic the broad generalization exhibited in the "Lion and Lioness and the Monkey," by Yamada Chosaburo. They are hammered out of slabs of iron, the actual style of the modeling being admirably adapted both to the method and the material, and to the general character of the animals. These general principles of craftsmanship, it need hardly be stated, run through all the best Japanese art, and are, in a technical sense, one of the chief reasons of its distinction.

Keeping them in mind, and remembering also the Japanese love of exquisite workmanship and of subtle suggestion in their subjects, we should be in a mood to enjoy the objects of lacquer-work, ceramics, and bronze. The visitor is fortunate to be able to examine some of the purest examples of lacquer that the modern artist can produce, for there is a bookshelf, or cabinet, which has been lent by the Emperor. Its surface is of black lacquer, brought to a wonderful richness, upon which are scattered fans painted in gold lacquer by several celebrated lacquer artists, the subject upon each fan having been taken from some famous picture. But even more beautiful are the writing-table and paper and writing-boxes in an adjoining case, for the landscapes in gold and silver lacquer which decorate them are marvels of inventive skill and exquisite handiwork, while the interiors are speckled with gold, and show how nearly the modern artist can attain to the luster and warmth of color of the antique "Nashiji."

Among the ceramics are examples by Miyagawa Kozan, Imperial Court Artist, a notable one being white inside, with a pink flush upon the exterior, decorated with a sprig of the plum-tree, deep-blue in color, with white blossoms, while a line of poetry has been incised right through the paste and filled in with enamel. A gourd-shaped vase, by Kato Tomotaro, has a surface of creamy tone, on which hovers a dreamlike landscape—a piece, in form and decoration, inexpressibly refined. Another fine piece is Manjiro Takito's vase, decorated with carved leaves under celadon glaze; and so, too, is Ito Tozan's pottery vase with wistaria decorations, while the large pair of cloisonné vases by Ando Jubei are splendid in design and in beautiful perfection of color and glaze.

A very choice showing is made in metal objects, illustrating the use of bronze, copper, iron, and that alloy of silver and gold with bronze, called Shibuichi, and the various forms of decoration by means of casting, graving, pierce-work, and inlay. In fact, one of the beautiful lessons of this whole exhibit is the fertility and inventiveness of the artistic imagination, when, as in the case of the Japanese, the pursuit of beauty has been intimately associated with human life and its religious and intellectual ideals.

STRANGE RACES OF MEN

THE INDOOR ANTHROPOLOGY EXHIBIT A RECORD OF THE DEVELOPMENT OF PREHISTORIC MAN—THE OUTDOOR EXHIBIT A RESERVATION OF VILLAGES OF SOME OF THE MOST PECULIAR PEOPLES IN THE WORLD—HAIRY AINU, PATAGONIAN GIANTS, AFRICAN PYGMIES, LIVING AS THEY DO AT HOME—THE REMARKABLE PROGRESS OF THE AMERICAN INDIAN

BY

W J McGEE

THE Anthropology exhibit has the interest of strangeness, for it is an exhibit of races of men whose lives and whose crafts have no counterpart in our lives and crafts. The hairy Ainu, the aborigines of Japan, whose race descent is not yet known; the large Patagonians; the shy Cocopa Indians, of Mexico and Lower California, who have never before left their homes; and the American Indians, of many tribes, from the warlike Sioux to the gentle Pueblo peoples, living here as they do in haunts away from civilization, tell by their customs, their dress, their use of colors, their expressions, and their figures, and not least by their vocations, what many long chapters in human evolution have been.

The indoor exhibit tells how the cave-man wrought with stone hammers and knives; shows the prehistoric means of fire-production, the increase in the use of iron, and the utilization of the wheel; and presents the relics of Egyptian and Central American civilizations, now discoverable only in ruins. Only in relics, too, can the story of the American mound-builders be told. But the outdoor exhibit, beginning at the foot of a sloping hill, where the bearded men and the tattooed women of the Ainu sit outside their thatch-work huts and carve bits of wood into patterns, employing their toes as well as their hands, and ending with the Government Indian school, at the top of the hill, where Sioux and Arapaho and Oneida attend kindergarten, primary, and grammar classes, and build things so fitted to modern needs as farm-wagons—this exhibit tells two living stories. It presents the race narrative of odd peoples who mark time while the world advances, and of savages made, by American methods, into civilized workers.

Let us accept the conventional classification of mankind into five races, which may conveniently be described as (1) white, or Caucasian; (2) yellow, or Mongolian; (3) brown, or Malayan; (4) black, or African; (5) red, or American. This arrangement is not wholly satisfactory, chiefly because it sometimes leaves the classifier in doubt where a particular natural group belongs. For example, the ethnologist hardly knows what to do with the Negritos, of Mindanao; the "Red African," of the Congo; the Maori, of New Zealand; the Ainu, of northern Japan; or even those big-brained marvels of modern humanity, the Japanese themselves.

The whole Fair in its largest aspect is an exploitation of the Caucasian; Mongolians are seen at the Chinese exhibit, and Malays in the Philippine Reservation. The odd peoples like the Ainu and the African pygmies are grouped in the Anthropology exhibit itself; and here, too, are the red Indians, in a range from Patagonia to Alaska.

Another classification of men is based on culture—the term being used in its broadest sense. So classified, men are grouped by what they do rather than by what they merely are. So classified, the tribes and peoples of the globe fall into four or five groups, or culture-stages. The advance of human culture, in its lower stages, is presented in the Anthropology section by classified exhibits, which give a basis for an understanding of what the living exhibits mean. One room begins its display with the earliest of human tools—hammers of naturally shaped stones, and knives that are mere fragments of rock. A visitor traces the gradual evolution of these tools to hammers with handles, to better and better-formed stone knives, to club and spear and arrow weapons. Then groping man discovers fire-making: the crude but ingenious rubbing-

sticks and wooden fire-machines are shown, in which one piece of wood is whirled upon another. Fire leads to the use of metal; the tools become copper and iron. Then round stones are replaced by logs used as rollers, and the rollers to lighter and lighter forms of wheel. Pipes follow the knowledge of fire on the American continent. Ornament and religious symbol appear through all the stages. Art expands into images and graven pictures. Clothing takes on dyes, and more and more intricate patterns. Architecture soars from huts to Aztec and Egyptian temples.

The peoples, living in skin tents, dugouts, and thatched huts, outside, picture in their daily life different stages in these lower strata of development. In brief, one may learn in the indoor exhibit how our own prehistoric forbears lived, and then see, outside, people untouched by the march of progress still living in similar crude manner.

Thus, the plans of the Department of Anthropology were laid with reference to the races of the world, the types of human culture, and the desire of all men—whether trained in science or not—to see the previously unseen, to know that which was before unknown.

One of the least-known peoples of the world is the Ainu (the name meaning "men"). Save for a few rather abnormal individuals, they have remained for ages on the Japanese Archipelago; none has hitherto visited the Western Hemisphere. Indeed, they are so shy and so closely restrict themselves to their native haunts that, of all the hundreds of Japanese now in St. Louis, only a single one ever saw an Ainu before he came to the United States. Moreover, they present an ethnologic problem; they are the aborigines of Japan, but are now restricted to portions of the northerly island of Hokkaido, or Yezo. They seem to have no affinity with the modern Japanese, though there may have been ancestral connections. In physical traits, they approach the Caucasian type, though their island home is surrounded by distinct ethnic types. They are as light-skinned as Europeans, and of small, but not pygmy, stature. The males are so abundantly bearded and tressed that they have long been known as "hairy men," while the females have beard emblems tattooed in fixed patterns about their lips.

Already the Ainu group brought to the Exposition by Professor Starr has thrown much light on the character of the people. They live simply, in a reed hut, brought from Hokkaido, and reërected in an out-of-the-way place; yet they are undoubtedly the most polite and studiously courteous folk either within or without the Exposition walls. Their habitation is protected from evil influences by sacred "inao" (prayer symbols)—including a desiccated head of their chief beast-god, the bear. The pagan prayers and ceremonies whereby the habitation was dedicated to the powers of earth, air, water, and sky were most touching. Yet their first formal request after reaching the grounds was for permission to attend high-church Episcopal services.

Before their new house was formally opened, the sacred "new fire" was kindled; and the pagan priest did this in a manner that throws new light on both the origin of the pipe and the conquest of fire; for the pyrite-struck spark was enlivened by the act of smoking through a section of hollow cane. The indrawing of the breath marks an Ainu trait not before noted, though it is in accord with their simple manufacturing processes in which, more strikingly than among any other known people, the tool is drawn inward.

THE PATAGONIANS

Since Magellan's ships circumnavigated the globe, the Tehuelche tribesmen have been known as the giants of Patagonia; and half-mythical notions have clustered about these remote people. Modern observation has, indeed, shown that while the Patagonians are of noble stature and splendid physical development, and rank among the largest of the primitive peoples, they were gigantic only by contrast with Magellan and his men; for, as armor-measurements show, the heroic Europeans of Magellan's time fell far short of the greater statures of modern men. Now the Patagonians form a physical type of mankind rendered exceptionally interesting by reason of the early records and traditions. In a rude way, they form a sort of way-mark, illustrating the physical development of man. At the same time, their cultural characteristics are instructive. The huts in which they live at the Fair are of guanaco skin, and they have some robes of it and of rhea skin that are really beautiful.

THE PYGMIES

In strong contrast with the Patagonian giants are the several groups of little peoples, or normal pygmies, gathered on the grounds. Foremost among these in numbers are several tribal groups in the admirable Philippine exhibit; yet the most typical are the Batwa, of the Congo Valley, representing, as the researches of this department show, the aborigines of Africa. The group brought in by Reverend Samuel Phillips Verner came from the territory of King Ndombe, of the Belgian-Congo Protectorate, by special favor of His Majesty, King Leopold. Like the Ainu, the pygmies present an ethnic problem of the highest interest; and the Exposition affords the readiest means of attacking that problem.

THE COCOPA INDIANS

The Cocopa Indians, of Lower California, were chosen to illustrate a physical, or ethnic, type in which the stature of the two sexes is strikingly different—the males being among the tallest of our aborigines and the females among the shortest of our native women; yet they illustrate also a fairly distinct type of culture. They still cultivate pre-Columbian corn and beans by pre-Columbian methods; they are our finest archers, and perform significant ceremonies of devotional character, attesting the close interrelation between early men and their natural surroundings.

No Cocopa Indians have ever before been induced to leave their homes. They are shy and gentle, and their children are the happiest of all the little "barbarians." They roll about on the ground, play marbles and other games—their brown eyes flashing with interest—and they shoot arrows at a mark with unerring accuracy. One day, Indian games were held. Of four Indians whose arrows struck the bull's-eye, one was a Sioux and three were Cocopa. If a visitor to their encampment set up a coin for a mark, every Cocopa boy turns as quickly as a flash; there is a whizz of arrows, and the coin goes spinning into the air.

The Klaokwaht Indians, of Vancouver Island, too, are living examples of the dominant influence of environment on primitive life; for it is the purpose to bring out the great fact that primitive men are creatures of their surroundings, and that human advance is measured by progress in the subjugation of the materials and powers of the external world.

In like manner, the ethnic types and culture types of the aborigines of the present United States, and especially of the Louisiana Purchase Territory, are illustrated by a Pawnee group occupying a great earth-lodge or residence-temple, constructed in the ancient way; a Wichita group, inhabiting a typical grass lodge; and groups of Arapaho, Sioux, Pima, Maricopa, Pomo, Apache, Chippewa, and several other Indian tribes, each in native domiciles, ranging from the typical tepee to the Navajo hogan, the wattled-wall house of the desert, and the ceremonial long-house of the Northwest coast.

The Indian reservation surrounds the Parade Ground, where the transformed boys and girls of the Government Indian schools perform their evolutions, but it reaches down the hill toward the Ainu and Patagonian villages in a camp of Sioux tepees. It is a typical reservation. There is a typical trading-post there, where the Indians resort to purchase everything they need, from evaporated apples to pens and ink, and where visitors may buy Indian work, from Navajo blankets and Pueblo pottery to wonderful basketry, the best examples of which are works of art, and correspondingly expensive.

Then first comes the village of the Sioux, families from the Rosebud Reservation, in South Dakota, people of magnificent physique and of minds amenable to instruction. The tough and hardy Apache come next; and then the gentle Pueblo folk, busy molding pottery. A Wichita group, dwelling in grass huts, are next to the brilliantly clothed Pawnee braves, endlessly giving a war-dance to the sound of cacophonous drums in the faintly smoky interior of the commodious lodge. The Arapaho dry their beef in the sun within a wattled stockade. The dance-loving Cheyennes come next, and then the Navajo, weaving their gorgeous blankets and cutting ornaments out of silver money. Then there are Maricopa and Pima groups, and the intelligent Chippewa quilt-workers, who match the Sioux for quickness in learning.

Fronting the Parade Ground and the row of Indian villages which surround three sides of it, is the Indian school.

The course of human progress may be traced in a general way from the ethnic and cultural types assembled on the grounds, under the Department of Anthropology, in the Philippine display, and in some of the attractions on The Pike; it may be traced with greater accuracy, although incompletely, by the transformation of our Indian wards through systematic education. Accordingly, a leading feature of the department is a model Indian school, so conducted as to illustrate the educational methods of the United States Indian Office, and also to contrast the craft of trained pupils with that of their parents, both engaged in actual work on opposite sides of the long passage which divides the main floor of the Indian School Building.

Anthropologists have discovered that, in human childhood, whether of race or individual, the hand leads the mind, so that the seat of intelligence is best reached through manual training. This branch of work is explained at the Fair.

The school is under the immediate direction of the Honorable S. M. McCowan, superintendent of the United States Indian Exhibit and director of the permanent Indian school at Chilocco. It embodies the experience of the United States Indian Office, and especially of Indian education; and it is the aim to render it at once a practical illustration of the best way of bearing the white man's burden and a witness to the normal course of human progress—which is from ignorance toward knowledge, and from helplessness toward competence.

The school is a hive of industry and animation. The Indian boys and girls are called at six o'clock in the morning, and at 6:45 A. M. they parade to salute the flag. After breakfast, class-work begins. The little papooses play kindergarten games and do kindergarten work; the older children show their proficiency in the three R's, and, while their elders are sitting on the floor on one side of a long aisle, carrying on their primitive industries, their sons and daughters are exhibiting their skill in civilized handicrafts on the other. Girls, clothed in white, do fine sewing and cook excellent dishes. Uniformed boys and young men make harness, do joining-work, build wagons. A modern dining-room is there, the furniture of which was made at the Haskell School, and, in one exhibit of the Chilocco school, the whole story of Indian transformation is graphically symbolized.

A model of a mountain range has been built up by Indian boys. On the lower slope, near a spring that rises, there is an Indian tepee. Beside it is a rude wattled inclosure, in which grow a few blades of corn. This symbolizes the uneducated Indian. Where the spring flows out upon the plain, at the foot of the mountains, the home of the educated Indian has been constructed. The water from the spring is led into irrigation ditches and a pond. Surrounding a modern frame house and a typical big western barn is field after field of growing crops. The fields are marked off in squares. In one grows corn, in another wheat, in another alfalfa—the actual plants. There is a pasture for cattle and a yard for fowl. The whole is a neatly kept, prosperous farm. This one fresh picture flashes the whole lesson of what it means when, at five o'clock, a wrinkled squaw, passing down the main aisle of the school, peers into the assembly-room and sees her girl reciting to an interested audience or joining her companions in rhythmical calisthenics; or when an aged, blanketed, and feathered brave blinks across the Parade Ground in the evening and sees his son, with head uncovered, standing at attention to salute the American Flag while the Indian band plays "The Star-Spangled Banner." The significance of this exhibit in the Anthropological Section is its showing that a race which cannot of itself make the necessary strides to civilization may be helped; and, moreover, that part of the culture development of a civilized people is the growth of an altruism and a sense of justice that prescribe the giving of such help.

Nor will the exhibit fail to contribute to science. In the basement of the Anthropology Building is an anthropometrical and psychometrical laboratory. During the summer, members of the various races and tribes represented within the Fair will be carefully measured and tested. The data secured will establish the differences and resemblances among the races in length and breadth of head, dimensions of frame, muscular development, perceptions of touch, hearing, smell, taste, and sight, and speed and accuracy of mental reactions. The conclusions obtained are bound to be of interest and importance.

THE AGRICULTURAL CONQUEST OF THE EARTH

A STUPENDOUS EXHIBITION OF THE METHODS AND PRODUCTS OF THE NEW SCIENTIFIC FARMING—THE WHOLE AGRICULTURAL ACTIVITY OF THE UNITED STATES EXPLOITED IN SPECIAL DISPLAYS OF CORN, TOBACCO, COTTON, AND OTHER CROPS, AND IN OPULENT STATE EXHIBITS—STRIKING DECORATIONS IN GRAINS AND GRASSES—NEW MACHINERY—LESSONS IN PURE FOOD—AN UNPRECEDENTED DAIRY DEMONSTRATION

BY

M. G. CUNNIFF

YOU enter the Palace of Agriculture knowing that the United States is the inexhaustible farm of the world, but you have never dreamed of seeing its thousand varied harvests spread out in one stupendous show. Yet here you have them. Down the long vista of the broad main aisles of the twenty-acre building—big enough to contain the whole Pan-American Fair—to left and right are State reservations, high piled with sheaves of grain and heaps of corn, made opulent with milk and honey and butter, cotton-seed oil and cotton, tobacco, sugar-cane, and fruit. There are towers and pagodas and pictures and panoramas in corn-husks, corn-cobs, corn-tassels, and corn-kernels, tobacco-leaves and tobacco-grains, wheat-straw and wheat-heads and wheat-grains; and there are figures in cotton and butter and sugar and prunes and nuts. There are decorations in wavy moss and hemp, in rice-sheaves and prairie grasses. You know at last the wealth of each State, for packed into each of the different sections is an abundant sample of all that springs from one State's soil—whether it be hill-farm potatoes, swamp rice, sea-island cotton, bottom-land corn, prairie wheat, desert dates, or irrigated alfalfa. Nor is this all.

As if overflowing from State confines, the big or significant crops are marshaled down the centre of the building in displays of a comprehensiveness and a magnitude never before conceived of. When you have walked through the tobacco section you have seen in miniature every phase of tobacco production from seed so small that five could rest on the head of a pin, through the fields and warehouses to plug and cigar, and then you stand amazed at the great pagodas and peristyles ornamented and decorated with tobacco. Graceful sheaves of rice surround a rice section, wherein you see real rice-fields in miniature, and every process in rice production, from artesian pumps for irrigation, through the threshing and polishing mills to the marketable grain and its novel products. Corn overflows the whole centre of the building, yellow and white and black and red, its products put to a hundred uses. There are great pillars in the shape of ears of corn; King Corn surmounts a lofty pedestal; corn is used in unheard-of structural and decorative designs. Corn overflows from the sections of the Mississippi Valley States to the central designs; and novel features of the corn story extend to the uttermost corners of the State sections. It is a very riot of corn, which makes one catch one's breath at the thought of the boundless fecundity of American soil. A colossal figure of King Cotton towers over a cotton display which, with the sugar section, tells the story for Southern uplands and river bottoms that corn tells of Illinois and Iowa prairies. No pen could place on paper what the whole outspreading of agricultural treasure suggests to an American. But what the Agricultural Exhibit actually is, he knows—these State harvests, these shows of crops that sweep over the limits of a dozen States, these modern agricultural machines such as no other country uses, these dairy products and dairy processes, these fruits of the soil turned into food and drink, and the outdoor farms, the fragrant Palace of Horticulture, and the scientific Live Stock Barns—this huge suggestion of field and farm and range, granary and mill and storehouse and larder. It is the whole 3,000,000 square

miles of our fertile continent, which feeds the world brought down into visible and comprehensible compass.

In addition, Canada brings into beautiful form the proofs of its fruitfulness, and Germany, France, and England and other countries show their foods and their farming processes. In the dairy display, in a separate section, butter and cheese are wrought into statuary. There is a model dairy at work. A flour-mill is shown in operation—indeed, one may see raw wheat go in at one end of this exhibit, and eat the baked bread that comes out at the other. Literally, for miles you pass the exhibit of food-manufacture—here a kitchen, there a bakery, next a candy factory, again a tea or coffee or chocolate pavilion. You are offered eatables and drinkables for nothing. You are presented with samples—indeed, if one wish, one may leave the building with tea in one pocket, a bottle of molasses in another, and with arms filled with varied articles from miniature cotton bales to packages of breakfast food.

THE PLAN OF THE EXHIBIT

The arrangement of the display is this: As you enter the Palace of Agriculture from the west side, where the huge floral clock makes the hillside conspicuous, the cotton, corn, and other large shows are arranged down the centre aisle, both sides of which are flanked by State exhibits. Along the south side, to the left, are the foreign countries. Along the north side range the food demonstrations, ending with the dairy exhibit. Across the far end of the building is the array of agricultural machinery. Stepping out at the east end, you cross first the most varied garden of cacti ever grown so far north, and then a portion of a rôse-garden, which stretches down the long south wall. Then you enter the Palace of Horticulture, with its beautiful display of acres of apples, and with a large conservatory at one end, in which grow orchids, aquatic plants, and rare exotics. Beyond, up the hill, are the Live Stock Barns, whence the milk comes for the Model Dairy. Here are shown the best cattle, horses, sheep, and hogs the agricultural States can send. Along the north wall of the Palace of Agriculture, outside, is an exhibit of windmills, and a beautiful wild-flower garden of two hundred varieties of plants gathered in the woods of Missouri. Some distance from the building to the westward, near the Indian Reservation, is the vast map of the United States, with each State represented by a garden patch of its characteristic crop. And agricultural processes are shown on a farm of seventy acres. Unlike most exhibits, this agricultural show may be seen with comprehension in almost any order—you may start where you will. But you see the big picture and learn the big facts in the Palace of Agriculture itself.

The total impression produced is not that this is the work of farmers who plow and sow and pluck and reap and produce every one his little store. You feel rather that we have come into that era of development when men have discovered the inexhaustible richness of the earth, when they use it as a laboratory, varying and improving its yield at will, and they sow and harvest by such a complete adaptation of machinery that farming has become almost a sedentary occupation; and when science has so been applied to the use of what were once waste-articles that the farmer has become also a manufacturer of a great variety of products. For, in the first place, the American farmer is keen and progressive. In the next place, he belongs to a farmers' institute, which disseminates helpful information, and stirs up enthusiastic competition among its members in scientific farming. He sends his son to the State agricultural school, and the boy returns full of new ideas, and proud to be a farmer. His State Experiment Station is constantly learning new facts about his soil and his crops, and telling him. The national Department of Agriculture, with a bureau of soils, a bureau of entomology, a bureau of plant industry, a bureau of animal industry, and a bureau of irrigation, gives him opportunities that mean to him both education and wealth. The marvels these bodies have performed, and are now performing, are shown at the Fair.

ALL THE FACTS ABOUT TOBACCO

Tobacco comes first. A mammoth leaf made of tobacco leaves greets you at the entrance of the Palace of Agriculture. Here is a miniature tobacco-field: the brilliant green hotbed of seedlings, the transplanted tobacco in rows, the negroes "topping" the older plants and cutting the fully ripe ones. Then there are the drying-sheds, with the yellow

and brown leaves hung up to cure. Then the warehouse, where the dried leaves are pressed down into hogsheads, to be sold on the Louisville market. Then study the specimens: this kind goes to Italy, this to West Africa, that to England. Users of tobacco are most particular—a Hottentot must have a twist from one Kentucky farm, while a Russian peasant demands a plug of a slightly different flavor from the other end of the same Kentucky county. Nor is all tobacco used for human solace. Here are nicotine and tobacco oil for insecticides and sheep dip, and the ash of tobacco-stems for fertilizer. Nor all for pipes and quids. Step into the State sections. North Carolina and Virginia are growing light tobacco for cigarettes. Connecticut began to grow Sumatra leaf for cigar-wrappers under canvas-topped acres; now Wisconsin, Pennsylvania, the Southern States, and even Massachusetts, are doing the same. Genuine perique comes only from a small section in Louisiana—deep black, jammed and pounded into "carrots" of the consistency of hard pine wood. One grower boasts that his farm supplied tobacco to four popes. And no smoker need deny, till he tries their pungent aroma, that cigars made of perique, mixed with a little American-grown Havana, are excellent. Nor need he question the Havana. A red soil, found in North Carolina and in Texas by the Government Bureau of Soils, produces a tobacco, shown at the Fair, which cannot be distinguished from the Cuban-grown leaf. But do not visit the Egyptian section to see the raw material of Egyptian cigarettes. Commissioner Abaza will tell you there that the Egyptian Government, by law, forbids any Egyptian farmer to raise tobacco: the duty on tobacco imported from Turkey, to be made into Cairo cigarettes, is too remunerative.

He will then show you the nubbins that are called corn in Egypt, point expressively to the corn show that flaunts its huge yellow ears before him, and declare that he is going back to Egypt, after an extended study of the Missouri and Illinois farms from which this corn came, to teach the Egyptians how to change their nubbins into American corn. For the Fair has taught him, as it has taught many others, that corn is plastic—almost anything can be done with it. It can be coddled and molded and guided as it grows, and its products take many forms.

THE MARVELS OF CORN

Illinois, Iowa, and Missouri have concentrated intelligent effort on corn as Pittsburg has concentrated on steel. Follow the gorgeous corn-show of the main aisle into the corn-shows of the States. A jar of oil shows the oil product and a jar of protein the protein product of a bushel of corn from a specimen Missouri farm in 1896. That year, the experimenters started to breed corn—some of it for oil, for the brewers would pay three cents a bushel more for corn higher than the average in oil; some for protein, for the stock-breeders would pay more for corn full of protein. A series of jars tell the story of the years that follow. In 1896, the crop averaged 4.7 per cent of oil. In 1903, the crop bred for high oil had 6.53 per cent.; the crop bred for low oil had 2.97 per cent. In 1896, the protein average was 10.92 per cent. In 1903, the corn bred for high protein had 13.04 per cent.; the crop bred for low protein had 8.62 per cent. Nor are such things done only at the State Experiment Station, which furnishes this object lesson. The farmers themselves have learned how to breed their corn.

No longer will they take any kind of seed-corn for planting. From the best rows, the best plants, the best ears of one year, they take their seed for the next year. If they want oil, they plant seed from ears rich in oil; if protein, from ears rich in protein, as shown by tests of sample grains from it. Thus, they plant for long ears, for short ears, for kernels set close together on the cob, for kernels set in straight and regular rows, for fat and full kernels, or for the minimum of kernel and the maximum of cob. In the Missouri Section, for example, are the most stupendously fat ears you ever saw—grown for corn-cob pipes, of which one little Missouri town turns out a million a year. You may see a photograph of two rows of corn growing side by side, one planted from random seed, one planted from selected seed. Below are baskets filled with the ears from these rows; those from the random seed are small, gnarled, imperfectly developed; those from the selected seed large, regular, evenly plumped. The exhibited heaps of corn about you show which form of planting has been followed by the corn-growers; for their essential effort is for better and better corn of a standard kind.

Blind choice accounted for some of the development of American corn. You may see, in the Government Building, ears of the kind of corn grown here before Columbus came—small ears, of a single row of grain, hardly bigger than wheat-heads. The corn we know grew from that. But the new corn, the ideal corn, has developed through the application of initiative and brains. Five years ago Professor A. D. Shamel was at the Illinois Experiment Station. So was Professor P. G. Holden, who there began the work he was still doing in June, when he took a flying trip through Iowa on a special train, preaching the gospel of good corn from the rear platform at stations. These men tried to arouse the farmers of Illinois to improve their corn.

W. B. Otwell was then president of the Farmers' Institute of Macoopen County. The thought struck him that if the farmer boys throughout his county could be induced to take an interest in the effort, Macoopen County would produce the finest corn in the world. He persuaded the institute to offer a prize for the best ten ears of corn grown by Macoopen County farmer boys. Each boy made application to him and received a package of selected seed—Yellow Dent and Boone County White. Hundreds applied.

In the fall, the boys sent in their corn. The prize—a bicycle—was awarded. Mr. Otwell went down to see the boy who won—expecting to find him the son of a prosperous farmer. The boy proved to be the fourteen-year-old son of a poor widow inhabiting a little prairie cabin. All summer the boy had "toted" water from the well to his corn-patch in bucketfuls. His industry had been remarkable. He was invited to the next meeting of the Farmérs' Institute. Mr. Otwell lifted him upon a table. "This," said he, turning to the assembled farmers, as he pointed to the little barefoot youngster in his blue-jean overalls, "is the boy who won the prize." The cheers that greeted the boy were louder than those which later on greeted the Governor of the State, when he came down to make a speech.

For, when these contests had continued several years, the Governor became interested. Mr. Otwell had conceived the idea of extending the contest to the boys of the State, and showing at St. Louis the corn they produced. The Governor subscribed. So did other citizens. One offered a $1,000 Holstein cow for first prize. Other prizes were offered—wagons and plows and windmills. Seventeen thousand boys wrote for seed and information. Two farm-wagons would not contain all the letters. The State went into wild enthusiasm—over corn.

And now return to the World's Fair Palace of Agriculture. In the Illinois Section is a mountain of huge, yellow ears of corn, row upon row, tier upon tier, of little symmetrical pyramids of ten ears each. Before each pyramid is the photograph of the Illinois farmer boy whose corn it is. The selected output of 8,000 Illinois boys is represented. Can you imagine what this means? Eight thousand boys aroused to a pitch of enthusiasm for scientific farming. Seed-corn enough to plant the whole Illinois corn belt. If a bountiful crop sprang from the fertile soil last year, a more bountiful crop will leap forth next year.

Step over into Iowa. The silver cups and other trophies there are not the prizes of golf games or athletic triumphs. This gold ear of corn, with the silver husks, was won by one corn club; that cup by another. Four neighboring Iowa farmers form a corn club. From the corn their acres yield are picked six ears. At the seat of the farmers' institute, the specimens of the county's corn clubs are judged, and four hard-working farmers bear off the prize. A new kind of Olympic game!

Range around the Indiana and the Missouri Sections; view the scenes of farm life pictured in ingenious mosaics of corn-kernels, corn-silk, corn-husks, and corn-stalks; see the enormous portières made of ears strung on cords, the tassels and pendants, the pergolas and the towers—all brilliant in varicolored grains. The practical lessons are set forth below. There is nothing known about the culture of corn that one may not learn there. You discover the nutritive value of various kinds of corn, for you see corn dissected and analyzed, reduced to its constituents. You learn the varieties best suited to particular soils, and you are made aware how corn can be acclimatized, how good corn may be gradually spread west or north or south. The first year in the new region the yield falls off, but if the distance from the original corn-field has not been too great the second year's yield will reach—in Iowa, for example—the original Illinois product per acre. All corn

facts are somewhere set forth and explained. And all the products of the corn plant are there—oils, paper, pith (that is used in battleships to stop shot-holes below the waterline), whisky. There are three kinds of sugar and two each of syrup and molasses. There are many food elements—different kinds of cellulose, vicose, pyroxylene, and amyloid. There are many products useful in the arts: celluloid, collodion, sizing, varnishes, films, filaments for incandescent lights, artificial silk, guncotton, smokeless powder, and fine charcoal. There are many varieties of starch and of glucose, several kinds of gum, grape-sugar, corn-rubber (used for buffers on railway cars), corn-oilcake and meal, malt, beer, wines, alcohol, and fusel-oil. One may see also shuck-mats and shuck-mattresses. How many products of corn there are nobody knows, for new products are evolved every year. And in the fascinating and scientific game of seeing what may be done with corn, the lessons one State learns are freely given to the other States and to the world. The Fair shows Egypt how corn should be grown; a South African has offered $100 for the ten prize ears in the Illinois Farmer-boys' Section, to form the basis of an improved South African crop; and yet, with all the corn triumphs displayed at the Fair, the corn-growers and the manufacturers of corn products are as keen as ever to better their results.

COTTON IN A HUNDRED FORMS

Mississippi's King Cotton, looming tall in the centre of the Cotton Section, vies with Indiana's King Corn in challenging attention. At his feet are two life-sized figures of negro cotton-pickers, with half-filled baskets. As with tobacco, you may follow the production of cotton from the planted seed through field and gin and mill to the many usable products —ranging from cloth to doughnuts fried in cotton-seed oil. Ask what question you will about cotton—it is answered in object-lesson.

Here is a Louisiana cotton with a staple—or fibre—as long as the famous sea-island cotton. But it clings closely to the seed. Well, here is a new kind of cotton-gin which takes it off more neatly than the old kind of gin. Some lint must stick to any seed. True, but here is an ingenious Louisiana man who gives the seed a chemical bath, which leaves it unharmed but saves the lint—a hundred pounds from an acre. He bales it with cord that he makes from the bark of the cotton-shrub. Space in freight-cars and on shipboard is valuable; watch how a machine absorbs the cotton fed to it and presses it into a cylindrical bale one-fourth as large as the bunchy, rectangular bale it came in, and as hard as a board.

Once the cotton-seed and the stalks were thrown away. But now you see, at the Fair, paper made from cotton-stalks. You see, in the Virginia Section, a brilliantly lighted fountain, which strangely fails to splash. A closer view shows the seeming water to be cotton-seed oil. Tall jars, surrounding the fountain, are filled with different soaps manufactured from such oil. Not far away is a demonstration of the value of the oil as food. The cake made when the oil is pressed out is fed to cattle—it has valuable properties as a flesh-former. Nor is there any fertilizer richer in nitrogen.

The Southern planters have begun to imitate the corn-growers in planting selected seed to improve their crops—the long-staple cotton of Louisiana shows what can be done. But there has been no agricultural advance made in recent years more notable than the utilization of the cotton-stalk and the manifold transformations of the formerly despised cotton-seed. Just after the war it was a common practice to move a ginnery when the discarded cotton-seed had so piled up about it as to be uncomfortably in the way. Now, not only in Georgia, but in Mississippi and the other Southern States, there is a cotton-seed-oil mill at every cross-roads.

NOVEL FACTS ABOUT RICE AND SUGAR

The rice exhibit presents the novelty of growing rice-plants surrounded by models of all the machinery and the mill equipment for handling the grain; and it is beautifully, though simply, adorned with rice-sheaves.

"Providence" rice has long been grown in the Southern States, but up to within a few years most of the rice we consumed had been imported—largely from Honduras. Now we raise 20,000,000 bushels a year, some of which is exported. Fifteen years ago, two Iowa farmers, named Duson, came to Louisiana for their health. They brought their farming instinct with them. Why not irrigate Louisiana rice by artesian wells, grow

it on a large scale, and reap it with wheat binders and threshers? They tried it. It proved a success beyond their anticipations. Other farmers came down from Illinois, Indiana, and Iowa. The Louisiana sugar- and cotton-planters turned to rice. Land worth 25 cents an acre rose in value to $125 an acre. Government investigators went abroad in quest of a rice that would not break in milling as much as the long Honduras grains. They returned with a round, hard rice, of which but 6 or 8 per cent. is broken in milling, to 25 per cent. of the other.

Louisiana—and Texas—planted this. In twelve years there has been no crop failure. No troublesome insect has yet appeared. The artesian water used has properties that make it exceptionally good for irrigation. A new agricultural product has reached importance under most auspicious circumstances. Its increase depends largely on the realization by the American people of such facts as are emphasized by the rice-cooking demonstration at the Fair, where 250 ways of cooking rice are exploited—for rice is one of the best of foods.

Before seeing this, however, it is decidedly worth while to examine the processes through which rice goes—fourteen operations in a single mill. And the rice products are as diverse as the products of corn are diverse—nothing is wasted.

The sugar exhibit is a similar story of production from cane through mill to varying grades of sugar, molasses, and syrup, to excellent paper made from sugar-cane, to fodder and fertilizer made of refuse that once was thrown away. A new device in the process of securing the juice from the cane is an automatic sampler, so arranged that, as the juice flows along in a stream, a little is let out from time to time as a specimen from the run. A life-size sugar figure of a woman is a feature of the sugar display.

SOME STATE DISPLAYS

But amazing as the five great central exhibits are, they by no means shadow the marvels in the State displays, for the facts about wheat, and oats, and potatoes, and alfalfa are even more important than the facts about sugar. They are as carefully and scientifically cultivated and improved as corn. Macaroni-wheat has, in large measure, supplanted the softer wheats, and Kansas and Nebraska have thus been able to push their wheat belt farther westward. The Burbank potatoes shown by California are a foot long and of excellent quality—one is a meal for a family. Colorado shows oats eight feet tall. Oregon has cuttings of five crops of a single planting of alfalfa—measuring ten feet of growth for the season. Utah is improving wheat by planting the seed of irrigated grain in rain-watered land, where it soon becomes acclimated. And, as you pass from State to State, you become acquainted with the great farmers of the country, the masters of agriculture, such as David Rankin, of Missouri; J. L. Overstreet, of Indiana; the Shunk brothers, of Illinois; and ex-Governor Hoard, of Wisconsin. Here are the results in which they take pride. Nor will you lack interesting spectacles—the panorama of the Utah Valley, for example; or Nebraska's biograph, which makes you live half an hour in Nebraska.

THE MODEL DAIRY AT WORK

The Exposition has 100 cows in its herd. Of course, they are scientifically fed. To begin with, they are scientifically selected. A record is kept of every cow's food and milk. The milk is brought to the model dairy in the Palace of Agriculture, and what happens to it then you may see through the large plate-glass, of which one side of the dairy is constructed. It is scientifically tested, so that the value of every cow and of every cow's food may be known. Then it is separated, the cream and the milk each going one step further in the interesting processes that follow. Finally, at the end of the long, glass wall, you may buy a glass of milk, or of buttermilk, or a plate of ice-cream, or a piece of cheese, whose whole history, from the food that the cow (of a certain pedigree) ate, has been recorded by the most accurate tests. You may see every stage of the process.

All about you, too, are the exhibits of the makers of dairy machinery and apparatus, who will take your orders for things wherewith you may make your own stable and dairy as clean as your living-rooms, and as safe from bad germs as any other laboratory. And of sculpture in butter there is no end.

The meaning of the attention paid to dairy methods might be summed up in a few facts exploited in the exhibit of Wisconsin,

the State which is linked with the fame of Professor Babcock's work. The Babcock milk-test saves the farmers of Wisconsin alone $800,000 a year, and, if the farmers of the country adopted the scientific milking methods proved efficacious in Wisconsin, they would obtain $100,000,000 a year more than they do for their dairy products. And here is the specific story of what one test accomplished:

To a certain Swiss-cheese factory in Wisconsin—for the State produces all kinds of cheese—a number of farmers were in the habit of bringing every day enough milk to produce 600 pounds of cheese, which was supposed to be of the highest grade. Suddenly, the grade of the output fell off to No. 2, which sold at three cents a pound less, resulting in a loss of $18 a day to the eleven farmers supplying the factory. The curd test was applied. It was found that the defective milk came from one of the eleven herds. A test of the milk of all the cows in that herd proved that the bad milk came from a single cow, which was suffering from a disease of one hoof. The cow was removed from the herd—and the factory resumed producing No. 1 cheese. The cost of the test was $9. It stopped a loss of $18 a day.

OTHER EXHIBITS

In the area given to agricultural machinery, the layman will see a plow said to have been used by Daniel Webster, when he was a boy, and, near by it, a steam plow that would have amazed Daniel Webster more than any event that happened in his lifetime. The expert will find—whatever he wishes to see, whether it be a thresher with a capacity of 5,000 bushels of wheat a day or the latest improvement in corn- and cotton-planters. Many machines are in motion, so that their structure and peculiar advantages may be the better understood.

THE HORTICULTURAL SHOW

The exhibit of apples and other fruits, in the Palace of Horticulture, is an unprecedented achievement, conveying practical lessons. No State was permitted to exhibit unless it could show last fall that it had enough fruit in suitable cold-storage to keep its display supplied throughout the Exposition, for the apples must be changed from time to time. This meant holding a portion of last year's crop fresh and crisp until next winter. There never was before seen such a display of apples in the spring; and the results of cold-storage on different kinds of apples, and on apples grown in different soils, give new and useful scientific information.

PURE FOOD

The definitely educational and scientific value of the Exposition is illustrated by the large section of the Palace of Agriculture given to a display of pure foods, and by the discussions (in September) of pure-food laws and problems. There is a laboratory where preparations of food are analyzed. One may see there pieces of cloth (originally white) which were soaked in prepared food products and indelibly dyed by the harmful coloring matter used to color or to preserve the food. The preparers of pure food make demonstrations of their methods, and give proof of the harmlessness of the materials that they use. There are held, during the Fair, a series of meetings—food congresses, meetings of food chemists, etc., and practical lessons in cooking various things are given during the whole period of the Exposition. A Pure Food Commission, made up of State, Dairy and Food officials, is making an especial effort to bring the adulteration of food, and especially the use of harmful substances, into intelligent publicity and under the condemnation of good pure-food laws. The crimes and the deaths that impure food preparations have to answer for are enough to make civilization blush. Yet the task of forcing all manufacturers to use honest labels and to discontinue the use of hurtful substances is an appalling one. Almost every State has a different law. Some States that have good laws cannot rigidly enforce them. The whole subject is in a chaotic condition. An effort will be made by the scientific work done in the Palace of Agriculture, and by the work of the Pure Food Commission and by the congresses and discussions, to arouse public sentiment, to cause the enactment of good laws and their enforcement—in a word, to wake up intelligent public opinion.

For instruction in the preparation of special kinds of food—food for the weak, for the dyspeptic, for the fat, for the lean, food for babies, food for old persons—the practical scientific knowledge that is put within reach

of the visitor seems exhaustive. You may find out the truth about any kind of food, for any purpose; you may learn how to prepare it; you may see it prepared; you may taste it; you may carry away with you volumes of food literature. Most expositions hitherto have contented themselves with exhibits made by private food-manufacturers and venders. These are here, too, in great numbers. But, in addition to this advertising display, you will find scientific work conducted under the direction of the Exposition and of trustworthy commissions. There ought to come a new era in the understanding of food values and in the popular knowledge of the preparation of food, as a result of all this work. Indeed, the whole agricultural exhibit is stamped with practicality.

MODERN MINING AND ITS PRODUCTS

THE MOST COMPREHENSIVE DISPLAY OF MINERAL WEALTH EVER MADE —MINING METHODS SHOWN IN ALL THEIR AUTOMATIC EFFICIENCY

A COLOSSAL coal-black statue of Vulcan looms fifty feet high in the Palace of Mines, thrusting with upraised right arm a spear-head among the very rafters. It typifies the meaning of iron and the magnitude of the Alabama iron industry. Spread before it are heaps on heaps of minerals—massive pillars of coal, polished granite blocks, exhibits of every ore known to man, in which State vies with State, and country with country, for richness and variety of product. There are common building-stones, gold-nuggets, precious gems. Around and between and among the displays is activity—stamp-mills crushing ore, coal-mines in operation, coal-breakers automatically crushing, sorting and conveying coal, concentrating-tables separating metals from the mother-rock—some of full size, others working-models.

Outside the building is the Mining Gulch, where the mining-camps, the ore-mills, and even a foundry, are real. Here, too, are an artificially made turquoise mine and a crystal cave, conveying an actual impression of underground wonders in New Mexico and North Dakota. One may ride through an imitation coal-mine and see lay figures of miners repeating the phases of industrial life in the Pennsylvania anthracite fields; though this, like some of these other Gulch features, is a private enterprise, to which an admission fee is charged.

More and more the mining and handling or ore is carried on by automatic machinery. So not only in the working models and in the mines and mills in the Gulch, but also in separate exhibits, machines are displayed which minimize human labor. A survey of the indoor exhibits and a trip through the Gulch give in very brief time a comprehensive knowledge of the needs, economies, and results of modern mining.

Not an item has been omitted, and special departments of mining have been exploited as never before. Many foreign countries have exhibits, but the most immediately striking displays are made by the States. Even Iowa, which everybody thinks of as a prairie State, comes forward with products from its 300 coal-mines, and alluvial Nebraska makes an interesting exhibit, the basis of which is a joke. Nebraska shows the soils in which are grown its corn crops. Above some of the tall glass jars of prairie earth are two glass vessels filled with gilded and silvered ears of corn. The legend reads, "Gold and silver nuggets extracted from the agricultural soil of Nebraska to the amount of $200,000,000 a year. It is the surest of all mining, and the wealth is distributed among a greater number of people."

But, in the sections where the mining States spread their riches of mineral and metal, the United States is shown in object-lessons to be a veritable treasury.

Colorado has a display that is probably the most beautiful and symmetrical array of precious minerals ever exhibited. Gold is heaped up in the centre in a yellow pile. Its neighbor is a white heap of silver. Another broad, yellow patch strikes the eye; it is

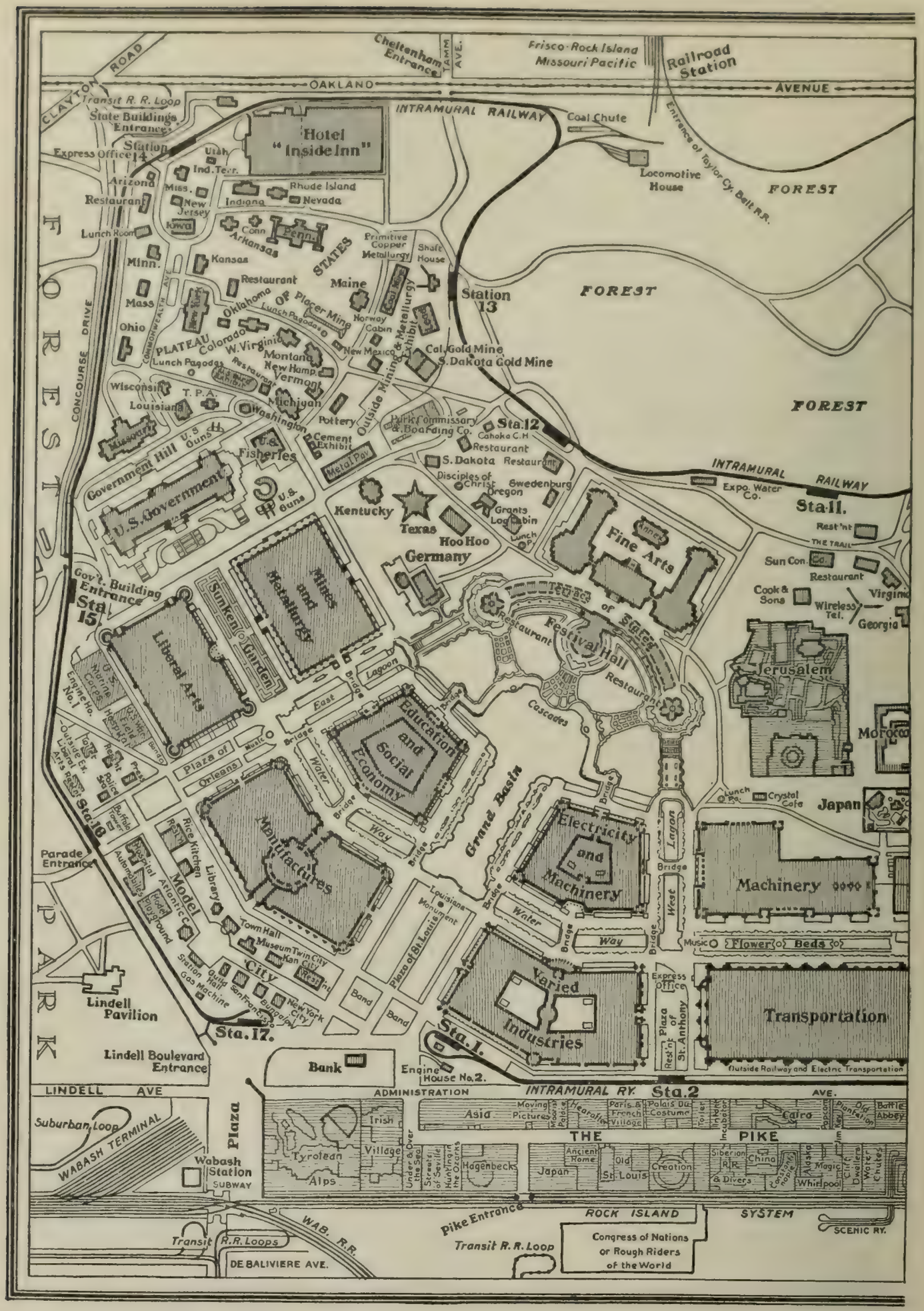
carnotite, from which radium is extracted. There are slabs of ore from the famous Portland Mine, at Cripple Creek, with free gold sticking out all over it. There is a heap of copper in its various stages, and a brilliant collection of multicolored gems. Louisiana shows a figure of Lot's wife in salt, and Utah, too, exploits salt in exhibits that range from vivid photographs of salt harvesting along Great Salt Lake to jars of brine from the lake itself. Salty? Five barrels of this lake water contain one barrel of salt. California presents many large gold nuggets and models of the largest nuggets ever found in the United States. Montana tells the story of copper, and Pennsylvania the story of coal. Nevada and Arizona give exhibitions of borax in its many uses. State after State expends its mineral resources in decorative structures—here a coal arch, set up by Indiana; there a coal tower, presented by Pennsylvania; here a pyramid of a beautiful pink California mineral, from which lithia is made; there a tower of copper bars from Montana.

Private firms have separate exhibits of mining machinery of marvelous efficiency; there are enough automatic machines in view—coal-cutters, rock-drills, hoists, conveyors, and mill apparatus—to show that the man with the pick is no longer the symbol of mining. The symbol is rather the man with his finger on the trigger of a compressed-air tool, or on the lever of a steam-engine, or on an electric switch. Human interest is not lacking even in these exhibits of machines. As you wonder at an automatic drill thunderously eating its way into granite at the rate of half an inch a minute, you are told the tale of machine contests in Colorado. The men who race must put together a machine, set it up, drill three holes in different directions into a slab of rock, and then take the machines apart again. The game is played amid intense excitement.

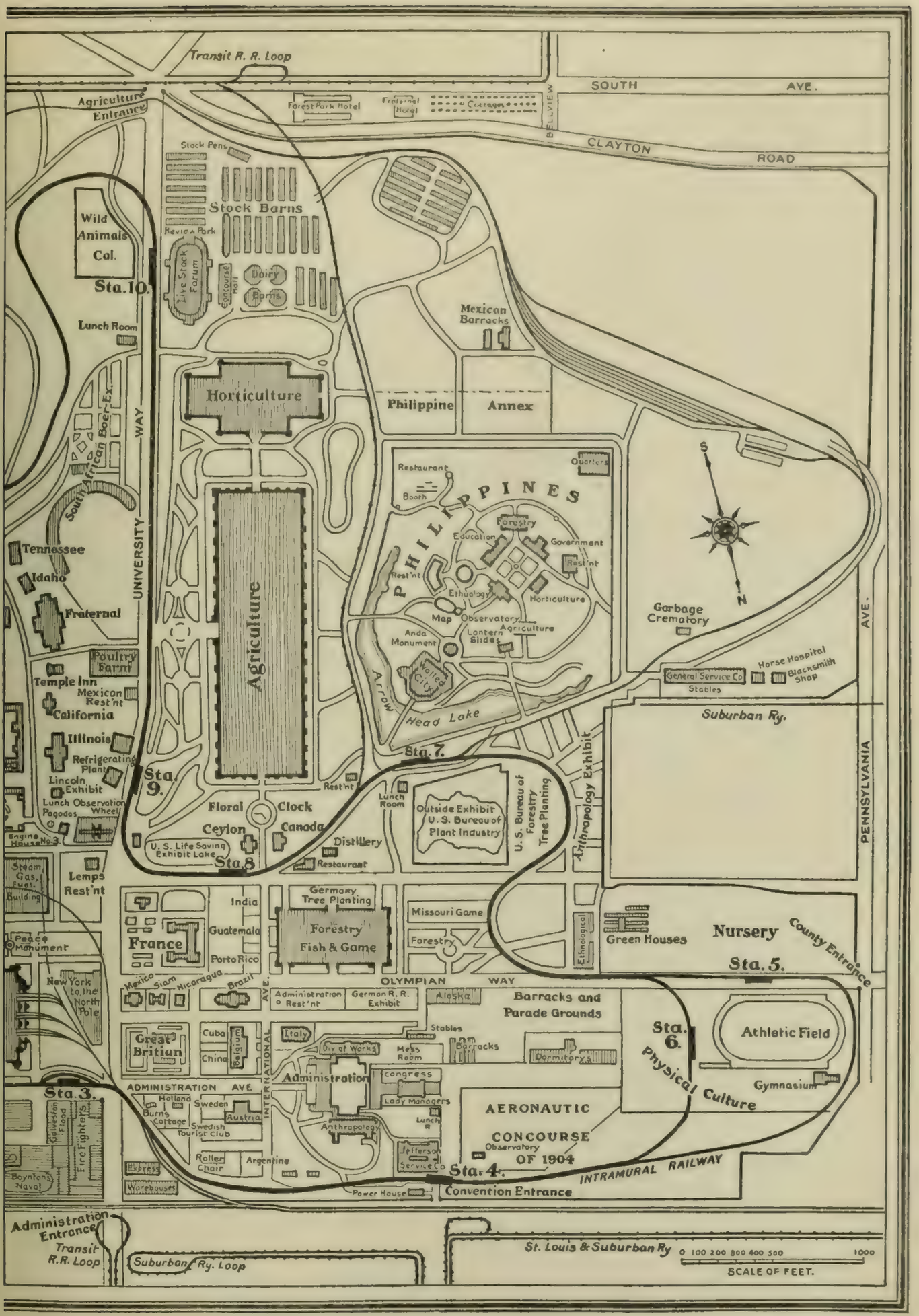
But the models that show the underground arrangements of mines, the working models which reproduce in miniature every detail of mining and handling minerals, and the full-sized mills in the Gulch are the most interesting and informing exhibits. Men are able, by boring out cores of rocks in selected places over a stretch of country, to make as accurate a reproduction of what is underground as a maker of relief-maps can make of the surface. Mine owners, of course, know the ramifications of their shafts and tunnels. So here at the Fair are models, in glass and in actual mineral material, of whole sections of the underearth. The glass ones are so arranged that an observer can look among the imitated rock strata and among the tinted veins of the earth as he might look into the transparent interior of an aquarium. The working models give him the feeling a giant might have if he could look down on the coal-mining tipples of Pennsylvania, or remove the top layer of the earth in Colorado and see the midget men at work in the tunnels, or gaze down into the open iron-mines of Michigan. In brief, you may stroll about and see Liliputian mining and ore-working of every form going on about you; whole industries brought within the scope of a glance. It you have ever spent a day in a gold-mine or a coal-mine, take this as a hint of what you may see in the Palace of Mines—there are models here that, in five minutes, give you a clearer idea of mining operations than your whole day gave you underground.

In the Missouri Section are a coal-tipple, a lead and zinc concentrating mill, and a magnetic separator for lead and zinc ores. There are several stamp-mills. South Dakota's is of full size. In this mill, ores from every part of the country are treated, to show the relative values of different processes for extracting metal from ore.

Other interesting exhibits are here without number. There are jewels spread out, of every hue and brilliancy. The largest exhibit of radium ever gathered gives a layman as clear an idea as he wishes to have of this strangest of elements; for in a small, dark room its properties are shown in experiments. The Standard Oil Company makes a display of oil and its many products. Another company shows the manifold products that come from coal. A Pittsburg steel company has sunk a broad section below the level of the floor, within which it exhibits armor plate, all splashed with shot-holes, and the latest forms of automatic quick-firing guns, range-finders, and other military and naval equipment. Towering above the exhibit is a model of a full-sized battle-ship turret, with two huge thirteen-inch guns projecting. And the foreign countries, notably Japan, Germany, and Canada, teach an American much about mineral resources and mining methods abroad.


Cheltenham Entrance
TAMM AVE.
Frisco-Rock Island Missouri Pacific
Railroad Station
OAKLAND AVENUE
CLAYTON ROAD
Transit R. R. Loop
State Buildings Entrance
Express Office
Station 14
Hotel "Inside Inn"
INTRAMURAL RAILWAY
Coal Chute
Locomotive House
Entrance of Taylor Cy. Belt R.R.
FOREST
Utah
Ind. Terr.
Arizona
Miss.
New Jersey
Rhode Island
Indiana
Nevada
Restaurant
Lunch Room
Iowa
Conn
Penn.
Arkansas
STATES
Primitive Copper Metallurgy
Shaft House
Minn.
Kansas
Restaurant
Maine
Station 13
Mass
Oklahoma
OF
Placer Mine
Lunch Pagodas
Norway Cabin
Ohio
Colorado
W. Virginia
PLATEAU
Montana
New Hamp.
Vermont
New Mexico
Cal. Gold Mine
S. Dakota Gold Mine
Outside Mining & Metallurgy Exhibit
Wisconsin
T. P. A.
Louisiana
Michigan
Washington
Pottery
Cement Exhibit
Parks Commissary & Boating Co.
Sta. 12
Cahoka C. H.
Restaurant
Missouri
Government Hill
U. S. Guns
U. S. Fisheries
Metal Pav.
S. Dakota Restaurant
INTRAMURAL RAILWAY
Disciples of Christ
Swedenburg
Oregon
Expo. Water Co.
Sta. 11.
U. S. Government
U. S. Guns
Kentucky
Texas
Hoo Hoo
Germany
Grants Log Cabin
Lunch Pav.
Fine Arts
Rest'nt
THE TRAIL
Sun Con. Co.
Restaurant
Cook & Sons
Wireless Tel.
Virginia
Georgia
Gov't. Building Entrance
Sta. 15
Mines and Metallurgy
Sunken Garden
Liberal Arts
Lagoon
Bridge
East
Bridge
Restaurant
Festival Hall
Court of States
Restaurant
Jerusalem
Morocco
Cascades
Education and Social Economy
Plaza of Orleans
Music
Water
Bridge
Way
Grand Basin
Lunch Pav.
Crystal Cafe
Japan
Electricity and Machinery
Lagoon
Bridge
West
Bridge
Machinery
Manufactures
Parade Entrance
Rice Kitchen
Model
Library
Atlantic
Louisiana Monument
Water
Bridge
Way
Music
Flower Beds
Town Hall
Museum
Twin City
Kan City
Rest'nt
City
Plaza of St. Louis
Band
Band
Varied Industries
Express Office
Rest'nt
Plaza of St. Anthony
Transportation
Lindell Pavilion
Sta. 17.
Sta. 1.
Lindell Boulevard Entrance
Bank
Engine House No. 2.
Outside Railway and Electric Transportation
LINDELL AVE
ADMINISTRATION
INTRAMURAL RY.
Sta. 2
AVE.
Suburban Loop
WABASH TERMINAL
Plaza
Irish Village
Tyrolean Alps
Under & Over the Sea
Streets of Seville
Hunting in the Ozarks
Hagenbecks
Asia
Moving Pictures
Paris & French Village
Palais Du Costume
Cairo
Old Plantation
Battle Abbey
THE PIKE
Ancient Rome
Old St. Louis
Japan
Creation
Siberian R.R.
China
Alaska
Magic Whirlpool
Cliff Dwellers
Water Chutes
Wabash Station
SUBWAY
Pike Entrance
ROCK ISLAND SYSTEM
SCENIC RY.
Transit R.R. Loops
WAB. R.R.
Transit R.R. Loop
Congress of Nations or Rough Riders of the World
DE BALIVIERE AVE.
FOREST PARK

A PLAN OF



THE FAIR GROUNDS

WHAT THE GOVERNMENT DOES FOR THE PEOPLE

AN ENTERTAINING AND SIGNIFICANT EXHIBITION, WHICH SHOWS OUR MANIFOLD NATIONAL ACTIVITIES AND AROUSES THE PATRIOTIC INTEREST OF THE PEOPLE

NINE people out of ten at the Fair, when asked what exhibit interests them most, will say "The Government's." Watch a party of visitors from a Mississippi Valley State, people who have never seen the sea, as they wander through the passages of the battle-ship model or squint along a rapid-fire gun on deck, across an imaginary ocean. The shine in their eyes betrays a mixture of excited interest and patriotic pride. Far though the coast may be from their homes, it is yet their coast that such battle-ships guard, and the battle-ships are theirs. And it is a semi-proprietary satisfaction that affords a good part of the pleasure that any American evinces in gazing at the processes or results of the many government activities he sees exploited here. A visitor will observe a hundred interesting novelties; he will leave the building—only to go back later for another look—round-eyed with amazement at the many things the government does for the people; but his spirit will be self-gratulatory—it is *we* who are doing it all.

And, indeed, it is much. You may enter the spacious and dignified building from the south; you walk into the State Department, where you can look back through a glorious history with the aid of priceless documents and national relics, or forward with the aid of a relief-map of the new Panama Canal, or of a map that shows the route of the proposed intercontinental railroad to South America. Enter from the west, and you walk either into the mint or into the United States Army exhibit. From the north, you come into the Post-Office or the Geological Survey. An east entrance offers a choice of the Navy or the National Museum. Start anywhere, and zig-zag up one side of the building and down the other: you have visited every department and bureau of the government. You have seen how mines explode under battle-ships, how coins are made, how rain is measured, how radium is used, what the Yosemite Valley looks like, what kind of Esquimau dogs draw the mail in Alaska, how bugs lay their eggs in pools, how mosquitoes breed and silkworms eat, how snag-boats pull stumps from the Mississippi River, how battle-ship bulkheads are closed, how trichinæ are discovered in pork, how drugs are tested, how color-printing is done, or you may have been interested in sun-spots, apples, giraffes, Krag-Jorgensen rifles, or cheese.

Whatever the inadequacies of the United States Post-Office, indubitably it serves more people than any other institution in the world, in divers ways, very intimately, and often romantically. Yet, in comparatively small space at the Fair, all its activities are carried on, suggested, or pictured. Here is an actual post-office very busily handling the mail of the Fair—you can see every operation. Here an automatic canceling machine is stamping a flying white ribbon of letters. Crowds of visitors are peering into mutoscopes, wherein they see postmen, in city and country, delivering and gathering letters, mail-trains snatching and discharging sacks while running sixty miles an hour, marine transfers from ocean liner to mail-boat or from mail-boat to lake steamer, and other picturesque handlings of mail. In one corner is a pneumatic tube in operation. Models showing different kinds of mail transportation range from Porto Rico mule-back service to star-route pony-riders, from rural delivery-wagons to an Alaskan dog-sled with its team, from trolley-cars to a full-sized railway mail-car, in which clerks are at work. A musty old book records all the dead letters from 1777 to 1788—365. For the corresponding eleven years a century later there were 2,660,324. And here are specimens of some modern dead letters—coffee-pots, skulls, fire-crackers, dolls, revolvers, bottles of whisky, bombs: a museum of curiosities. And whatever phase of postal

effort can be most vividly presented by a picture is set forth in a series of paintings. Whoever has ever written a letter to any destination can see here what is done with it from the time it starts to the time it arrives.

The Smithsonian Institution and the National Museum show an array of wonders. There is a Children's Room, full of rare birds and fishes. Beyond is an astrophysical laboratory. A bolometer is shown, which measures heat to one-millionth of a degree, and a galvanometer, which measures one-billionth of an ampere of electricity. There are also transparent photographic plates, lighted from behind, which realistically illustrate the phenomena of eclipses and of eruptions on the sun. Outside are collected many of the wonders from the National Museum, reproductions of extinct animals, a skeleton of a whale, stuffed birds, and animals, fishes, and reptiles, Indian baskets, models of Aztec temples, minerals, and fossils. This exhibit entertains far better than most museums, for it is a selection of the most interesting of museum objects. An Indian from the Anthropology Reservation was showing the stuffed animals to his blanketed family one afternoon. His grunts of amazement at giraffe and rhinoceros were eclipsed by a gleeful chuckle when he recognized the grizzly bear. At the same time, a serious aged couple from Missouri were puzzling over the dinosaurus. There is matter here to attract every one.

The naval exhibit is picturesque as giving a vivid presentation of life in the Navy and significant as indicating marked naval progress in the last few years. A little theatre is darkened every hour, and visitors watch naval scenes flit by in biograph pictures—an awkward squad of "rookies" are given their first drill, a boxing-match takes place on the deck of a battle-ship, President Roosevelt comes aboard a ship and makes a speech to the cheering sailors, a column steams by in battle formation, every ship wrapped in smoke and steadily firing. The people pour out from the biograph exhibit to go aboard the battle-ship model, where they see what modern battle-ships have become.

From the deck of the battle-ship one may see, below, a model of a new submarine boat of a type the government is now having built. In another direction is a floating dry-dock—a model of the one recently installed at New Orleans—in which a model of the Kearsage is raised for mimic repairs.

The Army exhibit, opposite, tells the full story of the Army. A cartridge factory is at work turning out cartridges after many processes in machine after machine. Near-by is an array of guns, ranging in successive steps from the wheel-lock musket of the fifteenth century to the arm now being manufactured for the United States Army—a magazine rifle that is loaded five cartridges at a time. Full-sized models of a train of mules are carrying a mountain-battery. Lay figures in wax reproduce a field-hospital. West Point is pictured in a part of the section as Annapolis is pictured in the naval exhibit. The most timely exhibit in all the war display, however, is the reproduction of a fortified harbor. Guns are placed in position in a fort on a hillside which slopes down into a huge tank with high glass sides. The tank represents the harbor. Scattered about in it are anchored contact mines. A small model of a battle-ship sails up the harbor toward the fort. Looking through the side of the tank, one can see it strike a mine. There is no explosion, but whenever the blow has been hard enough to explode a similar mine an electric lamp is lighted within the mine itself—one can see it shine for a moment through little glass-covered apertures.

In conjunction with this are displays which show how light-houses are equipped and maintained, rivers widened and deepened and banked with levees, harbors made securer and more commodious, seas sounded and charted. The models and devices are many and ingenious. Reproductions of sections of the Mississippi illustrate in miniature the grading of banks and the laying down of brush-mats to keep the river from scouring. Colossal hoes, worked from steamboats, level off the very bottom of the river. A snag-boat pulls out snags. An ingenious arrangement is perfected by which a steamboat trails a boom along the bottom of the river. The upper end writes a record of the undulations of the bottom. A huge floating machine, like a catamaran, trails a transverse boom below the surface in the Lakes—this to catch obstructions. A relief-map shows the great engineering achievement under way to make the harbor of Galveston

tornado-proof. A plan of the new ship-channel in New York Harbor is accompanied by models of ships. The *Dreadnaught*, the largest ship entering the port in 1800, was 150 feet long, 27 feet wide, and 11 feet deep. In 1880, the *Arizona* came in—465 feet long, 46 feet wide, 22 feet deep. In 1900, the *Oceanic* used the channel—704½ feet long, 67 feet beam, and drawing 30 feet. Vessels grew in size to meet the needs of modern commerce, and the channel has been widened and deepened to serve them.

The mint is at work stamping out gold and silver money. Every process is real. In the laboratory of the Geological Survey an attendant is at work slicing specimens of rock down to one one-thousandth of an inch. A press is turning out topographical maps of St. Louis for free distribution. The Survey has already made minute topographical maps of three-fifths of the country, and geological maps for a smaller area. At present, however, it has as many men engaged on reclamation projects as on all the rest of the work. The results of this are made plain in various places in the building in models of irrigation works and notably in one model showing the reclamation of alkali desert—the Salt River experiment. In this work, the water must do more than irrigate; it must first wash the alkali out of the land. And so, from one thing to another—the interesting exhibits are endless.

It is in the sections, however, which show what the government does to make farming more efficient and living more comfortable that one sees the government in closest touch with the people.

A huge relief-map is shaded to show the areas of light and heavy rainfall throughout the country, and, in the surrounding section, a weather-office is maintained. All the ingenious machines for recording wind-pressure, rainfall, heat, and the other data the Weather Bureau employs are exhibited and explained. A weather-map is printed here every day. It may surprise some to learn that four-fifths of the prognostications of the Weather Bureau are right, and that no considerable storm in the last ten years has missed being predicted. Free distribution of the Bureau's information has been a boon to both navigators and farmers. And various bureaus in the Department of Agriculture give even more beneficent service.

Here are cases of all the more harmful insects placed as if destroying the fruit or leaves or cotton-bolls on which they feed. Each insect is exhibited in all its forms. Of some, huge models are made that make a chinch-bug as large as a rat. Many of these pests the government bureaus have practically exterminated. They are now working on the others. A tank shows the larvæ of harmless and of malarial mosquitoes. One can learn from these and from the full-grown mosquitoes how to distinguish between the two kinds. One may learn not only how to exterminate both, but how to kill off any other pest, from houseflies to cut-worms. Silk-worms are feeding near-by on mulberry leaves, and spinning their cocoons; the government is endeavoring to establish silk-culture in the South. And all this is but a tithe of what the section shows. Government experts are apparently watching every individual bug in the whole bug world.

They are examining every steer and sheep and hog killed at the great slaughtering centres of the country—and every slaughtered carcass. All the diseases of cattle and the parasites that cause them are shown in specimens of tissue and bacteria. Then one may see a map showing the cordon of inspectors—who have been trained by studying such specimens—thrown about the sections of the country where cattle diseases are prevalent. Models show how cattle and sheep are dipped and disinfected. Microscopists explain how they examine pork.

Other experts are at work in a laboratory where foods and drugs are tested. There is an exhibit setting forth the methods and results of testing the effect of various diets on human beings. The Bureau of Soils makes clear, in most interesting exhibits, how its experts examine soils in order to tell farmers in various sections what they had better plant. And the Bureau of Plant Industry spreads proofs of its ceaseless efforts to improve crops, to start new kinds of crops, and to inform farmers how to handle their crops most efficiently and profitably. Its display is full of marvels. And all the information these various bureaus obtain is spread broadcast by the government as a prerogative of American citizens.

The government exhibit alone is worth a trip to St. Louis.

The March of Events

THE most foolish of all mid-summer lassitudes is political prophesy—for thoughtful men. Your professional politician is professionally sure; and your emotional party-man knows that his party will win. But, emotions and professionalism apart, the election will be determined by a few large forces. Campaign funds will play a smaller part than in recent elections.

The influences that will be felt strongest in shaping men's minds are the personalities of the candidates. The more these are discussed, the better each man will appear. For it is easy to say that Mr. Roosevelt is "unsafe"; but, when definite acts are asked for, his unsafe acts are very hard to find. He is so attractive a personality that the better he is understood, the more he gains. Similarly with Judge Parker. His courage and frankness have won the admiration of the whole people. The better they know him, the stronger he will be.

The tariff will cut a larger figure than any other doctrinal party difference. There is little reason to hope or to fear that protection has lost its hold on the Republican masses, and it has gained a hold on some Democrats—many in the South, for instance.

The "practical" influences that have a bearing on the campaign are factional differences, such as the inter-Republican quarrel in Wisconsin and the possible "tangle" in New York. But local factional quarrels in either party are likely to be patched up just before an election, if not sooner.

Many men who are Democrats by doctrine, but who voted for Republican candidates during the ascendancy of Mr. Bryan, may feel disposed to wait even a little longer to see whether the return to safeness and sanity be real in the ranks of the party itself. This feeling will, in a general way, be favorable to the Republicans. But the normal strength of the Democrats will be shown at the polls as it has not been shown for a long time in a national election.

The election will, of course, be decided by the votes of a very few States, such as New York and Indiana. Judge Parker must win several important northern States, as Mr. Cleveland did, or be defeated. The Republicans have simply to hold a part of what McKinley won; and, in this aspect of the case, the Democrats are at a disadvantage. The balance of advantages in the early months of the campaign are somewhat with the Republicans.

There has, perhaps, never been a Presidential campaign in our history when both candidates were men of such a high level of character and courage — representatives of the best American manhood.

A DEMOCRATIC LEADER IN FACT

THE rehabilitation of the Democratic party is an important and cheerful fact, and it will make this year's campaign historic, whatever the result of the election be. The masses of the party have recovered from Bryanism; and the convention would have directly given proof of its recovery but for two personal forces that were at work in the sub-committee and in the committee on the platform. One was Mr. Bryan's own fanatical persistence; the other was Mr. David B. Hill's pusillanimous surrender to Mr. Bryan for the sake of "harmony."

With the mass of the party willing to commit itself to the gold standard, a wise or modest man in Mr. Bryan's place would have been silent. But he courted defeat, and, after preliminary victories, suffered complete humiliation. The convention indirectly committed itself to the gold standard, under force from Judge Parker.

And the convention's indirection gave Judge Parker an opportunity to show, by a single telegram, that he is a man of uncommon courage and frankness, fit for the highest and greatest responsibilities. It won the world's admiration instantly; and he has given to his party leadership with character such as it has had but once before within the memory of living men.

The telegram that he sent to be read to the convention will become historic. The convention had nominated him, and had adopted a platform that made no mention of the monetary standard. Since Mr. Bryan had himself caused this omission, it was equivalent to a practical repetition of the old free-silver platform of the last two campaigns. The

party, therefore, stood not opposed to the old platform, but constructively in favor of it. With the nomination already made under these conditions, Judge Parker promptly sent this telegram, to be read to the convention:

"I regard the gold standard as firmly and irrevocably established, and shall act accordingly if the action of the convention today shall be ratified by the people.

"As the platform is silent on the subject, my view should be made known to the convention, and, if it is proved to be unsatisfactory to the majority, I request you to decline the nomination for me at once, so that another may be nominated before adjournment."

After a wrangle that lasted far into the morning, the convention, having become weary of Mr. Bryan's renewed arguments, voted by 774 to 181 to send Judge Parker this answer:

"The platform adopted by this convention is silent on the question of the monetary standard because it is not regarded by us as a possible issue in this campaign, and only campaign issues were mentioned in the platform. Therefore, there is nothing in the views expressed by you in the telegram just received which would preclude a man entertaining them from accepting a nomination on said platform."

Thus the convention yielded to Judge Parker's force of character and committed itself to the gold standard.

The single doubt that remains is a doubt of the sincerity and courage of the minor leaders of the party. As represented in the convention, they showed indecision till they were forced to act. They showed a lack of character so long as they were left to themselves. But the party now has a leader, and a new outlook.

The aged ex-Senator Davis, the nominee for Vice-President, is a man of sound character, of fixed principles, and—of great wealth. The oldest nominee for the office in our whole history, he would never have been considered for a Presidential nomination. But he stands for the gold standard, and his nomination is, therefore, an additional committal of the party to sanity and safety.

WHAT MR. ROOSEVELT STANDS FOR

WHEN Mr. Knight, of California, declared in the National Republican Convention, at Chicago, that the party needed Mr. Roosevelt more than Mr. Roosevelt needed the party, he spoke truth as well as eulogy. For the dominating personal influence of the President is now the largest fact in national politics. Although his party is not now particularly poor in men, it makes a poor showing, measured by its natural bent and action, apart from the President. Apart from him, it would have nominated Mr. Hanna, if he had lived, or a man of (say) Mr. Fairbanks's calibre. Clearly, then, the party owes its best tendencies and its chance of success to the President's personality.

His necessary nomination marked the formal triumph of his character and methods over the old machine. The more or less silent struggle began as soon as Mr. Roosevelt became President. He lost some encounters in the long contest; for he yielded to the enemy in making some appointments. But he has carried out his plan of being President himself, and not a mere part of an administrative machine. His nomination forced by the wishes of the masses of his party, in spite of the old Republican machine, is a complete triumph. The party has accepted him and what he stands for; and, by accepting him, it has received the first new impulse that it has had in many a year. In several campaigns, it won with commonplace candidates by the force of well-managed "business," and because of Democratic folly. It now has the most vigorous personality at its head that it has had since Lincoln; and what is best in the party is summed up in Mr. Roosevelt. He has given it a new impulse

What Mr. Roosevelt stands for, in political action as well as doctrine, has been admirably set forth by the *Outlook*, chiefly from his public utterances, substantially as follows:

The Race Problem: "I certainly cannot treat mere color as a permanent bar to holding office," he wrote. . . . "Just as little will I treat it as conferring a right to hold office."

The Labor Problem: He believes in labor organization, but organization must be free. No one must be forced into any organization.

The Trust Problem: The nation, which is sovereign, has a right to regulate corporations, which are the creatures of law; but it is wise to use this power of regulation cautiously. The first step in regulation is publicity.

The Tariff Problem: The protective system, with flexibility enough to admit of readjustment to changing conditions; and reciprocity to give us a greater foreign trade.

Expansion: The right to acquire territory

beyond our borders, but the duty to help dependent peoples "upward along the stony and difficult path that leads to self-government."

Our Foreign Policy: Friendliness to all other Powers, and a strong navy to keep the peace.

On all these subjects, except the tariff, Mr. Roosevelt has made a record by acts as well as by expressions of opinion. These, then, are the things that "the Republican party has indorsed in nominating him," and that "the nation will commit itself to if it elects him."

THE PRESIDENT'S PERSONALITY AS A PLATFORM

BUT much more important than doctrinal statements is the man. He has set a new standard of activity in public life. The whole service under him has been keyed higher. Energy, promptness, efficiency have come to have a new meaning. His character and method have acted as a tonic. He knows the country and the people of every part of it more intimately than any recent President. Have the arid States an irrigation problem? He knows it, and the government has begun a great system of water-works. Was the Army unorganized and disorganized? He was a soldier himself, and, under his administration, Secretary Root made a reform that will become historic. There is a Philippine problem—a group of problems, in fact. The man who knows most about them is now one of the President's chief advisers. We were dallying with the duty of cutting a canal across the American isthmus. We are now going to cut it, thanks to the President's ready activity. We have won an international influence by expansion, such as we never had before. President Roosevelt's Secretary of State has turned it to the wisest, and largest, and most humane uses, especially in dealing with Asiatic problems; and the whole future of Asia may be profoundly affected by our diplomacy. At home, an anti-trust law stood on the statute-books, jeered at for its inefficiency. He made it effective, and we have gone a long step further at least toward an understanding of the trust problem.

Such vigorous and straightforward activity has alarmed the timid and is shocking to ultra-conservative temperaments. So strong a personality arouses the bitterest opposition and even hatred. All really strong personalities do. Every strong President has provoked fear. Washington himself was decried as a sort of monarchist. Jefferson was thought to be an apostle of anarchy. Jackson was accused of destroying the last remnant of public dignity. Lincoln was a tyrant. Grant aimed at a sort of monarchy. Cleveland "surrendered to the money-power." History is repeating itself when a Texan orator informs his hearers that Mr. Roosevelt has Wilhelm II. as his model, and wishes to create an imperial government.

Yet Mr. Roosevelt has been the frankest and most candid of Presidents. He has taken the public constantly into his confidence. He has worked "in the open." There is no mystery about his conduct. He has simply set a pace that dull imaginations cannot follow, and that dilatory and indirect politicians are not accustomed to. But he has inspired American youth. He has set a new standard of conduct—in a way, he has given a new direction to national character. He is a new impulse, and a morally decadent party has taken a higher level of life because he has won its leadership; and he won its leadership by the admiration of the people, chiefly of the central and western States, in spite of the violent opposition of the South, and the quieter opposition of the old machine and of the economically privileged class in the eastern States.

THE DEMOCRATIC PARTY ITSELF AGAIN

THE nomination of Judge Parker is an act of character. By it, the Democratic party assumes again a proper station and begins a new era of dignity and usefulness. His behavior during the months preceding the convention recalls the dignity of the fathers; his prompt action when he was nominated on a platform that he could not accept revealed his stanch qualities; and his bearing as President, if he should be elected, would be in keeping with the traditions of the most dignified era of his party.

Judge Parker is a man whose Democratic creed has a meaning. He represents admirably the historic doctrines that have given the party vitality through all the changes in our history—a body of doctrine that has been persistent and unchanging longer than any other political creed that we have. It includes privileges to none; taxation for revenue only—no protection of the government, incidental or direct, to any person, or

class, or interest; as little government, in fact, as possible; no experiments—no "expansion," for instance; friendliness to foreign Powers, of course, but as little to do with foreign affairs as possible; the utmost economy; Conservatism written large enough to spell deliberation, if not hesitancy; the old paths and the least noise. Except as regards the tariff, the two parties now represent opposing temperaments rather than opposing creeds. The quieter national mood is what Judge Parker stands for.

The historical Democratic doctrines have the assent of half the people of the nation, more or less; and the Democratic mood fits the temperament of many men who mistake moods for doctrine. For those who "fear" Mr. Roosevelt, there could hardly be a more congenial temperament than Judge Parker's.

Our oldest political party, thanks to him, has come to itself again. It can no longer be said that its success would be a national calamity. It is again worthy of the support of the thoughtful and right-minded men whose temperament it satisfies.

THE "DECLINE" OF THE VICE-PRESIDENCY

ONE public man, at least, put aside this year a nomination for the Vice-Presidency that was within his reach; and many more affected an unwillingness to accept it. Thus it has become a sort of fashion to regard the office as a place of mere dignified retirement from real political life. The public journals belittle it, and there is a popular notion that it is useful chiefly as a means of adding to the Presidential ticket a man of fortune or a man who may win support in a doubtful State. This is an unworthy view to take of a high public office, and it gives a good insight into the effect that practical politics has had on the esteem in which the public service is held.

The Vice-Presidency has no patronage: it is, therefore, "no good." The man who fills it has no direct constituents. "Practically," it is an office without influence.

But, for that very reason, it is an office of very great possible dignity and importance. A man of a strong personality and of great public spirit could, as Vice-President, have an influence second only to the President himself. He could not build up his power in a spectacular way. But a really great man does not need spectacular methods or positions. Freed from the annoyance of patronage, and relieved of the drudgery of committee work, he could give his time and energy wholly to the promotion of the public welfare in large ways. He has a dignified post. He has social position. He has the advantages of public station without its burdens.

But a man of small aims or of mere party-methods finds himself, in the office, only a part of the machinery that has no function—a sort of fifth wheel to the wagon. How a man regards or uses such an office gives a measure of the man rather than of the office.

RECENT CHANGES IN THE CABINET

MR. KNOX'S retirement from the Cabinet, to accept a seat in the Senate from Pennsylvania, is fortunate for Pennsylvania. For a very long time—there is a temptation to say from time immemorial—that important commonwealth has contributed nothing better than effective bosses of defective character to the Senate.

But complaint is made that Mr. Knox will represent the great corporations, and he has been accused of surrendering to them—he who was lately their prosecutor. But it is fairer to judge a man's character by his actions than by the conjectures of his critics. As Attorney-General, Mr. Knox went about the plain duties of his office with vigor and success. He brought and won the government's suit against the Northern Securities Company and many more cases against violators of the anti-trust and the interstate commerce laws. He contributed more than one clear statement to the discussion of the management of trusts, notably his speech before the Chamber of Commerce, at Pittsburg. True, he had had important corporations as his clients before he became Attorney-General; and, doubtless, he will again have them as clients. But he has shown an independent mind and a sense of public duty in conspicuous and effective ways. These qualities will count in his favor in the judgment of fair-minded men; and his ability will put him among the very foremost members of the Senate.

Mr. Paul Morton, who goes into the Cabinet because of Mr. Knox's retirement (Mr. Moody becoming Attorney-General and Mr. Morton Secretary of the Navy), is a vigorous and successful man-of-affairs, of the Roosevelt

type—energetic, frank, hale. Without experience in public life (perhaps he is all the better for that), his successful administrative work in railway management will serve him a good turn. He has not had the party service that would commend him to the elders. But he has the vigor and the character that fit him for just such duties as the Secretary of the Navy has to do. The selection of such a man, who is not a politician, is as characteristic of the President as his selection of his Postmaster-General was not.

Mr. Metcalf, a member of Congress from California, who has become Secretary of Commerce and Labor in the place of Mr. Cortelyou, is a man of experience in public affairs; and, by his selection, the Cabinet has a Pacific Coast representative.

Mr. Cortelyou's resignation, to become the manager of the Republican campaign, is a characteristic evidence of the President's wish for the clean and dignified conduct of it. Mr. Cortelyou is not a collector of funds, but he is a man of the most orderly methods and scrupulous ways. Under his management there will be no "rousing round-up" in doubtful States.

What odd turns fortune shows, by the way, in two of these Cabinet changes! When Mr. Cleveland was President, Mr. Cortelyou was an under-secretary in the Executive Department. He has since become a member of the Cabinet and the manager of the Republican campaign. Mr. Morton's father was Mr. Cleveland's Secretary of Agriculture and a Democrat of the genuine sort—by nature and by culture a Democrat. His son has a portfolio in Mr. Roosevelt's Cabinet.

The Cabinet is now largely made up of men of Mr. Roosevelt's selection. Mr. Hay, Mr. Wilson, and Mr. Hitchcock were appointed by Mr. McKinley; but all the rest are Mr. Roosevelt's selections. They are Mr. Taft, Mr. Shaw, Mr. Moody, Mr. Morton, Mr. Metcalf, and—Mr. Payne.

WELL-MANAGED CUBA BECOMING AMERICAN

TWO large facts stand out in the history of Cuba's first year of independence.

The first fact is the good financial and administrative management of the government. The sanitary work begun under American control has been carried on effectively and more cheaply. Road-building has been continued. On January 1, 1899, there were only 159 miles of good roads on the island. Under the three years and more of American control, sixty miles more were built; and during the first year of independence forth-nine miles more. Not only has the sanitation of Havana been kept good, but its beautification has been begun. And, with all the good work done, the public finances have been very ably managed.

The other fact is that about one-fourth of the land of the island has become the property of Americans. In one month last spring, there were 100 transfers of real estate (one of them for 5,000 acres) in the Province of Pinar del Rio alone.

HOW JAPAN HAS ALREADY WON WHAT SHE FIGHTS FOR

THE war moves on toward mastery by the Japanese on land as well as on the sea. They are clearly invincible by the Russian generals and admirals and forces now in Asia, and Russia's only hope of success, if there be room for hope at all, depends on future campaigns and reinforced armies and fleets.

It is almost impossible to measure the effect that the war has already had on international relations and on the political and economic thought of the world. A little while ago, there was no other idea held of Japan by any European people than that she was an interesting little nation, but not for a moment to be thought of as a primary influence in world-politics. It was this feeling that caused Russian, German, and French interference after her war with China; and England looked on while she was robbed of the fruits of her victory. In Captain Brinkley's interesting "History of Japan" (Vol. I., page 14), this passage occurs:

"No one who should tell the Japanese today that the consideration they have won from the West is due solely to their progress in peaceful arts would find serious listeners. They themselves held that belief as a working incentive twenty years ago; but experience has dissipated it, and they now know that the world never took any respectful notice of them until they showed themselves capable of winning battles. At first, they imagined that they might efface the Oriental stigma by living up to civilized standards. But the success they had attained was scarcely perceptible when, suddenly, their victorious war with China seemed to win for them more esteem in half a year than their peaceful industry had won for them in half a century. The

among the most conservative classes in the Middle West. It keeps its hold on that larger section of society which looks to education rather for purely intellectual and utilitarian results than for refinement. This is probably the law that will determine its growth. It has undoubtedly fixed itself firmly in American life, and it shows many examples of success in refinement and in sentiment, as well as in intellectual training pure and simple; but the highly organized social ambition and the most refined social sentiment will never accept it. Here are facts and feelings, therefore, for a perpetual controversy.

THE SMALL NUMBER OF NOVEL-READERS

THE market for new books, especially novels, is dull this summer; and the dullness is interpreted by some to mean that the people are saner and more serious than usual, and by others to mean simply that they have less loose money and less spare time. You may find men aplenty who will argue, each according to his temperament, a great social danger or a great social help—a public virtue or a public vice—from the statistics of the novel-market. A very few data go a long way with minds like these.

What are the facts? It is a very successful new novel of which 100,000 copies are sold; a distinctly successful novel that attains a sale of 50,000 copies; a successful one that attains a sale of 10,000 copies. Now, any Colonel Sellers knows that there are 80,000,000 persons in the United States. Let us suppose that half of them are children and illiterates—there are left 40,000,000. Of these 40,000,000 who can read, let us suppose that 20,000,000 do read. Of these 20,000,000 who can and do read, suppose only 10,000,000 read novels. A novel which attains 100,000 copies is bought by only 1 per cent. of these 10,000,000 possible novel-readers; a 50,000 novel, only one-half of 1 per cent. of them; a 10,000 novel, only one-tenth of 1 per cent. of them—or only one person in every 8,000 of the total population!

Measured in this way, the influence of new fiction, good or bad, does not seem to be sufficiently widespread to cause reformers either to rejoice or to despair. But since novel-reading is so cheap and (to many persons) so pleasant a diversion, the wonder is that so few are published and that such small editions of them are demanded. Whate[ver] the professional literary gossips may s[ay], the writing of novels and the printing [and] the sale of them are yet inconsiderable [in] unorganized industries; and the reading [of] them can hardly be called a popular divers[ion]. No doubt the day will come when re[ally] interesting stories will run into editions [of] a million copies each, and thus reach at l[east] one person in eighty of the population.

THE MEN WHO MADE THE FAIR

THE St. Louis Fair has been made [by] the enthusiastic efforts of a group [of] very able men. President David R. Fran[cis], whose record as Governor of Missouri, [and] as Secretary of the Interior in Presid[ent] Cleveland's Cabinet, marked him as a m[an] of distinguished ability, has devoted [his] powers for the last three years to mak[ing] the Fair a success.

As Director of Exhibits, Mr. Freder[ick] J. V. Skiff has had executive charge of [all] the exhibit departments of the Fair.

Professor Frederic W. Taylor, Chief of [the] Department of Agriculture, has collected [the] great display of agricultural, horticultural, [and] live-stock exhibits.

Captain Willard A. Smith, Chief of the Tra[ns]portation Department, Mr. Thomas M. Moo[re], in charge of machinery, and Mr. W. E. Gol[d]borough, in charge of electricity, are all m[en] of experience at expositions. Mr. Howard [J.] Rogers, in charge of education, received [the] Legion of Honor decoration for his services [in] Paris in 1900.

Mr. Halsey C. Ives collected the art exhibit. Mr. Milan H. Hulbert, manages the exhibit [of] manufactures. Mr. John A. Ockerson is Ch[ief] of the Department of Liberal Arts. [Mr.] Tarleton H. Bean organized the Forestry a[nd] Fish exhibit. Mr. Joseph A. Holmes, [in] charge of the Mining display, has been St[ate] Geologist of North Carolina. Dr. W [J] McGee, the distinguished scientist who h[as] built up the anthropology exhibit, is Preside[nt] of the American Anthropological Associati[on]. Mr. James E. Sullivan, Chief of the Depa[rt]ment of Physical Culture, is an expert [in] athletic affairs.

The results these men have achieved sh[ow] clearly the perfecting of a definite professi[on]. A great Fair can be made only by skill[ed] Fair-makers of expert knowledge and train[ed] executive ability.

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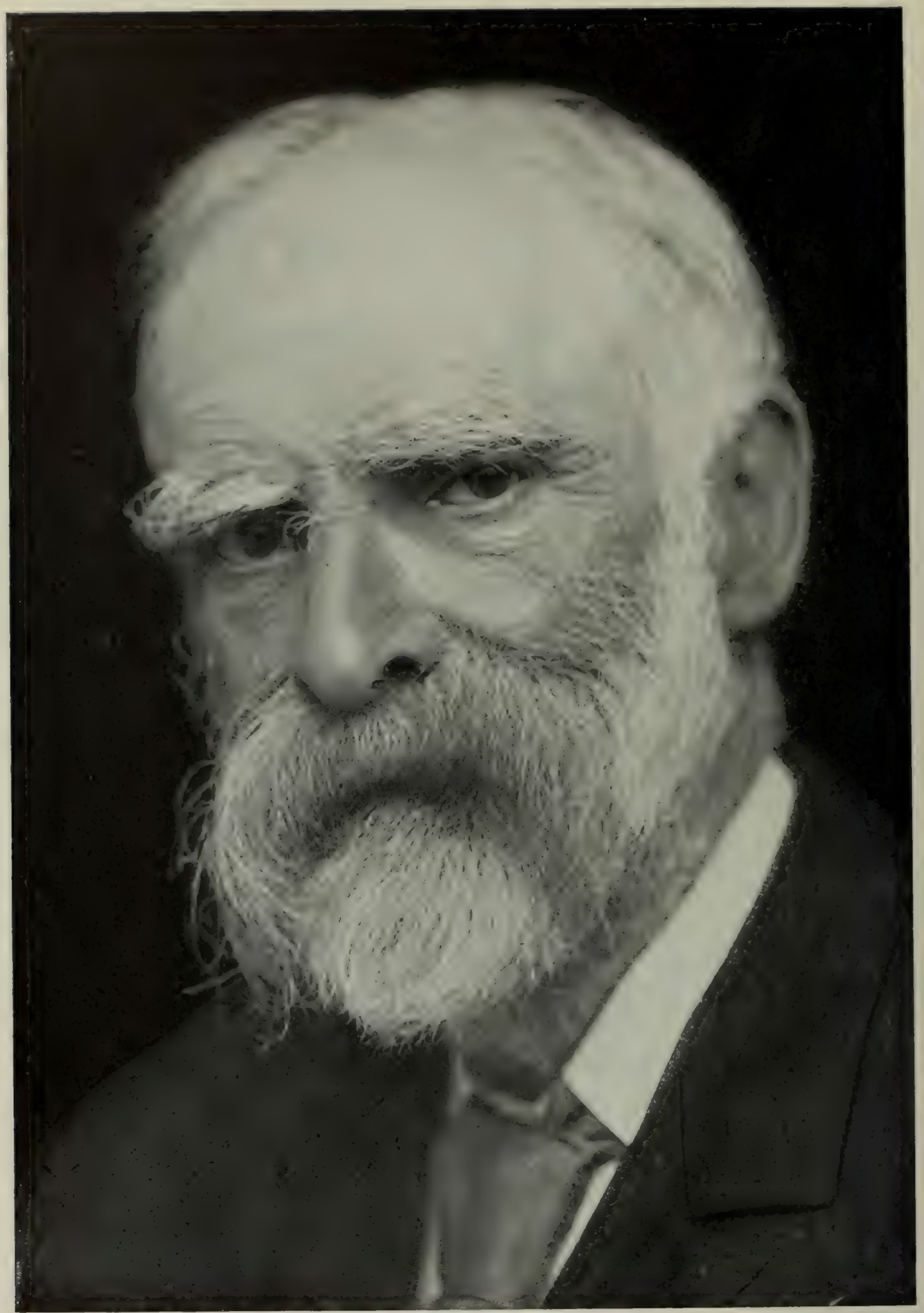


THE RIGHT HONORABLE JAMES BRYCE, M.P.

The distinguished English writer who is to visit the United States in September

THE WORLD'S WORK

SEPTEMBER, 1904

VOLUME VIII NUMBER 5

The March of Events

THERE are two kinds of public men—those who are parts of political machines, and those who are not. Most presidential candidates in recent times have been machine-men. They were either products of machines, or they constructed machines and depended on them. Such were Tilden and Hayes, Garfield and Hancock, Blaine, Harrison, McKinley, and Bryan. This is not the same as to say that these were abject men or bad men. But, if they were no worse than their parties, they were no better. They were instruments of their parties—most of them obedient instruments. Tilden was a strong personality, with an independent quality; McKinley, especially after his second election, impressed his own conciliatory personality on his party; and Bryan stood for a more radical body of follies than his party, and he made his party follow him. All these men, nevertheless, were machine-men either because they were put forward by machines, or because they worked obediently as parts of machines.

Mr. Cleveland is of the other class. He won and lost and won on his own merits and by his own peculiarities. He never was a machine-man. He was constantly offending his party and its managers; and, when they found him agreeable, it was because they came to him, and not because he went to them.

Now the peculiarity of this year's campaign is, that neither candidate for the presidency is a machine-man. Each, in a way, stands out above his party. Each has forced his party to do what its managers would not have done of their own motion. Mr. Roosevelt won his leadership not by winning the leaders of his party, but by winning the people, and thereby forcing the leaders to support him. Mr. Parker was nominated because of his "availability," but he forced the nominating convention to take him on his own terms. There is a quality of personal independence in these men that separates them from all other recent candidates for the presidency except Mr. Cleveland.

For the first time in many a year, both candidates represent the best that their parties stand for. They are both better and stronger than their party managers have been. Neither will bring any danger to our institutions, to our national policies, to our political life, or to our industrial activity.

MR. PARKER'S "TRICK" AND MR. ROOSEVELT'S "UNSAFENESS"

IT is, then, the silliest folly to talk about the "trick" played by Mr. Parker, as if his famous telegram were a part of a theatrical programme, and not the sincere act of an honest and courageous man. Not only is this silly and foolish. It is unjust and despicable. This is the groveling view of the basest partisanship. There could be nothing lower except the cry of "unsafeness" that is made

MAJOR-GENERAL KUROKI, IN COMMAND OF THE SECOND DIVISION OF THE JAPANESE ARMY IN MANCHURIA

General Kuroki is the son of a Polish nobleman by his Japanese wife, and his activity in the war is in keeping with a vow said to have been made to his dying father to avenge the wrongs of Poland

From a stereograph, copyright, 1903, by Underwood & Underwood

THE REV. RANDALL THOMAS DAVIDSON, ARCHBISHOP OF CANTERBURY

The Archbishop will attend the General Convention of the Episcopal Church of the United States at Boston in October

against Mr. Roosevelt, whose three-years' administration has demonstrated – if ever actions showed forth the qualities of any man—that he can be trusted to do the most delicate and difficult tasks with a prudence as great as his energy—can be trusted *to do* things, mind you; for the sum total of the dishonorable criticism that is made of him means that a "prudent" man would have done nothing in many a delicate and difficult time when Mr. Roosevelt showed the courage of action. The worst form of cowardice is to do nothing when there is a risk in action. As Mr. Parker's offense is an instinctive courage in making his convictions known, so Mr. Roosevelt's offense is his instinctive activity when a public duty presents itself. The moral level of these men is the level of the aspiration and ambition of the people; and it is immeasurably higher than the level of the professional partisan and the professional critic. These latter make the noise; but, for once at least, the saner and quieter public has candidates that the "professionals" cannot control. The campaign, therefore, seems likely to be a campaign of apparent "indifference," which is the politicians' word for decency; and men may, for once, vote according to their party doctrines and personal temperaments. Nobody's vote is needed "to save the country."

CANDIDATES BETTER THAN THEIR PARTIES

THE independent character of both presidential nominees has a deep and cheerful significance. It is easy to prove, as academic students of our politics are never weary of proving, that our system of government by parties has defeated the aim of a democracy; that the people have no voice in government; that machines, controlled by a few professional politicians and by selfish "interests," select our rulers, determine our policies, enact our laws, and rule us as they will. Who has not read, time and time again, apparently conclusive arguments that the best impulses and aspirations of the people can now find no expression in political life?

Yet—and not by mere accident, either—the trust-nurtured, money-fed, extravagant Republican party has as its candidate and leader a man of courageous integrity, untouched by greed, who has devoted his whole life to the impartial enforcement of law and to a scornful disregard of classes and "interests"—a man who has given a new impulse in manliness to the youth of the nation; and the flabby, always complaining and compromising Democratic party, which the nation spurned for eight years because of its dishonest financial programme, has as its nominee a man who instinctively declined even to seem to be put in a compromising relation to this old dishonesty—scrupulous, high-minded, with a will of his own, of firm opinions, and of long judicial experience.

The voice and the conscience of the people do make themselves known in politics, if not habitually, at least at sufficiently short intervals to show that the machines and the selfish "interests" do not wholly rule us.

THE VOICE OF THE PEOPLE ONCE MORE

THE nomination of Mr. Folk as the Democratic candidate for Governor of Missouri is another triumph of the people over a machine. He resolutely did his duty as prosecuting attorney in convicting political "boodlers," and this activity sums up his whole public career. But he showed the qualities that the people most admire—cleanness and courage. The corrupt machine of his own party was obliged to accept him. His nomination means election, not only because Missouri is a Democratic State, but because many independent men who usually vote for Republican candidates will vote for a man of this quality.

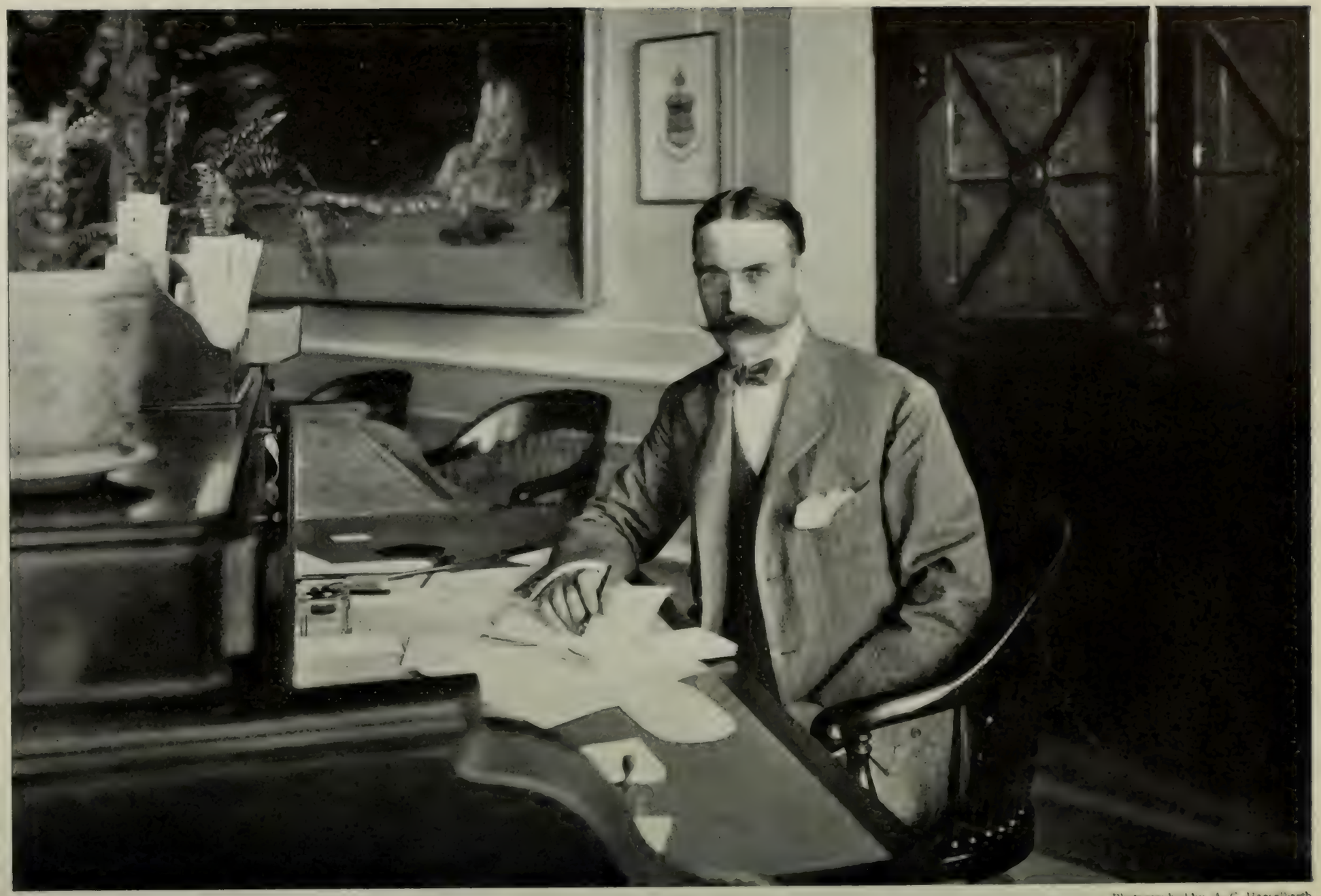
But the Democratic machine in Missouri made nominations for some of the minor State offices that are of its own kind. They, too, will be elected; and the aim of the corrupt element of the party will be to hamper Mr. Folk, when he becomes Governor, by a Legislature containing many corrupt men and many tools of corrupt men. He may be trusted to meet these difficulties successfully when they come. But, even if his term of office turn out less fruitful of definite reforms than he would like, the moral value of his victory is the same. Thus courageous men rise in our democracy (and the people rise to support them) at least often enough to remind the organized enemies of popular government that they are not our permanent masters.

THE DEMOCRATIC TASK

THE accompanying political map of the last presidential election and the following table show the States that were carried by McKinley and those that were

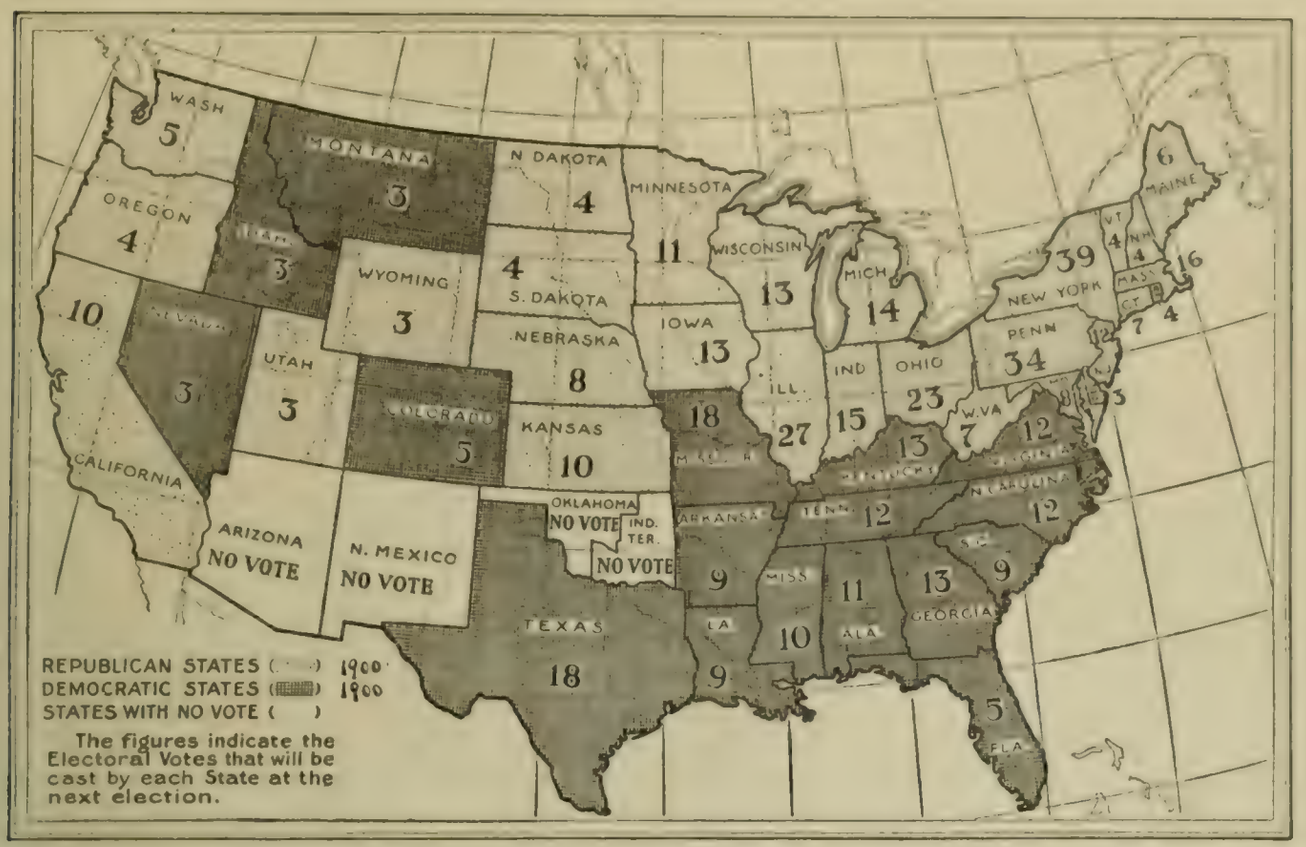
Photographed by Hollinger

DR. EDWIN A. ALDERMAN, PRESIDENT OF THE UNIVERSITY OF VIRGINIA



Photograph by A. C. Haeseltarth

GOVERNOR BEEKMAN WINTHROP, OF PORTO RICO, WHO HAS SUCCEEDED GOVERNOR WILLIAM H. HUNT



THE ACTUAL TASK OF THE DEMOCRATIC PARTY IN THE COMING ELECTION IS TO HOLD THE STATES THAT WERE DEMOCRATIC IN 1900 AND TO CARRY ENOUGH OF THE OTHER STATES TO AGGREGATE SEVENTY-FOUR ELECTORAL VOTES

1900 were fewer than will be cast this year, because the reapportionment, made after the census of 1900, gave most of the States additional representatives in Congress, and, therefore, additional votes in the electoral college.)

By McKinley		By Bryan	
California	10	Alabama	11
Connecticut	7	Arkansas	9
Delaware	3	Colorado	5
Illinois	27	Florida	5
Indiana	15	Georgia	13
Iowa	13	Idaho	3
Kansas	10	Kentucky	13
Maine	6	Louisiana	9
Maryland	8	Mississippi	10
Massachusetts	16	Missouri	18
Michigan	14	Montana	3
Minnesota	11	Nevada	3
Nebraska	8	North Carolina	12
New Hampshire	4	South Carolina	9
New Jersey	12	Tennessee	12
New York	39	Texas	18
North Dakota	4	Virginia	12
Ohio	23		165
Oregon	4		
Pennsylvania	34		
Rhode Island	4		
South Dakota	4		
Utah	3		
Vermont	4		
Washington	5		
West Virginia	7		
Wisconsin	13		
Wyoming	3		
	311		

If, therefore, all the McKinley States of 1900 should be Roosevelt States this year, Mr. Roosevelt would receive 311 votes in the electoral college and Mr Parker 165. But Mr. Parker will carry some States that Mr. Bryan did not carry. The list of States that one side or the other regards as doubtful are:

Doubtful States			
California	10	New Jersey	12
Connecticut	7	New York	39
Delaware	3	West Virginia	7
Indiana	15	Wisconsin	13
Maryland	8		114

Mr. Cleveland carried all these doubtful States in 1892, as well as Illinois, North Dakota, and a part of the electoral votes of Michigan and Ohio.

To win the election, Mr. Parker must receive seventy-four votes from States that were McKinley States in 1900. The following, added to the South, would elect him:

New York	Connecticut
New Jersey	Indiana

and any other State, say West Virginia or Maryland.

Or, the following would elect him:

New York Delaware West Virginia
Indiana Maryland

and any other State.

The meaning of all this is that Mr. Parker must carry both New York and Indiana and several other States as well. In other words, he can be elected only by a strong Democratic "tidal wave," such as swept the country for Mr. Cleveland in 1892. If Mr. Roosevelt should be beaten, the vote would show a very strong adverse feeling to the administration, as the vote did that was cast against Mr. Harrison in 1892.

THE DECISIVE FORCES OF THE CAMPAIGN

THE principal battle-grounds of the campaign will, of course, be New York and Indiana. In five out of eight of the last presidential elections, both these States voted Republican. They voted Democratic in 1876, 1884, and 1892. In other words, they were won by Tilden, and by Cleveland at his first and his third candidacies. They both voted against Hancock (1880), Cleveland (1888), and Bryan (1896 and 1900). To win the presidency, Mr. Parker must carry them both. These, with the Solid South, will give him electoral votes, thus:

The South	151
New York	39
Indiana	15
	205

Since 239 votes are necessary to elect, he would still lack 34 votes.

Minor battle-grounds will be New Jersey, Connecticut, Maryland, and West Virginia. These States cast votes as follows:

New Jersey	12
Connecticut	7
Maryland	8
West Virginia	7
	34

Mr. Parker, therefore, to win the election, must carry, not only New York and Indiana, but this whole group of four smaller doubtful States as well, or other States that cast at least thirty-four votes. The burden of the campaign, therefore, is on the Democrats. They will be obliged to make wholesale changes in the votes cast at the last two presidential elections. Of course, both parties had their "practical eyes" on these doubtful States when they nominated Mr. Parker, Mr. Fairbanks, and Mr. Davis, and when Mr. Taggart, the Democratic "vote-getter," of Indiana, was made Chairman of the Democratic committee. In geographical strategy, therefore, the parties have been equally alert.

Regarding vice-presidential candidates, also, honors are nearly enough easy to forbid sharp dispute. Mr. Fairbanks is in the very prime of life, and is a successful man-of-affairs—a lawyer by profession who became rich primarily by his railroad associations. Mr. Davis is a more striking figure, and also a man of fortune; but he is too old for very active duties.

Regarding what may fairly be called the normal party vote, the Republicans have the advantage because they are "in."

Regarding the chief doctrinal difference between them—protection, or a tariff for revenue only—the Democratic doctrine has apparently lost favor since the income-tax of the Wilson bill was declared unconstitutional. There is no such active and widespread demand for tariff-reform now as there was during Mr. Cleveland's last campaign.

The decisive forces at work will not be geographical, nor doctrinal, nor even the effect of good campaign management; but the decisive forces will be these—on one side, the personality of Mr. Roosevelt, and on the other side the taint of Bryanism that the Democratic party may yet be thought to have. If you could answer these two questions, you could foretell the result: (1) Whether "fear" of Mr. Roosevelt will repel any considerable number of Republicans, in New York and Indiana—which seems doubtful; and (2) whether the Democratic party has regained the confidence of the Gold Democrats and of independent Republicans, who represent the dissatisfied element of their party. The answer to this question cannot be even intelligently guessed at.

FOREIGN OPINION OF THE PRESIDENTIAL CONTEST

IT is interesting to know that the best foreign opinion, especially English opinion, of both Mr. Roosevelt and Mr. Parker coincides with the opinion held by calm men in our own country whose partisanship has not run away with their good judgment.

The manly character of the President and the emphasis that he has put on American manliness, and especially the vigor that he has infused into our government, have made a profound impression abroad, and given us an international standing that we had lacked for many a year.

In a recent article about Mr. Parker and his nomination, the London *Spectator* said:

"The difference between a party which is fighting for a leader at the bidding of its managers and one fighting for a leader whom it perfectly trusts itself, must tell heavily at the polls.

"The fight will now be a serious one. Most Englishmen, we fancy, are inclined to believe that Mr. Roosevelt's election is a foregone conclusion. They think that he represents the tendencies of modern America, and that his record as a soldier, his personal magnetism, and his desire to make of the Union one of the recognized Great Powers of the world would carry his election, even if his programme were less popular. They are probably right, for the younger generation is always the more active, and the younger generation, in the main, approves of Mr. Roosevelt. Nevertheless, as we have said, the contest will be serious. There are great masses of conservatives in America, who have a certain dread of the development of Presidential power, who detest the idea of holding any positions outside the two Americas and the Caribbean Sea, and who, to speak plainly, look with apprehension on any policy which is not a little humdrum. They do not, they say, distrust Mr. Roosevelt, but they distrust his possible tendencies. Then there is a strong and increasing feeling among the freeholders that the growth of Protection, and with it the tendency to accumulate wealth in a few hands, threatens their own prosperity, and must be arrested if they are still to enjoy the moderate comfort on which they pride themselves as something which the agricultural classes of Europe have never reached. Their numbers are sufficient to make the Republican managers very anxious, and to make of the contest one of the most interesting that has ever been fought within the Union. . .

"We cannot, as onlookers, but feel a sensation of pride and pleasure that, in the coming election, both candidates will be men who have broken through the elaborate network with which politicians endeavor to strangle the independence of the great servants of the people. Whichever party prevails, it will at least be represented by a man, and not by a clerk of the great 'bosses.'"

And the London *Times:*

"The essential significance of Justice Parker's action is that it restores his party to the moral level from which it had descended. From this side of the Atlantic, we can view the great political contest of our kinsmen without partisanship. It was impossible, of course, that Englishmen should not feel admiration for the genius and energy of President Roosevelt, and respect for the ascendency of the Republican party, whose brilliant record in external policy was set forth in the address by Mr. Hay at Jackson [Mich.]. For the rest, we are conscious of nothing but a feeling of satisfaction that the Democratic party has put itself right with its countrymen and with the world. We are now assured that, whichever side is victorious, the presidency will be filled by a statesman of courage, candor, and high principle."

THE EDITORIAL INFLUENCE OF NEWSPAPERS

A NUMBER of prominent newspapers that supported Mr. McKinley four years ago now support Mr. Parker. Among them are the *Times*, the *Evening Post*, the *World*, the *Herald*, the *Staats-Zeitung*, and the *Brooklyn Eagle*, in New York City alone. Some of these are old Democratic papers that balked at Bryanism. Others are more independent papers that are out of sympathy with Mr. Roosevelt's temperament.

It is an interesting speculation what influence newspaper editorials have in a political campaign. The daily repetition of arguments and opinions surely fixes these arguments and opinions in the minds of those who accept them; but editorials are written on the theory that they also help men make up their minds—that they carry conviction to those who have been undecided or even hostile. But, once in a while, this notion receives a rude shock. There was, for instance, a municipal campaign a few years ago in San Francisco, and the candidate for mayor who was opposed by every newspaper in the city was elected. The late Mayor Jones, of Toledo, likewise was elected against the opposition of every newspaper in that city. In one campaign, no newspaper even printed his name. During the last campaign in New York City, every important newspaper but the *Journal* published daily arguments for Mr. Low's reëlection, and he was beaten.

These facts, as far as they go, indicate that editorial influence is not a primary factor in some campaigns. And you seldom hear a man confess that an editorial has changed his opinion about a political subject or about a candidate for office. In fact, it is probable that few men read editorials, except those that repeat or confirm their own opinions;

or, if they do read others, they regard them as "professional" pleas for the other side. Editorials, doubtless, formulate and hold together and strengthen the opinions of men who have already accepted the doctrines that they explain; and thus they help to make public opinion compact. But it seems doubtful whether they change men's minds about political subjects.

And there are reasons to support this conjecture. The impersonal nature of editorial writing is one reason. When it was known (or was thought) that Horace Greeley himself wrote an editorial in the New York *Tribune*, or Samuel Bowles in the Springfield *Republican*, these editorials were received as the sincere expressions of opinions and convictions. One man was writing to another man, and the man who read felt that he knew the man who wrote, and he knew that the man who wrote expressed his personal convictions. Now, the readers of editorials do not know the writers of them. These writers may be, and many of them are, very able and sincere men; but others are what Henry George called "literary operatives," employed to write "in harmony with the policy of the paper." This kind of employment and this kind of service are doubtless necessary—certainly inevitable; for there could hardly be a return to the method of an earlier period in newspaper development. The obtrusion of an individual in the editorial work of a daily paper would now be distasteful to the public; for conditions have changed. But one of the penalties of the better commercial organization of the newspapers is the loss of editorial influence. It is doubtful whether they can ever again convince men, on political subjects, by editorial argument and appeal.

Reports of facts and of the arguments and convictions of well-known men affect public opinion; but the voice of an "editorial policy" is impersonal, vague, and unconvincing to those that do not already accept the body of doctrine set forth.

But, after all, he would be a bold man who should write dogmatically on a subject that is a subject of conjecture. And the larger inquiry—what does shape political opinion?—is obscure and difficult. Large fundamental moral forces—forces that every man of character can feel, and that do not need the help of argument—play a larger part than all campaign material and activity. The people felt the essential wrongness of free silver, and Mr. Bryan was defeated. They felt the courageous earnestness of Mr. Cleveland in his last campaign, and the disagreeable entanglements of Mr. Blaine in the first Cleveland campaign; and these instinctive moral judgments counted for more than arguments and epigrams, editorial or verbal.

RATIONAL TREATMENT OF THE SALOON

A VERY important experiment was begun in New York City the other day toward the rationalization of the saloon. A liquor-shop on a crowded down-town street has been equipped and opened under the ownership of a company which includes some of the most public-spirited and philanthropic men in the city, and, at the ceremony of its formal opening, Bishop Potter, of New York, made a commendatory address. The aim of the promoters is to conduct the saloon honestly—to give pure drinks at a fair price—to take away from the business the motive of large private gain (they will try to pay 5 per cent. on the investment), and to conduct the saloon without selling liquors to minors or drunken men. In a front room there is a soda-fountain to which women will be admitted, but no woman will be admitted to the bar-room.

This is an effort to apply the general principle that has been worked out in England, where an association, under the leadership of Earl Grey, has bought many inns and conducts them decently and honestly. The fundamental idea is that, since the saloon cannot possibly be got rid of in New York, the wisest course to pursue is to conduct it honestly, and to dissociate it from crime—to make it a resort of the better class of those that drink, and not of the lowest class. There is a world of good sense in this experiment, as the zealous abuse that has been heaped on Bishop Potter for making an address at its opening suggests.

If all saloons were owned and conducted by honest men, they would at least cease to be the haunts of criminals, and they would become clubs for the better class of their patrons.

THE LARGER FACTS ABOUT THE NEGRO

THE recently published census-bulletin on the Negroes in the United States. which brings together the most accurate

physical information about them, contains no surprises; but it gives refutation to all the wild notions about the future and the tendency of the race that even yet find sensational publicity at times.

In the continental United States, in 1890, there were 8,800,000 Negroes. Nine-tenths of them live in the old slave States. There has, therefore, been no such relatively large movement to the North as it has sometimes been supposed there was. Over the whole larger area of the old free territory of the country—North, East, and West—there are scattered only one-tenth of the colored population. The Negro, outside the South, therefore, practically plays no part in American life, industrially, socially, or politically, except in a few cities, especially Washington and Philadelphia.

In South Carolina and Mississippi, the blacks outnumber the whites; in Georgia and Louisiana, the two races are practically equal in number. The centre of the black population is in northeastern Alabama; and it will remain somewhere in this region for a very long time. Unlike the whites, they do not go in large numbers to Texas or to other parts of the Southwest.

In spite of the coming of the Negroes to northern cities, seventy-seven per cent. of them live in the country. (Only fifty-seven per cent. of the white population is rural.) The black man's habitat, his problem, and his destiny are therefore rural. It is as a tiller of the soil that he is primarily to be considered and trained.

The rate of increase is lower than it was under slavery, and considerably lower than the increase of the whites. Between 1890 and 1900 the blacks increased sixteen per cent. in the country and nearly twenty-two per cent. in the cities. The whites increased in the country nearly three times as fast. The estimated death-rate of the blacks is thirty-four per thousand. The white death-rate is seventeen per thousand. While, therefore, the black population increases at a slower rate than the white, it steadily increases. The estimate—it is only an estimate—made in this bulletin, of the proportion of mulattoes to blacks, is from eleven to sixteen per cent.

A rapid increase in land-ownership is shown, and a rapid decrease in illiteracy.

The proper conception of the Negro, in the mass, therefore, is of him as a tiller of the soil in the southern States, where he is coming to own more and more land; of an African of unmixed blood; of a race yet ignorant of sanitary or social laws, and of right living—an ignorance that keeps his steady race-increase lower than the increase of the whites. Those that dwell in cities, those that come North, those that are of mixed blood, are a small minority.

INTERIOR MOVEMENTS OF POPULATION

AN interesting study of the inland streams of migration is presented in Mr. Friedman's article—one stream to Oklahoma, another to the Southwest, and a third to the Northwest—all drawn by more productive and cheaper land. Although our frontier has disappeared, new settlers respond to the activity of the railroads. The love of wandering is in the blood—the impulse to try new fields.

But there is another movement of our population that has a sounder economic reason than any of these—the movement to some of the southern States. Rice-culture in Louisiana has attracted men from more densely settled northern States, just as (in a more limited way) fruit-culture has attracted them to Georgia and Florida. But these are small migrations, after all. The interesting question is whether there is likely to be a large movement of population to the South.

There is plenty of fertile and cheap land there—perhaps better cheap land than can be found anywhere else in the Union. But labor is cheap, also, and this is the fact that has hitherto deterred immigration. The men that move in large masses are not employers, but laborers, and they go where wages are highest. Low wages repel more than cheap land attracts. There are now twice as many natives of the South living in other States as there are natives of other States living in the South.

But there are hopeful signs that the rapidly increasing industrial activity and wealth of the South may cause this tide to turn. With constantly improving railroad facilities and with the building of better country roads, farmers will have more profitable markets. Better methods of cotton-culture and a higher price for cotton call for more labor (though much of this must be cheap labor).

The manufacturing industries of many kinds in the towns, too, make a demand for an increased number of workingmen. But the great movement of population southward will be caused by the better rewards of agriculture there. And there is no more cheerful fact than the rapidity with which better methods are coming into use.

A SIGNIFICANT CHANGE OF THOUGHT

THE eighth international geographical congress, which is to meet at Washington this month to visit Philadelphia, New York, Niagara Falls, and Chicago, to hold sessions also in St. Louis at the World's Fair, and to make an excursion to the Grand Canyon in Arizona, calls to mind a very healthful tendency of American teaching and thought. It was only a little while ago when geography meant to us only an elementary routine study of a few commonplace facts fit for children in elementary schools. The perfunctory way in which the whole subject was treated in our educational life, in our popular literature, and even in our scientific studies, was a striking indication of the remoteness of our thought from things close about us. For generations we paid more attention to infant baptism than to geography. But now explorers have made the subject interesting; learned men have dignified it; it is taught in our universities under a variety of more or less new names; text-books are used in the lower schools that have been rationally compiled; and, best of all, children are taught to have an interest in the earth by study out-of-doors. Such a change of mental attitude strikes deep and reaches far. There are few incidents more significant than a well-attended geographical congress, including many teachers of schools of all grades, traveling over most of our continent, listening to interesting discussions, and visiting natural scenery. A generation or two ago men and women met to hold religious camp-meetings, and men met for political reasons; but a geographical congress, if it could have met at all, would have provoked ridicule.

THE UNIVERSITY OF VIRGINIA AND ITS PRESIDENT

THE University of Virginia, when it was founded by Thomas Jefferson, was by far the most liberal institution of learning in our country. While our other colleges were all under narrower ecclesiastical and intellectual control, it had at the beginning the spirit of free inquiry that now distinguishes the best of them. In this essential glory of a great institution it clearly had leadership in the United States. In its organization, too, it anticipated the development of the "elective" system. Every department of study has, from the beginning, been a separate "school," every school gives a diploma of its own, and the required number of these diplomas gives the several academic degrees.

But, in spite of the liberal intellectual spirit in which the institution was founded and the thorough academic work done there, the university is yet undeveloped in many of its departments; and, though it has continued to be the most famous school in the South, it has had only a niggardly support from the State, and it has not drawn many teachers or students from other sections of the country, nor had any considerable influence on other sections. It has remained local and provincial and poor during the expansive period in which nearly all our other universities have broadened their spirit and become national, and have secured money for modern equipment. During this period of poverty and isolation and too exclusive devotion to traditions, it kept its anomalous plan of organization, whereby it had no president and, consequently, no adequate administrative head.

But the Legislature, a year or two ago, provided for the election of a president, and Dr. Edwin A. Alderman, the president of Tulane University, has been chosen for this new post. Just entering the prime of life, but already having won success as the head of two southern colleges of serious aim and good achievement, a practical man with the scholar's temperament, a Southerner with an instinctive reverence for traditions, but a modern man of liberal thought and of uncommon social gifts and graces, he has an opportunity to continue a great piece of constructive work where Jefferson left it off. It was Jefferson's plan to make the university the crown of a universal public-school system. Dr. Alderman began his career as a teacher in the public schools of North Carolina, and he has given the full force of his own work and influence to the building up of public-school education.

The arrested development and the re-

stricted influence of the University of Virginia were caused by isolation and other misfortunes that are now happily passing. Virginia is a new Virginia in its educational spirit. If it prove itself a new Virginia in its financial liberality to its historic school, the university may become, as it would have become if Jefferson's plan had been carried out, a liberalizing national influence, as well as a home of sound scholarship.

THE AMERICAN AND ENGLISH ATTITUDE TO SPORTS

THE recent meeting in London of athletes representing the great English and American universities and the temper in which the victory of the Americans was received show how pleasant are the relations between the two nations, and how helpful in the promotion of this feeling are the friendly rivalries of sport. There was an enormous crowd of spectators, including many distinguished personages; and there was a hearty welcome everywhere to the Americans. But there is an interesting difference in the ways in which our young men and the young Englishmen enter such contests. The Americans give to their preparation a complete devotion and absorption. To the very hour of the contest, they remain under strict training and subjection to their athletic masters. In England, this provokes the cry of professionalism. Not long ago, a rowing crew from one of the American universities arrived at Henley to take part in the regatta there. With the most hospitable intentions, the town authorities, as well as the English rowing-clubs, arranged a series of festivities for their entertainment before the race. And they were greatly astonished to hear that the trainer of the Americans had forbidden them to accept such hospitalities before the race and had shut them up in strict confinement in their training-quarters till the race was over. This did violence to the idea, current in England, that an amateur is a gentleman who makes no great change in his daily habits because of a contest, but goes down to the water's edge at the appointed time, takes off his coat, and does his best.

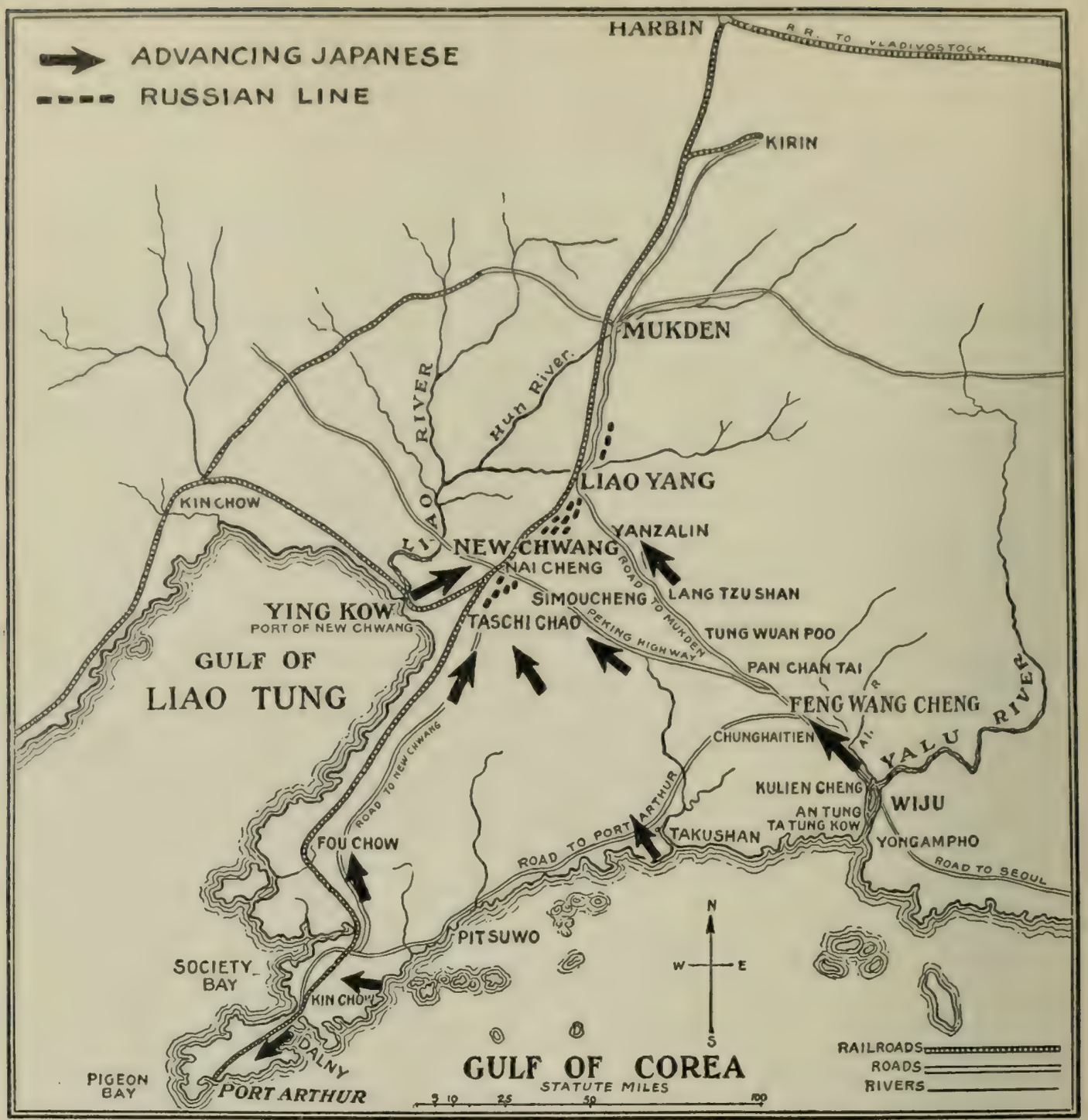
The same difference marks all sports in the two countries. Cricket can be played by gentlemen who do not give it their whole time, and who do not need any unusual muscular strength or the expertness of constant training. Therefore, the game is popular in England; but most American young men regard it as unsatisfactory, because it does not develop endurance or strength, as baseball does, for instance. This difference of attitudes to the sports runs far through the life of the two nations, and reveals an interesting divergence of the American character from the British.

A NEW CHAPTER IN MILITARY HISTORY

AFTER the battle of the Yalu, the steady and almost uninterrupted march of the Japanese armies is one of the most remarkable military achievements certainly in modern times and perhaps in all military history. The general route of each army and of the several important divisions of the several armies under the Japanese generals is indicated on the accompanying map. The plan of campaign was made out fully in advance. There seems to have been no deviation from it.

They drove the Russian troops from the Yalu, and, by skilfully taking advantage of their opportunities, cut General Kuropatkin off from Port Arthur, and drove him back along the railway toward Harbin, which is beyond the borders of Manchuria proper. The remarkable thing about the campaign was the intelligent, careful, slow-going way in which it was conducted. The Japanese armies moved forward without a hitch, as if they had been a kind of intelligent clockwork, forcing the incompetent Russian generals before them. No such campaign was ever seen before. It lacked individual brilliancy of achievement, and was the more brilliant for that reason; and it showed a perfect understanding between the commanders. While everything on the Japanese side was orderly and intelligent, the Russian forces presented a picture of stupidly brave men, led by incompetent officers, who not only had no prearranged plan of campaign, but worked at cross-purposes.

After the Battle of the Yalu, near Wiju, the Japanese army advanced to Fengwangcheng, where it separated into two divisions, General Kuroki taking the northern road that leads to Liaoyang, and General Nishi the road farther to the west, toward Haicheng. After Port Arthur had been effectively surrounded, General Oku separated his troops



MAP SHOWING HOW THE JAPANESE TROOPS DROVE THE RUSSIANS BACK AND ENVELOPED KUROPATKIN'S ARMY

The black arrows show the general direction of the advance of the Japanese as they converged from three sides on the Russian lines and gradually drove them back from the Liao Tung Peninsula. In the south the Japanese army surrounded Port Arthur

from the investing force and worked up the railroad northward toward Haicheng. Another army, under General Nodzu, advanced from Takushan, on the Bay of Korea, northward toward Haicheng, between the columns commanded by Nishi and Oku, thus preventing them from being attacked on the flank by the Russians. After the taking of Newchwang and Yingkow, its port, a fifth army was landed at Yingkow, which advanced along the west side of the railroad, effectually preventing the Russians from falling back toward the Liao River. The Russian troops, which had been steadily driven back by the uniformly victorious advance of the Japanese armies, were thus shut in on three sides.

The outside world does not yet know the relative merits of the several Japanese commanders. Every one seems equally efficient. The marvelous thing is that they worked

together without any apparent change of plan, even in detail; everything was arranged beforehand; every contingency successfully provided for; every movement, even the fighting of great battles, made as a matter of course. This is a new chapter in military history.

JAPAN'S STATEMENT OF HER ATTITUDE TO WESTERN CIVILIZATION

SINCE Russian explanations of the war and Russian despatches from the field have been discredited, we have read little about the yellow peril; and forgotten, too, is the danger to civilization that, it was said, a Japanese victory would bring. The truth is, the world does not believe that any danger to civilization would follow a victory by Japan. But the continued talk of a yellow peril, during the early months of the war, provoked from the Japanese Prime-Minister, Count Katsura, a very remarkable and convincing statement of Japan's motives; and this statement was given to the world through an American missionary in Japan, the Rev. W. Imbrie.

The struggle, the Prime-Minister went on to say, had nothing to do with race or with religion, but it was waged "in the interest of justice, humanity, and of the commerce and civilization of the world." He explained the pains that Japan has taken to conduct the war humanely, and said that the followers of every religion and of every nationality were specifically informed that it was a war strictly "between State and State," and that individuals of any nationality should be free from annoyance so long as they attended peacefully to their business, and that there should be no anti-foreign feeling encouraged. Christianity is openly preached in every considerable town in Japan, and there is freedom of conscience everywhere.

The fear lest Japan, in the pride of military strength, should at last turn against western civilization, was discussed by the Prime-Minister. He recalled the fact that the Japanese have adopted not only the mechanical and military methods of the West, but an educational system, laws, a judicial system, and a constitution all modeled on western experience and ideas. "Should Japan ever become the leader of the Orient, her influence will be exercised to turn her neighbors' feet into the path she has herself irrevocably chosen—the path of close community with the Occident."

At a meeting of representatives of all the principal educational institutions in the Empire, held in Tokio, resolutions were adopted declaring that—

"We confirm the statement that Japan has not entered the present struggle for aggrandizement or conquest, but has been forced into it for the security of the Empire, for the permanent peace of the East, and for the progress of that beneficent and enlightened civilization which Japan herself has imbibed from the nations of the West, and which she has made her own.

"In this struggle, standing as we do for principles which, we believe, are identical with those cherished by all enlightened nations, we look to the people of the United States for that sympathy which we think our cause deserves; and especially do we turn to the colleges and universities of America, which have given to so many of us a cordial welcome, and to whose teachers, alumni, and students many of us are bound by ties of gratitude and friendship."

It is impossible to resist the sincerity of these expressions and actions. It may be taken for granted, then, that the danger which was felt during the early stages of the war, in some quarters of the world, about Japan's purpose and about the yellow peril, has been dissipated, at least in the United States and England.

PITY FOR RUSSIA AND DISTRUST OF HER

RUSSIA now takes hold on the pity and on the fear, or, at least, the suspicion, of the rest of the world as no other country does. Tolstoi, shrieking peace, as a voice in a wilderness; the Finns ruthlessly robbed of their freedom, and the Governor of Finland assassinated; a war brought on by the favorites of the Czar, revealing the military and the moral weaknesses of the Empire; the Czar's chief Minister assassinated; war news perverted, or suppressed, in the Russian papers and through Russian channels, so that all information that comes by way of St. Petersburg is received by the world with suspicion; almost every government in Europe and our own brought into controversy about vessels and cargoes seized at this late day by Russian ships, some with doubtful warrant, and all in apparent desperation; and the armies

and the navies of the Czar harder and harder pressed by an enemy that they ignorantly despised six months ago—humiliation in Asia, distrust in Europe, assassination at home.

The anonymous article on the Czar, in the last *Quarterly Review* (written, it is explained in a footnote, by a high Russian official), has attracted world-wide attention, because it gives a different view of the Emperor's character from the view usually held in the English-speaking world. He has been represented hitherto as a dreaming, melancholy, superstitious, incapable man, whose Ministers rule him, and, by ruling him, rule the Empire, through the most corrupt bureaucracy, perhaps, in the whole world. But the writer of the article in the *Quarterly* declares that the Emperor does not listen to his Ministers; that he regards himself as little less than infallible; that he communes with saints and spirits, and thinks of himself as the great upholder of the peace of the world, and the supreme benefactor of his people and of the peoples of Asia; that he is flattered and influenced by his kinsmen, the Grand Dukes, and pays little heed to anybody else; that his Ministers advised the keeping of his word by the evacuation of Manchuria, and he scorned them, not believing that the Japanese would fight.

Whichever of these two estimates of the Czar be the more accurate, the practical result is the same. Whether he be the master of his Ministers or his Ministers the master of him, or the Grand Dukes the masters of them all, the corrupt bureaucracy stands between the real power and the people, and even between the real power and the army and the navy; and all who have to do with Russia become in some way the victim of this bureaucracy. The very fact that the real character of the Czar is unknown—as the character of King Edward, and even the Kaiser, for examples, are not unknown—shows how remote from modern occidental life and methods the life and methods of the ruling class in Russia are.

The world was hardly surprised that the reactionary Minister, de Plehve, was assassinated. There are a dozen plausible explanations of the cause, all coming back at last to his standing in the public mind for repression and oppression. And this assassination was only another one in a now long series. Nor was the world surprised that the often-repeated promise to evacuate Manchuria was broken; nor that the army proved less capable than it was supposed by the Russians to be. What is called in plain democratic speech, "the square thing," is the thing that Russia does not do instinctively. She does polite and even just acts in good form—under compulsion, or by reason of fear, as her conduct shows regarding the capture of English merchantmen. But these acts are received as acts of diplomacy, rather than as expressions of character. Steadily the standing of Russia declines in all Europe; and it will require many a year for her to regain the place that she held among the great Powers a half-year ago.

THE CONTROVERSY BETWEEN THE POPE AND FRANCE

THE long-standing and serious controversy between the Pope and the French Republic has reached a very critical state. According to the agreement between the Pope and France, which was made in Napoleon's time, after the French Government had seized the church lands, the Pope granted that the churches and church property in France belonged to the French State, and that these properties were to be held without title by the clergy, who, however, were to have the status of French civil servants, appointed by the Pope and the Government in consultation. The stipends of the clergy were to be paid by the State, in consideration for the confiscated lands.

For several years there has been a conflict between the State and the teaching and monastic orders, and now the State has abolished the orders and closed the church schools. This action has stirred the Pope to go beyond what France believes to be his rightful powers. He summoned two French bishops to Rome, and, through his secretaries, demanded their resignations. This punishment was administered solely because of their well-known republican sympathies. The French Government told them that they could not go to Rome, under penalty of forfeiting their stipends and legal positions. Thus the controversy has come to a head, and diplomatic relations between the Pope and France have been broken off.

This is simply a repetition of the old contest that was fought out in England and

Germany at the time of the Reformation. France does not care to whom the clergy look for authority in purely religious matters; but she does insist that the Pope shall have no power to remove any cleric in the pay of the State, so long as his teaching and conduct are satisfactory to his congregation. Should the Pope break the agreement, every priest who obeys his physical orders in preference to those of the State will forfeit his allowance and his church. The State apparently has the advantage, and, according to all American tradition, is justified in its action.

The closing of the church schools, however, is a different matter, for this is a direct interference with the wishes of the people. It is a declaration that a man may not educate his children as he sees fit, but must do it in a way that is prescribed by the State. It is a direct interference with the liberty of the individual. But the long-practised and capable diplomacy of the Vatican is not likely to permit a permanent rupture.

APPRECIATION OF THE WORLD'S FAIR

THE idea crops up here and there, now and then, that the World's Fair at St. Louis is not appreciated by the people; and sometimes the idea is put forth that they have not even been informed about it. Both notions seem preposterous on their face. True, the attendance during the summer was not as large as it ought to have been, or as it would have been but for the somewhat unenviable reputation that St. Louis has, in some parts of the country, for hot weather. But it is difficult to believe that the people do not know about it, and impossible to believe that they do not care about it. The reception of the double World's Fair number of this magazine proved that there is a wide and appreciative interest in the Fair. Letters come from all parts of the country and from every quarter of the world about it; and the newspaper comment on it has been more extensive, perhaps, than the comment on any other number of any magazine it has been practically universal.

Now, if a magazine descriptive of the Fair has had such a reception, the Fair itself (for such a thing cannot be adequately described) cannot remain unappreciated. Surely during the months of September, October, and November there ought to be a larger attendance; for it may turn out that few persons now living within easy reach of St. Louis will live to see another such assemblage of the products and processes of industry.

STEADYING CONDITIONS IN THE BUSINESS WORLD

[THE WORLD'S WORK publishes every month an article in which some timely and vital subject of the financial world is taken up]

THE commercial and financial condition of the country in the summer of this presidential campaign presents no startling facts—except this one, that we are suffering very much less disturbance than we suffered during any preceding presidential campaign of easy memory.

Much of this freedom from disturbance we owe to Mr. Parker. When he practically eliminated the currency question from political discussion, he did a distinct service to every business man in the land. There is no fear of a disturbance of the standard of value if he should be elected.

The other political question that might cause commercial disturbance is the demand for changes in the tariff. But the probability of change is so remote that this has small influence, if any. Before a reduction of duties can be made, Mr. Parker must be elected; an overwhelmingly Democratic majority in the House of Representatives must be elected (in a House, too, that will not meet till December, 1905); and the tariff reformers must secure a majority in the Senate. This last change alone (even if the Democrats should have an overwhelming victory in November) would require from four to

six years. The practical impossibility of any Democratic change in the tariff within any early period prevents this subject from causing any appreciable disturbance in business this summer.

In financial confidence the East is for the moment more timid than the West because last Spring the East was more foolish than the West. To take one illustration—several great railroads in the spring, forgetful of the coming of a summer—a presidential summer at that—borrowed immense sums of money for betterments. They seemed in a mood to do all their betterments at once. Instead of distributing this work and this enormous investment over a number of years, they went at the task as if it had all to be done at once. They employed an abnormally large number of men. They spent large sums in wages.

Then the summer came. Business dragged somewhat. These railway managers suddenly became as conservative as they had before been impatient. They took a slower pace. They discharged armies of laborers. Now, every discharged man becomes a centre of industrial disturbance. Not only is he idle—that is bad enough—but his friends know that he is idle. They talk much about it, naturally; and their friends and friends of their friends talk about it. When great groups of them are discharged, the newspapers print reports of it; they comment on it. Other employers begin to fear that hard times are before them. "If the great railroads must lay off men by the hundred and the thousand, had I not better reduce my working force to a minimum?" one naturally says. The psychological effect of such action by large employers—one wonders whether these men think of this? A general slackening of business has been caused by the working of much less logical forces.

But in spite of disturbances of this kind, and in spite even of strikes, commercial conditions have not been especially discouraging. The stock-market has not been active, but what matter? In the West, and in the Southwest, and in the South there are good crops; trade is not greatly depressed—in some kinds of business, not depressed at all—and new industries are undertaken with less and less dependence on the eastern money-centres. Commercial failures have been few, and most of the other signs of soundness that the commercial journals usually rely on are visible.

The outlook is for a quiet but sound condition of trade, till the election, and then the best judges expect a revival of activity that will be noteworthy. Unless there be some untoward event that cannot be foreseen, this is what may reasonably be expected.

POSSIBLE EXHIBITS OF MODEL HOMES

A SUGGESTION TO FUTURE FAIR-BUILDERS

BY

GEORGE ILES

MANY exhibits at the World's Fair, at St. Louis, are so splendid and costly as to seem destined for the palaces of kings or multi-millionaires. The appeal to wonder, instead of to imitation, is indeed too frequent. It is all very well to stare at displays of ceramics, tapestry, jewelry, and bronzes such as are shown at the Metropolitan Museum of New York, but there is not enough on view at the Fair for the instruction of the millions of American families whose gross yearly expenditure comes within $1,000. Let the average mechanic or farmer marvel, if he pleases, at the output of Viennese, Parisian, and Roman ateliers, but let him also see something that he can transfer to his own home for the enrichment and broadening of his life. We learn something from men of genius; we learn more from men just a little wiser and cleverer than ourselves. Allow me to offer a suggestion for such a fair as this, or for a fair which might be less ambitious and equally instructive:

Let a goodly space be set apart for a series of houses of various types, to serve as models for homes in the country, in towns, in cities and their suburbs. They might range in cost from $1,000 to $5,000; the cheapest might be built of wood, others in the semblance of brick or stone, each house to be carefully planned for healthfulness and convenience with economy, and have a small, choice garden; each to be equipped with the best means of heating, lighting, and ventilation suited to its size and cost. With the same appropriateness, each house ought to be furnished and adorned in good taste and with good sense. Everything should be chosen with an eye to wholesomeness, durability, and the maintenance in cleanliness and repair with the minimum of labor and cost. In the kitchen, in the laundry, and in the sewing-room every helpful mechanical appliance should be found, so that drudgery might be minimized and all household tasks despatched with celerity.

Each house should contain in its main room a large card telling the cost of the building as executed in real brick or stone or in wood. Every article in each house should bear a label saying what it cost and where it was bought, and a printed catalogue should give all these items in detail, with prices added to make a total. The principles observed in the choice of woods, of wall-tinting, of wall-papers, of furniture-covering, and the like, might be briefly set forth in neat and distinct labels.

It would be well to have each house conducted as a home for a suitable number of inmates—say, from special State or college organizations—with a woman of experience at the head of each little family. The daily bill of fare, the routine of daily and weekly tasks, and the monthly accounts for all expenses should be printed as a pamphlet for distribution.

In carrying out such a scheme, it would be imperative that, at every step, all concerned should be both competent and just. Otherwise, there would be wrangling as to the claims of rival heaters, lamps, upholstery, and so on. The more extensive the series of houses, the better opportunity for a fair display of competitive wares, each really good of its kind.

As an object-lesson, such a series of homes would have an immense educational effect. Very few can understand architectural plans, but everybody can see the advantage of well-proportioned, well-arranged halls and rooms.

THE GROWTH OF TRAVELING LIBRARIES

BOOKS SENT IN MANY CASES TO ISOLATED RURAL HAMLETS—HOW THEY BECOME THE FOUNDATION OF PUBLIC LIBRARIES—WHAT THE SUBSCRIBERS READ

BY

HELEN E. HAINES

THE traveling library system now exists in nearly every State in the Union, in Canada, and in British Columbia, and is becoming constantly better organized and more widely extended.

With the great increase of public libraries within the last quarter-century, it has become clear that the free use of good books is to be the common privilege of all residents of cities or small towns. There remain, however, the smaller communities, little villages, the farming regions, where books and magazines are few. Into this field the traveling library comes, and in many cases lays the foundation for future public libraries.

Practically the beginning of traveling libraries in the United States dates from a New York State appropriation in 1892, urged by the State Librarian, Mr. Melvil Dewey. Mr. Dewey's plan provided for the selection

of a number of small libraries, of 100 volumes each, carefully chosen, varied and interesting. These libraries were lent for six months at a time to "stations" desiring them, a "station" being a small public library, a group of twenty-five resident taxpayers, a summer school, study club, or university extension centre. At the end of the six months the library was returned to the State Library and sent to another station, and a second was forwarded in its place. Each library was sent out in a neatly made chest, with a printed catalogue and simple directions for the issuing of the books, and was supposed to be managed as far as possible like a small public library. A fee of five dollars was charged for a one-hundred-volume library, with smaller fees for smaller libraries, the collections ranging in size from twenty-five volumes up, and it was required that no charge should be made for the use of the books.

The first traveling library was sent from the New York State Library on February 8, 1893, and by October of that year twenty-four libraries had gone out. The success of the undertaking was apparent from the first, and it soon became an important part of the Home Education work of the State Library. In addition to the libraries, traveling collections of pictures and of lantern slides were also established, and are now widely used under conditions similar to those regarding the books. The libraries are varied. They embrace general selections for the ordinary mixed community, made up of good novels, attractive children's books, biography, travel, history, natural and social science; special collections for young people; subject libraries in fixed groups on household science, history, agriculture, education, and the like; and special subject libraries chosen to meet the study outlines of clubs and literary classes.

Other States speedily followed New York. In 1895, Michigan and Iowa established the system as part of their State Library, with an annual appropriation of $2,500 and $2,000 respectively for its development. In Wisconsin, a traveling library system was formed in 1896 by State Senator J. H. Stout for a single county, and the Free Library Commission of the State carried on the work with remarkable enthusiasm and success. In the same year a traveling library department was organized for the State Library of Ohio, and at the present time Maine, Connecticut, Pennsylvania, New Jersey, Delaware, Maryland, Indiana, Kansas, Minnesota, Idaho, Nebraska, and Washington have traveling libraries managed by State authority. As a rule, fees for the use of the books, if charged at all, are purely nominal, for it has been found that even a small charge is in many cases prohibitory.

Next to New York in its effective use of the traveling library comes Wisconsin. Here, instead of one central organization, there are various county systems, each independently formed, but supervised and fostered by the State Library Commission, while the purpose from the first has been to bring good books to the "backwoods districts," rather than to aid in the work of study clubs. The first libraries, founded for Dunn County by Senator Stout, consisted of 500 volumes, divided into sixteen small libraries of thirty volumes each. Each library was packed in a strong chest fitted with a shelf, so that it served as a book-case as well as a traveling case, and was provided with a simple equipment for the record of its use. They went out in May, 1896, and within the year the original sixteen had been increased to thirty-seven, all in constant use in scattered hamlets, in little farming settlements, in lumber towns once active but now sunk into decay, and in districts where the work of clearing the land was still going on and log cabins had not disappeared. The Stout traveling libraries were soon followed by others. County systems were organized, and generous aid was secured for their development, until in 1902 Wisconsin had 320 traveling libraries in a field where it is believed that 1,200 could usefully be sent out; an increased appropriation for this work was made by the last State Legislature, and the commission is already planning for a large expansion of the system.

These traveling libraries in Wisconsin have led to the establishment of many small public libraries, largely as the result of the systematic and effective work of the State Library Commission in arousing public interest and aiding in organization. In the two years, September, 1898, to September, 1900, the increase in the free public libraries of the State, supported by municipal taxation, was from forty-seven to seventy-six. The traveling library, placed in the village store or at the post-office, brings the first contact with books and magazines, giving touch with

the interests of the world. Then, sometimes through the State commission, sometimes through the interest of the people alone, a public meeting is held or entertainments are given, and money is raised for a library to be owned and managed by the village. In one settlement, centring in a post-office, a shop, and a schoolhouse, grouped in a community of farmers, thirty dollars were raised by an entertainment and supper, and books for the library were bought with the money. People became more interested, more funds were raised, and in time a small building was obtained, equipped and fitted by volunteers, and the free public library was fairly started in its own quarters, its scanty supply of books helped out by the service of the traveling library. In another Wisconsin town of 500 inhabitants, nearly all Norwegians, a public library was established in a building of its own, to the building or equipment of which practically every person in the town had contributed—one poor washerwoman, who explained that she could give neither money nor books, bringing flowers for the reading-room, and the young man-of-all-work at the village inn presenting a good fifteen-volume set of Irving, his only possession in the way of books, which he had expected to make the nucleus of his own library.

In the States which have not taken up the system through commission or State library, women's clubs are the important factors in traveling-library work. In most of the western States, indeed, the organization of library commissions has been the result of the efforts of the women's clubs —more especially in Kansas, Washington, Idaho, Nebraska, and Indiana. In Colorado the State Federation of Women's Clubs has maintained traveling libraries for four years past, sending books to the remotest corners of the State, to ranches, mining-camps, and country schools. In all, more than eighty libraries are in operation, containing about 4,000 volumes, and the work has resulted in the passage by the last Legislature of a bill establishing a Traveling Library Commission, with an annual appropriation of $1,000. In the southern States traveling-library work is done almost exclusively by the clubs, under direction of the different State federations; libraries are sent to the rice-fields of Louisiana, the "mountain whites" of Kentucky and Tennessee, the remote country districts of Georgia, and many isolated sections in Alabama, Missouri, and Texas. Virginia is apparently the only southern State in which this work has made no headway; the only traveling libraries in that State are those sent out by Hampton Institute. In Oregon, Utah, and California traveling libraries have been carried on by the women's clubs for several years, and it is only a matter of time before commissions take up the work in each of these States. In all, in thirty-one States women's clubs have been and still are the moving spirit in traveling-library development.

With the development of the work under State commissions more care is constantly being given to the selection of books, and as a rule the traveling libraries represent good and entertaining current and standard literature. The day of the discarded volumes of sermons and school readers, which were thought good enough for "missionary" work, is over. The complaint is still made now and then that too many old and familiar books are sent out, but the lists and catalogues of traveling libraries are evidence to the contrary. New books and attractive editions predominate, while particular care is given to include the latest and best literature on special subjects—biography, history, nature books, etc. The users prefer the sort of books that most other people prefer—books of amusement and incident rather than books of information. Most popular among the individual books in the collections sent out to farmers' families by the Wisconsin Free Library Commission were: Mrs. Barr's "Bow of Orange Ribbon," Cooper's "Last of the Mohicans," "The Adventures of Sherlock Holmes," Eggleston's "Hoosier Schoolboy," and Munro's "Flamingo Feather." But in the list of sixty books in which these held first rank, places averaging third and fourth in the scale were taken by "The American Boy's Handy Book," Burroughs' "Birds and Bees," "Adam Bede," "The Scarlet Letter," Fiske's "American Revolution," Hale's "Man Without a Country," Kingsley's "Hypatia," "Charles O'Malley," and "The Boy's Book of Sports." One book that is a perennial favorite is "Helen's Babies." In Wisconsin it has been found that the extension of the rural mail delivery system which brings newspapers and magazines to the farmer's home is making a

great difference in the sort of books demanded by the farming communities. The reign of "Thaddeus of Warsaw," "East Lynne," and "Scottish Chiefs" is no longer undisturbed, and there is coming a demand for the better and newer books in fiction, history, travel, and science. Books on wireless telegraphy, the telephone, the problems of expansion, and other current topics are asked for, and it is evident that these awakened interests must result in broader and more varied reading.

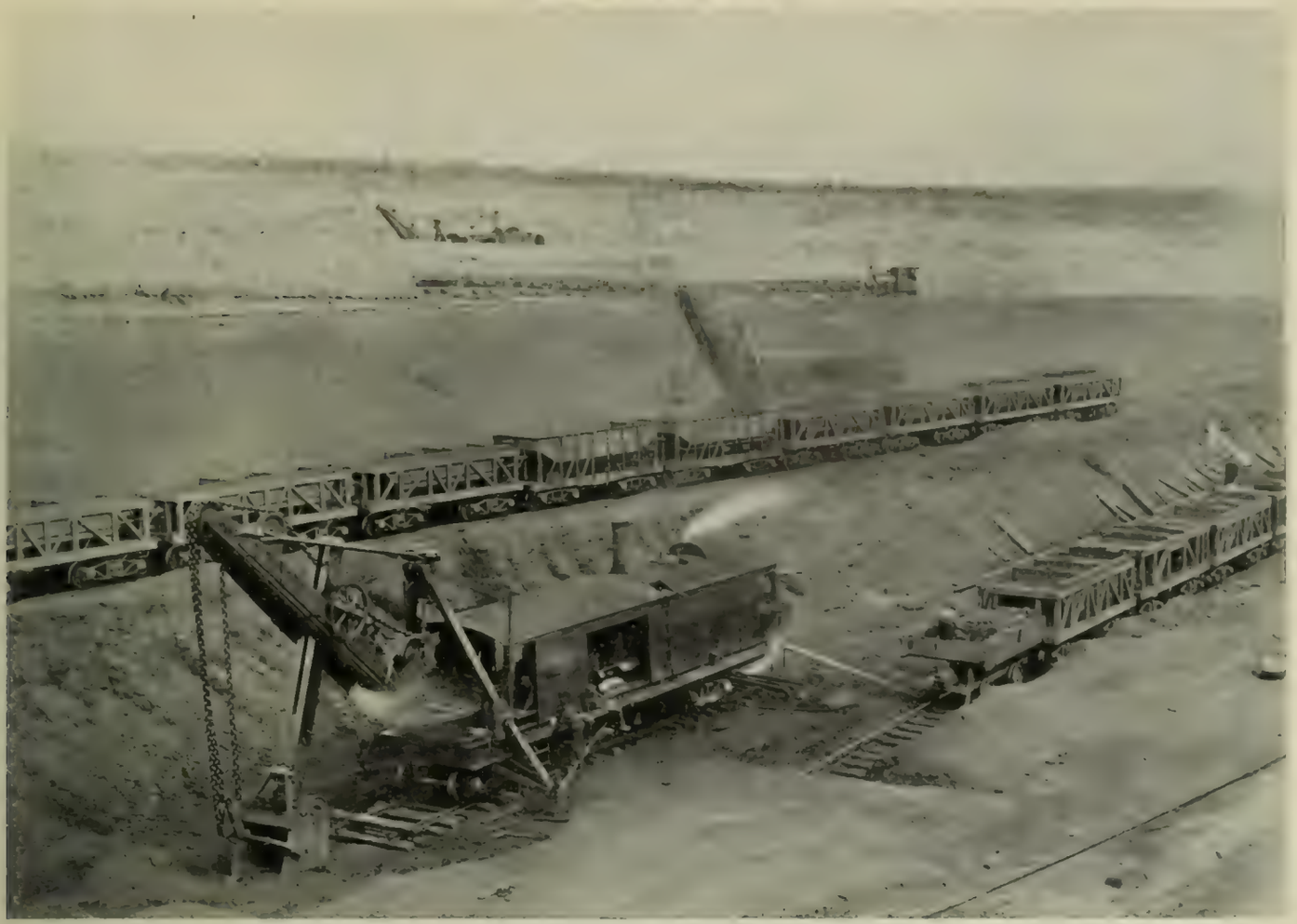
In asking for books to go to the mountains of Kentucky, one of the managers of a club traveling library said: "These people are solemn creatures, and they enjoy either very serious books or those that are very amusing. Life is made up of stubborn facts with them, and they do not want too much that is frivolous." Indeed, in many cases the natural taste of the unaccustomed reader is that expressed by the small working-girl who asked the librarian for a book for her mother —"a sad Christian story or something awfully funny." It was in asking for books for these Kentucky mountaineers that the request was made: "Don't send school books or song books. Send histories, for example those of Cuba and China. Something on Mormonism, to refute its agents in the mountains is needed; also books on education and character building"—a request that indicates on what principles the traveling library is to be developed to do its best work. "What we need," wrote the secretary of another traveling library committee, "are libraries of books suitable for children, such as biographies, histories, nature-studies, poems, and the Bible, especially the New Testament in large type, and our ultimate object is to create within the mountain people a desire for better and cleaner homes and a demand for a common school education."

From the far northern wilderness of Manitoba one woman wrote to the secretary of a Canadian association to say that in the days before the monthly packet of reading matter was sent to her, "the loneliness was so great, the isolation so unendurable, the enforced idleness of the long, dreary winter so hideous, that she unpicked and remade, unpicked and remade her scanty wardrobe over and over again, unraveled and reknit, unraveled and reknit her stockings, so as to keep the balance of her mind." A shelf of half a dozen books in a cabin home in the Great Smoky Mountains of Tennessee was the pride of the community. "Reckon we has 'bout one of every kind that's made," said a daughter of the house, exhibiting this library to a club woman visitor.

An officer of the Wisconsin Free Library Commission tells of one traveling library station—in a rough sort of barracks. Said the woman in this house: "I work night and day to keep this family alive. Why, this is October—well, I haven't had a pair of shoes on my feet since some time last May. I just work out in the fields or here in the house, and just dig and dig and dig. My husband is a good deal older than I am, and he's pretty well worked out. I have to do most of the manual labor on the farm. I have got a big family of children, but I am just determined that they are going to get an education—something that I could never afford to have—and so I do most of the chores while the children study their lessons. Awhile ago my son Jim—well, his wife died and Jim didn't know what to do; but I told him to bring his three children over here—three more wouldn't make much difference; and so I've got Jim's children and my children to look after, and it's pretty late at night when I get all the work done up; but after that last restless kid of Jim's goes to sleep I just steal downstairs and I just read one of them books, or when I'm too tired to read a book I read a story in the *Youth's Companion*, and I get to thinking about those stories when I go upstairs to bed—and you city folks don't know how much better I sleep since that 'ere box of books came that gave me something else to think about."

From mining camps, from lumber settlements and distant ranches and farmhouses such testimony as this comes to the officers of commissions and club committees. In many places the district school-teachers are effective missionaries of the book. One young man teaching in a rural school in Illinois wrote: "I have just organized a class of young people to study literature, and when I tell you that there are probably not more than 200 books in the district, outside my own library, you will see how we shall value those you send." It has remained for the United States to develop and systematize the traveling library into one of the most useful, simple, and effective aids in the work of public education

THE BURT MINE AT HIBBING, MINNESOTA, WHICH IN FOUR MONTHS LAST SUMMER YIELDED 600,000 TONS OF ORE



Photographed by Diehl

THE IRON MINES THAT GIVE US LEADERSHIP

THE MOST EXTRAORDINARY DEPOSITS IN THE WORLD IN THE MESABI RANGE—SURFACE MINING DONE WHOLLY BY MACHINERY—THE GREAT PROBLEM, THE PROBLEM OF HAULING IT AWAY—THE ECONOMIC MEANING OF AN INEXHAUSTIBLE SUPPLY OF ORE

BY

FRANCIS N. STACY

TWELVE years ago, the industrial world was surprised by the announcement that, from the wooded hills of the Mesabi range, sixty miles from the northern shore of Lake Superior, it was proposed to ship iron ore down to Lake Erie ports. The shipment was made—a cargo of 4,245 tons of soft red ore. Today the ore shipments of the Mesabi range, during the navigation season of seven months, reach 13,000,000 tons—enough to load a modern fleet of steel "freighters" that would stretch 200 miles.

A sixth of the annual iron-ore product of the world, and more than one-third of the yearly production of America, comes from an iron range that was unknown in 1890. The Mesabi range on Lake Superior yields ore enough to make as much iron and steel as all Great Britain; and British industrial dominance was founded on iron. During the fifty years ending December 31, 1903, the

THE MAHONING MINE

The open pit is a half-mile long and a quarter-mile broad, and is less than seventy-five feet deep. The total ore-body is supposed to be a mile

Marquette range on Lake Superior yielded more ore than any other district; but the Mesabi range has produced almost as much in twelve years as the Marquette produced in fifty.

Nowhere else in the world is it possible to buy an open field of iron ore in forty-acre or eighty-acre tracts; or to uncover a bed of ore stretching in a single horizontal mass from one to three miles. Nowhere else is iron ore mined as if it were sand, with steam-shovels, locomotives, and trains of switching-cars. Nowhere else is the cost of mining reduced to the trifling item of twenty to thirty cents a ton—which is one of the least important items in the value of the ore laid down at the furnace. Nowhere else is there an iron-ore formation from which the overlying stone capping for more than 100 miles has been planed off by glacial erosion and by flood and frost to a width of a half-mile to three miles, exposing an iron formation covered by only a few feet of soil, with from 5 to 8 per cent. of the whole 150 square miles of surface underlaid with good ore.

The Mesabi changes one's whole conception of iron-mining. Instead of a mine deep down in the earth, you see an open field of twenty to two hundred acres. Instead of blocks of black rock, "hard and massive as iron ore," you see acres of black, and red, and yellow dust, with here and there a reddish-black boulder, and anon a glistening patch of red and black pebbles. But, in the main, it looks like a rusty bed of sand and gravel; and this is high-grade ore. Instead of a hive of human beings delving with pick and drill and shovel in dark and dripping caves a thousand feet underground, a steam-engine, on the surface, guided by one man, scoops up ore in five-ton shovelfuls and drops it into a railway train alongside. One great steam-machine, in a sunlit field, does in an hour what would be a day's work of 500 men

THE "MOUNTAIN IRON" MINE, THE PIO-

This was the first steam-shovel mine in the world, and in a little more than ten years

AT HIBBING, MINNESOTA

long and two hundred and fifty feet deep. Its output is more than 1,000,000 tons a year, and it can produce more than 15,000 tons a day

working in the depths of an underground mine.

For this revolution in mining, we have, of course, to thank Nature first. Geology has done more to make it possible than the human inventor. The ore, instead of standing vertically on edge, as in other ranges of the Lake Superior region, and running down in deep and narrow wedges, often to great depths, spreads out near the surface in great horizontal beds or even blankets. The depth of the ore-beds is from 75 to 200 feet—one running as deep as 524 feet. Then, Nature's floods and ice-sheets planed off the overlying sheet of slate, and substituted a shallow covering of soil; and a foot of ore pays for the cost of a foot of "stripping." North of the Mesabi range is the great reservoir of lakes, rivers, and swamps on the north-central plateau of the continent. Here three continental watersheds—the Mississippi, the St. Lawrence, and the northern flow to Hudson Bay—have their sources. The exposed Mesabi formation lies midway down the incline, and in the direct line of drainage between this northern reservoir and Lake Superior, 1,000 feet below. The original iron-bearing rock was an unstable iron silicate. The circulating waters disintegrated the rock and concentrated the ores. The alkalies of the rock leached away. Even the silica cement has washed out, until there remains, in place of rock, great bodies of "iron-rust," which is the soft ore. Such are the geological conditions that have abolished Old-World processes of underground mining, and transformed the evergreen wilderness into a vast industrial field where, for nearly a hundred miles, you may hear the steam-shovels "bucking" the banks of ore, and see the heavy switch-engines circling among the terraces of open ore-pits, which more nearly resemble newly plowed wheat-fields than iron mines.

When a company proposes to mine, it buys

NEER IRON MINE OF THE MESABI RANGE

it has produced one and one-half times as much ore as Cuba has in the last twenty years

or leases a "forty" — that is, a forty-acre tract of land — just as if the product were to be hay, or wood, or corn. The company then punches the earth full of holes, to determine the depth and shape of the ore-bed. If the deposit is broad and near the surface, extensive rather than deep, which is characteristic of Mesabi mines, the steam-shovel is commonly used; and the first step is to remove the forest growth and to strip off the surface-soil. The ax and the plow and the steam-shovel soon expose to the sun a reddish-black field—"the mine" is ready to be worked. Steel rails are laid for the switching-trains; for every steam-shovel keeps two to three locomotives busy switching the loaded cars out of the pit to the main track. If the deposit be broad, and more or less circular, the tracks are laid along the terraces in great circles, and the shovels work against a bank of ore in the centre. If the deposit is long and narrow, the tracks are laid in parallel straight lines; and the trains enter the pit at one end and leave it at the other. Thus, a mine not uncommonly resembles a railway switching-yard.

When Mr. James J. Hill paid his first visit to the Mesabi range, he said, "The problem of ore-production is principally a problem of the proper switching of trains."

Photographed by Diehl

A VIEW OF THE FAYAL MINE'S OPEN PIT

In parts of this mine the ore is mined by the "milling" process. It is removed from the bottom of the pit by tram-cars, after it has been forced into the "hopper" by blasts

From a "stripped" field of soft ore, one mammoth five-ton shovel loads a 50-ton car in three minutes, and a ten-car switching-train in thirty minutes, at a cost for labor and fuel of only a few cents a ton. Mining is reduced to a cost no greater than the loading of gravel in a railway cut. The cranesman touches a lever; a mighty steel arm, carrying

Photographed by Crandall

THE PHOTOGRAPH SHOWS THREE SHOVELS "STRIPPING" SURFACE SOIL, AND ONE, IN THE FOREGROUND, "BUCKING" THE ORE-BANK

the shovel or dipper, drops to the foot of the ore-bank. The engine gives a few sharp coughs as the dipper crunches up through the ore, and a load of five tons is swung out over the car. The bottom of the big dipper swings downward, and the ore, with a swishing sound, falls into the car.

You sit on the edge of a big pit under the shade of a balsam-fir, and watch the leviathan "buck" the bank a quarter of a mile away. You see the swinging dipper glisten in the sun, then note a dozen white puffs of smoke in quick succession. Then come to your ears a few quick snorts of the engine,

Photographed by Diehl

THE SHAFT AND STOCK PILE OF AN UNDERGROUND MINE

and the rattling of the big steel cable through the crane. There is a pause, and your watch tells you that thirty seconds have elapsed, which means that five tons of iron ore have been "mined" and loaded, and that the big dipper is ready to dive for another load. This takes place ten times in three minutes —a carload is "mined" and whirled aside for the next "empty." Thirty minutes pass, while you watch the white smoke-puffs rise against a forest background, and your eyes are dazzled by the sun-flashes from the darting steel arm at the ore-bank; and the switching-train of the loaded cars moves on, giving way to a second train which comes speeding down the parallel terrace and whirls into position under the big dipper.

In less than three hours, five switching-train loads are handled and stand on the main track, made up into a fifty-car train for the seventy-five-mile haul to the Lake Superior docks; and 2,500 tons of iron ore, a three-days' undertaking for many a large underground mine, are ready for shipment.

There is room along the terraces of an eighty-acre field of ore for a hundred steam-shovels at work. But it requires engineering skill so to place the tracks as to prevent delay, blockade, or accident to any of the dozen switching-trains that are whirling in and out of the mine. It was chiefly a scientific switching-scheme that enabled the Mahoning to increase its output from 167,245 tons in 1896 to 1,038,465 in 1902. In the Stevenson Mine, an improved switching arrangement increased the yield of 56,031 tons in 1900 to 1,434,681 in 1902. In its third year, this mine, with a few steam-shovels, operated by a handful of men, produced more ore than all the mines of New York and Pennsylvania. As showing what a Mesabi mine can do, the Stevenson, on July 17th, this season, produced and loaded on 442 cars 19,000 long tons of ore.

More than half of the Mesabi product is now mined by steam-shovels. Underground caving and slicing systems are employed in about thirty of the smaller mines, in which the ore-body is deep and narrow, or in which the cost of stripping is heavy.

THE BIWABIK MINE

The photograph shows steam-shovels

These five mines—the Fayal, the Mountain Iron, the Adams, the Stevenson, and the Mahoning—are the world's five largest producers of iron ore. They have been worked to a depth of 50 to 200 feet; and a large portion of their known expanse of ore, in some cases one-half, still remains uncovered. The five mines together produce 7,000,000 tons in a year, which is not much less than the annual product of Spain, and it is one-half greater than the product of France. The Fayal alone produces nearly as much ore as Sweden. The three steam-shovel mines—the Mahoning, the Stevenson, and the Mountain Iron—yield as much ore as the sixty mines of the Marquette range, or as the whole State of Alabama. Germany is the only nation whose aggregate iron-ore production

exceeds that of the single State of Minnesota; but, if market and furnace conditions produced the proper demand for ore, there are seventy properties on the Mesabi range that would be worked, and the total output would exceed Germany's.

Since nine men with a steam-shovel can mine and load 4,500 tons as one day's work, the cost per ton becomes almost nominal. Ore has been mined at 12 to 15 cents a ton, and the cost of shovel-mining seldom exceeds 30 cents. The Mesabi "operator" lays down at the Lake Erie docks first-class hematite ore at only 75 cents to $1 per ton more than the actual cost of transportation from the mine, plus the royalty to the fee owner. This narrow margin covers not only the cost of production, but dock charges and commission, insurance, taxes, loss, profits, interest, and dividends.

The enormous shipments of the Mesabi range have created at the head of Lake Superior the densest ore-traffic in the world, and led to the erection, at Duluth, Superior, and Two Harbors, of the world's greatest ore-docks. The largest dock, at Superior, is 2,100 feet long. From it, a steamer was loaded last year with 5,400 tons of ore in thirty minutes and twenty seconds. As much as 80,000 tons have been loaded in twenty-four hours at other docks. The Minnesota mines keep an ore-fleet of about 200 lake vessels—the largest merchant fleet that floats the American flag—busy seven months in the year to carry the ore to Lake Erie ports. A freight tonnage passes the "Soo" Canal that is three times as great as that of the Suez Canal. And by far the largest item is the iron ore of the Mesabi. Indeed, the tonnage of Mesabi ore eastbound through the "Soo" equals alone the total annual tonnage of the Suez Canal. The 13,000,000 tons a year are pretty equally distributed between the ports of Cleveland, Ashtabula, and Conneaut, with lesser shipments to Buffalo, Erie, Lorain, and Fairport. Not far from 8,000,000 tons find ultimate consumption in the furnaces of the Pittsburg district, about 4,000,000 tons at Youngstown, and lesser amounts at Johnstown, Wheeling, and other furnace towns.

THE SECOND MESABI MINE

working iron ore on six terraces

The recent successful establishment of both blast-furnaces and coking-ovens at West Duluth and Superior presages the day when Minnesota will cease to be a mere shipper of raw material and will compete with the East in the production of iron and steel and their many finished products. The great bulk of the lake tonnage, which consists of iron ore, lumber, wheat, and flour, is east-bound, and west-bound steamers have difficulty in getting freight enough for ballast. East-bound freight rates on the Great Lakes are therefore double the west-bound rates. Thus, coal for coking and pig-iron manufacture pays a rate of only 35 cents a ton from Lake Erie to Duluth, as compared with a 75-cent east-bound rate on

the ore. This brings about a strong transportation bounty upon the manufacture of iron and steel at the head of the lakes, and the result is expected to be a great iron and steel industry in the comparatively near future of Duluth.

The Mesabi range is notable, not merely because it produces more than any three or four other iron ranges in the world, nor because it has the five greatest mines on the region does not greatly exceed 350,000,000 tons. But the estimate of the ore in sight by no means fully represents the resources of the Mesabi. Exploration is in progress. A dozen new mines were opened during the past season. There were seventeen new shipping mines in 1902 and eleven in 1903, or twenty-eight in two years; while 200 diamond- and churn-drills and a thousand explorers are still finding new resources of the range.

Photographed by Crandall and Fletcher

ORE-DOCKS AT TWO HARBORS, MINNESOTA

Which handle 5,500,000 tons of ore a year, the greatest ore-shipment in the world

globe, nor, again, because its product has doubled or trebled every second year of its development; but because it holds the world's greatest volume of reserved ore. It has "in sight"—that is to say, as estimated on the basis of the drillings through assayed ore—a billion tons of good ore, of which 60 per cent. is of Bessemer grade. The estimate of the United States geological survey is that the amount of high-grade ore in sight on all the "old ranges" of the Lake Superior

The United States Steel Corporation is indebted to the Mesabi for its greatest asset. Indeed, that corporation's holdings in ore there comprise one of the largest corporate assets in the world. This company produces about 60 per cent. of the Mesabi output, and its two iron-range roads and its lake fleet of 120 vessels do the greatest ore-carrying business on land or water. Ore in the ground is usually considered worth $1 per ton. The United States Steel Corporation's holdings on the

Mesabi are placed at near 550,000,000 tons, out of the total of 700,000,000 named by Mr. Schwab as the company's aggregate ore possessions. The Great Northern Railway Company controls several hundred million tons, partly in developed mines, but largely in undeveloped properties, and there are a dozen independent mining companies, some of which operate from a half-dozen to a dozen mines each; so that, with yearly new developments, the range is far from being in the control of a monopoly.

The economic results of the discovery and development of this mass of ore form one of the most important industrial facts in the past half-century. Since the first shipment from the Mesabi in 1892, the iron-ore production of the United States has increased from 16,000,000 to 35,000,000 tons per annum; the pig-iron product from 9,000,000 tons to 18,000,000; the steel output from a little more than 4,000,000 tons to 15,000,000; while the iron and steel exports of the United States have grown from about $25,000,000 a year to $120,000,000. During these dozen years, we have become the greatest iron- and steel-producing country. The Mesabi was the greatest single factor in this achievement, and, without the vast resources of the Mesabi, the present dominance of the United States in iron and steel would have been delayed perhaps for decades. In the use of steel, the cheap and abundant ores of the Mesabi have produced a revolution. They have enabled the railroads, within the past six years, to relay, with heavy steel rails, almost the whole rail mileage of the United States. Steel cars, steel ties, steel bridges, steel warehouses, steel ships, steel construction for a thousand purposes for which wood and stone were used before, have followed. Exports of agricultural implements have multiplied five times in ten years The tonnage on the Great Lakes has doubled. Finally, the iron tide from this vast iron-deposit flowing into the channels of industry at the following rate of progression—4,245 tons in 1892, 1,793,052 in 1894, 2,882,079 in 1896, 4,613,766 in 1898, 7,809,535 in 1900, and 13,342,840 tons in 1902—was one of the most powerful factors in the industrial and commercial revival of the United States after the panic and depression that began in 1893; and the impetus it gave our material progress continues to be world-wide.

A GIANT STEAM-SHOVEL AT WORK
These machines lift five tons of ore at once, and can load a car in three minutes

THE GREAT ORE-DOCKS AT ALLOUEZ, WISCONSIN

CHILDREN OF FOREIGN PARENTS FORM A LARGE PART OF THE COUNTRY SCHOOL ENROLMENT

BACKWARD COUNTRY SCHOOLS NEAR BIG CITIES

HOW PROVISIONS FOR HEALTH ARE DISREGARDED IN HEALTHFUL SURROUNDINGS—INADEQUATE EQUIPMENT AND NEGLECTED SCHOOL-YARDS—COUNTRY CHILDREN WHO KNOW NOTHING OF THE COUNTRY—FOREIGNERS REPLACING AMERICAN PUPILS

BY

ADÈLE MARIE SHAW

Illustrated from photographs by the author

(THE EIGHTH OF A SERIES OF FIRST-HAND INVESTIGATIONS OF AMERICAN SCHOOLS)

THE words that end an extraordinary epitaph in a little country graveyard, "She averaged well for this vicinity," would not fit the country schools I have visited in the past six weeks—most of them within an hour's ride of New York or Philadelphia. They do not "average well" for the vicinity of great cities, nor even for the surroundings and homes of their immediate neighborhoods.

These country schools have one advantage over city schools—they have good air in summer. Even this, however, may be denied them at the caprice of a single pupil who "feels the wind." In one school that I visited, an abnormally stout child of ten or eleven asked to have the window "shut down," and "shut down" it was, though the day was as hot as the child was fat. There seemed to be no question of refusing her request, no matter what the other children suffered from the stuffiness and heat of the room.

Going out from Philadelphia into Pennsylvania, and from New York city into New Jersey, New York, and Connecticut, within a radius of fifty miles from either city, I discovered, from the carefully closed windows of the farmhouses, the attitude of these neighborhoods toward air. Kept out in

winter because it is cold, it is not admitted in summer when dust or flies might accompany its entrance. "You can tell where they've got summer boarders, 'cause they've got the windows open," said my shrewd guide on one pilgrimage.

Indifference to air at home breeds indifference to air at school, but, in summer, the school-house is better than the dwelling. It does not fear flies. In all but three of the country schoolrooms that I have visited, windows were open to catch the breeze. In this one particular, I have found these eastern country schoolrooms offering, for part of the year, something better than the schoolrooms of the big cities. For the breeze of the country is cleaner than the wind of city streets.

In other ways, health is little regarded. Drinking-water, a frequent source of disease in the country, is taken sometimes from the school well, oftenest from the nearest farm well, cleaned or uncleaned—for school directors look no gift-horse in the mouth. "We have to be economical of water, for we have to go almost a quarter of a mile to get it," said one teacher, though to be "economical" in drinking-water is not good for growing girls and boys. Moreover, the long-handled tin-dipper, new or rusted, restored to the pail after each drink, is used, in turn, by little Italians, Swedes, Norwegians, Germans, and Americans. At this season, they suffer no immediate and visible diminution in health from germs thus acquired, but, in winter days,

JAMES, A COUNTRY SCHOOL BOY
This child has lost one eye, but can still play ball

THE FIRST ASSISTANT
The teacher could not make himself understood by the smallest children were it not for the services of this little interpreter

THE ONE-ROOM, UNGRADED SCHOOL AT NORTH COS COB, CONNECTICUT

Children from such buildings should be transported to consolidated schools

water that has absorbed the air of an ill-smelling room, a dipper that has passed from swollen lips to lips parched with feverish colds, may be less innocuous.

STAINED AND DINGY WALLS MAKE COUNTRY SCHOOLS UNATTRACTIVE

"Particular" teachers do what they can; they use a private drinking-glass. Some of the children imitate the teachers. Many teachers, too, are firm in a preference for wasting the remnant of a drink, when reproachful boys who have to bring water would prefer returning unused portions to the pail.

Where economy of water is the rule, wash-basins and school towels are infrequent. Parents are indifferent. The country teacher is confronted with the responsibility of deciding whether or not she shall make the effort to secure a towel. Often she decides that no towel is better than one towel used by fifty pupils for three, or four, or five days. Several sensible teachers, whose classrooms I visited, advocated, for hands only, water and a towel after marbles, base-ball, and mud-pies.

In one town, where such a teacher had cajoled this school towel from a reluctant "board," days of meditation brought counsel. Meeting in serious conclave, the board resolved that the town should not be longer committed to the extravagance of washing that towel, and the teacher was notified that thereafter there would be no pennies so frivolously expended. She could use the towel, but she must wash it herself. This happened in a Hudson River settlement that thinks no mean things of itself. There has been little progress from the days of that beautiful simplicity when the bath was a ceremony with a set date. I saw few towels. And the lack of them was far less significant than certain other lacks.

Uncleaned country wells may harbor queer objects alive and dead, yet poison no one. Country dirt, though not attractive when attached to the person, is by no means always fatal. But an unscreened, blazing stove, radiating its fiery currents in a crowded schoolroom, is a certain cause of coughs and colds, if not of pneumonia. In every school, the most conspicuous object was a Rip Van Winkle of a stove, clothed in rust, but not in a solitary instance protected by a stove-jacket, or by anything to shield the children from its heat.

"Miss B——, Mary got a cold at school last week. Please to keep the windows shut, as her father says it mustn't happen," is

not an uncommon complaint. Yet the careful fathers, mothers, and aunts, who "see the directors" if a suffocated teacher admits a breath of winter air, will contemplate with calm delight children that fry to visible redness in the full flood of "direct radiation." And why should they not complain? In none of these villages did I find any authority, educational or philanthropic, that tries to spread a knowledge of the plainest, simplest laws of health.

To the children of these schools (except for the rare and spasmodic attempt of the individual teacher), I found no instruction, even less regarded than in city schools a quarter of a century ago. In one New York village, conditions were so unpleasant that complaints had been frequent. Nothing had been done.

ANTIQUATED WAYS AND MEANS

So far as any interest in physical health or development goes, our ancestors would find these district schools just as they left them. In other respects, the changes have been so slight that no grandfather, in visiting them, need be homesick.

It is an axiom that education gained from text-books alone is not education. In these

THE GREENWICH, CONNECTICUT, PUBLIC SCHOOL

Within a few miles of the schools pictured on the opposite page. The kind of building to which children of outlying districts could be transported

trained or amateur, given in the care and use of the body. Children sit at "double desks," needlessly near together in the larger schools; everywhere they stand badly, walk badly, breathe badly. Their power to work will always be crippled. "Country children don't need training for their bodies," says the city man. Yet human bodies in city or country no more grow properly without care and training than do corn and beans without weeding and hoeing.

Other neglects of health are more aggressively visible than this lack of training of the body. I did not discover a single case where the toilet conveniences were even decently sanitary. Personal delicacy was

schools, even text-books are often poor and few. Where a library exists, it frequently contains curious relics. One New York State school had stowed in a dusty closet a library of seldom-used books whose bulk was half composed of small, squat volumes published in 1840. Fine print and yellowed paper made them interesting to the collector. Two of the series, "The Natural History of Insects" and "The Natural History of Birds; Their Architecture, Habits and Faculties, with numerous engravings," were flanked by tomes of State educational reports, dry as the dust that covered them. A Connecticut school rejoiced in "Holding the Fort, Comprising Sermons and Addresses at the

"TAKE US FOR A RIDE."
An interlude of "recess" at a country school

Great Revival Meetings Conducted by Moody and Sankey, and also the Lives and Labors of D. L. Moody, Ira D. Sankey, and P. P. Bliss." "Thaddeus of Warsaw," with scattered volumes or partial sets of Mary J. Holmes, appeared in different places.

In the Brick Church School, at Monsey, New York, a teacher with practical ideas was struggling with discouraging conditions. The two graveyards at the front and side of the school were better furnished than her schoolroom—grass and birds made them attractive. In the schoolroom, the sun glared through

IN THE BEAUTIFUL NATURAL PLAYGROUND OF A COUNTRY SCHOOL

TWO LITTLE ITALIAN GIRLS WHO UNDERSTAND NO ENGLISH, PLAYING IN A SCHOOL-YARD FILLED WITH WEEDS

side-windows, where shades were missing, upon the children's desks and showed the monotony of dingy walls and cracked and worn-out blackboards.

The teacher, cheerful and energetic, was teaching arithmetic with none of the object-aids that help slow pupils, teaching geography without a sand-table, a relief-map, or any text-book but the old-fashioned geography, and teaching reading with practically nothing to read from. The making of bricks without

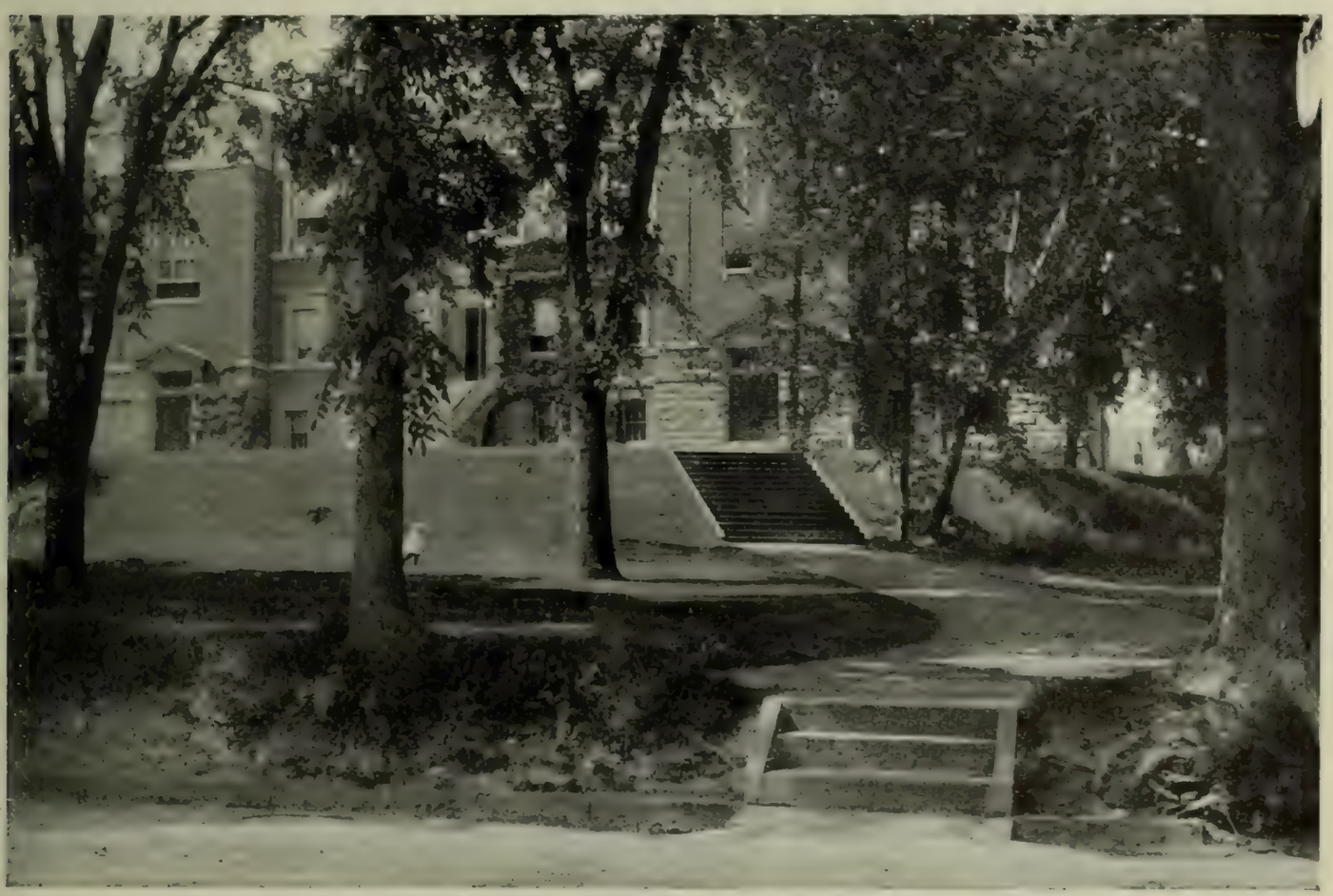
straw has been proved possible, but no one has yet made them without at least a substitute for clay. Order, attention, a neat and businesslike accuracy, this teacher has secured in a few months. With better materials, she could render a hundredfold more effective service.

In the Valley Forge neighborhood, in Pennsylvania, the historic landscape shelters a number of little one-roomed schools as primitive as the revolutionary musket. Two-roomed buildings, with two teachers, are common, but scarcely better equipped than the schools of one room. Here, too, modern means of work, globes, books, furnishings, are absent.

Geography recitations offer a good chance for comparison of new ways and old. In the last few years, there have appeared many books to accompany the school geography. In them, the habits, the customs, the contemporary history of many lands are told in such a fashion that children gain from them what once was known only by travel. In schools where such books are as much a part of the course as the "little" and the

A NEW ENGLAND SCHOOLMASTER

Mr. Dunn, teacher of the Riverside, Connecticut, school, who graduated from the Albany (N. Y.) Normal School in 1850



THE STAMFORD, CONNECTICUT, HIGH SCHOOL

To which children from Stamford township country schools should be transported at the town's expense. A girl from the West Farms district school (Stamford) held the highest rank in the class of 1904 in this school

DRAWN FROM LIFE BY COUNTRY SCHOOL CHILDREN WHO HAVE A CITY DRAWING-TEACHER (STAMFORD, CONNECTICUT)

"big" geography, children describe in their own words countries they have practically visited. They are using their minds. They talk with animation. They express themselves without a singsong, and suit words to the thought.

In a little shanty, on which a jungle of woods and weeds encroached, I heard a geography recitation of the other kind. Three boys, rising in turn, read aloud paragraph after paragraph like this:

"Albion, county seat of Orleans County, in fruit region; stone quarries; manufactures. Ballston Spa, county seat of Saratoga County, mineral springs; paper, leather, axes, and tools. Batavia, county seat of Genesee County, agricultural implements and other manufactures; State School for the Blind. Bath, county seat of Steuben County, agriculture, and manufacturing; seat of New York State Soldiers' and Sailors' Home. Canandaigua, county seat of Ontario County, beautiful village in fruitful agricultural region; lake front; pleasure resort; manufactures. Catskill, county seat of Greene County, resort for visitors to Catskill Mountains. Fishkill on the Hudson, Duchess County, fine residences; bricks, machinery."

The reading was a simple uttering of word after word attacked and disposed of with ruthless monotony. The teacher interrupted only to correct a mispronunciation. This school had the poorest building, the oldest desks and benches, the worst equipment of all the schools I ever visited. The teacher was embarrassed by the presence of a guest, and perhaps she did all one could expect for wages that no laundress would consider. But the deadness of the recitation was not uncommon. Trained teachers with wise methods, and untrained teachers with unwise methods, alike lack the necessary tools for their work; and no workman is wholly independent of his tools.

CHEERING EXCEPTIONS TO THE RULE

Live exceptions to the general deadness make a vivid impression in this round of country visits near great eastern cities.

THE NEW GRADED-SCHOOL BUILDING AND THE ABANDONED DISTRICT SCHOOL, SPRING DALE, CONNECTICUT

Many of the teachers have had a "normal" training. A few are as systematic, vigorous, and hopeful as the teacher at Brick Church (Monsey). Many are worn with the struggle to do good work where good work is not recognized; some are hopelessly discouraged; but all are superior to their opportunities.

At Sawmill Hill, Fox Chase, Pennsylvania, the teacher has organized among her pupils "The North Star Literary Society." Its meetings and programmes are neatly set forth in written reports by a little girl secretary. At Riverside, Connecticut, an "old way" is made the good means of making, from children of foreign parents, new Americans. Here the children sing with great zest under the leadership of their teacher, Mr. Dunn, who guides them with the mellow support of his voice as the old singing-school used to be led; and many of these children are Italians, to whom the singing-hour is better than meat and drink.

The country schools under the jurisdiction of Stamford township, Connecticut, have the same materials furnished them that the children receive in the Stamford city schools. A fortnightly lesson from a drawing instructor and another from a singing-teacher enlarge their horizon. Traveling libraries of fifty books each give each school access to several hundred good books every year. Mrs. Stevens at the Bangall School, formerly a "city teacher," is setting in motion vigorous streams of influence. The books in the library are well read. A group of children have added twenty volumes by selling soap in the neighborhood. This teacher's presence and personality seem ideally calculated to produce the good effects plain even to a visitor. The children show a love of reading, a responsive quickness, an ambition, not common. They love the animal stories in their library, and, among this group of country children, cruelty to wild things has practically stopped. "I haven't killed a single bird this spring," one boy announced.

At Dingletown, North Cos Cob, Connecticut, is a school whose surroundings are far more beautiful than the pictures show, and whose children are brought into some relation with that beauty. The teacher, a young man who is on the best of terms with his flock, has discovered abandoned desks in the church-loft and constructed, indoors, a cupboard, and, out of doors, rustic seats. He has instituted a "seed-growing box," turned at the end of the season into a fernery. One of the boys has raised money for a good organ. When I was there, bluebells, wild honeysuckle, and mountain laurel brought by the children decorated the room. The school has a good set of maps and a little library of good books. The children have been taught how to use books, referring to the library as naturally as they do to their text-books. Every morning a report is taken of things observed out of doors. Every child keeps a record. Here is part of the record of one little girl, bits from two lists of "observations":

FLOWERS

Pussy Willow	found Mar. 7, 1904
Skunk Cabbage	" Apr. 7, 1904
Hepatica	Apr. 9, 1904
White Heart or Dutchman's Breeches	found Apr. 13, 1904
Wood Anemone	Apr. 13, 1904
Early Saxifrage—Salt and Pepper	found Apr. 18, 1904
Blood Root	" Apr. 18, 1904
Dandelion	" Apr. 25, 1904
Violets; blue, white, yellow	" Apr. 30, 1904

BIRDS

Robin	seen March 5, 1904
Bluebird	" March 2, 1904
Red-Winged Blackbird	" March 9, 1904
Song Sparrow	found Mar. 10, 1904
Phoebe	" Mar. 10, 1904
Barn and Chimney Swallow	" Mar. 28, 1904
Brown Thrasher	" Apr. 29, 1904

This is an exhaustive list of the hopeful things I saw in this investigation :

CHILDREN IGNORANT OF THE COUNTRY

Generally, no effort is made to bring children into any real relation with the world around them. Even in the country schools of Stamford, Connecticut, the course of study is identical with the city course. I found nowhere a teacher in correspondence with any school of agriculture, nowhere any correlating of indoor studies with outdoor exploration, gardening, or experimenting. Books and life were things apart. In four States, in country places filled with object-lessons for observation, hardly a child knew any bird but the robin or the swallow. Many teachers knew even less of the country than did the children. Surroundings that might give the truest education in making and training minds now more than half asleep are ignored.

The possibilities in a square yard of soil are undreamed of.

Yet practical teaching that uses the wealth of country material is possible. Schools here and there in the United States have tried it and proved its value. "Out West," in Illinois, children are raising corn and oats, sweet peas and lilies, trying experiments with clover and alfalfa. In their arithmetic lessons they keep their accounts, do the book-keeping of their tiny farms; in their composition lessons they describe what they have done. Girls and boys, big and little, plan their home-gardens, their school-gardens, and send samples of their results to the State university. Interested fathers are benefiting by the instruction college and teachers give the children. An estimate based on the actual results of school experiments credits one county in the next few years with hundreds of thousands of dollars' financial increase in agricultural business.

A boy or girl in a corner of Wisconsin owns hens, or a pair of pigs, a present from a father or an uncle. Close to his public school is a county agricultural school. He asks the director how to feed, how to house and care for his new stock. With the right care, his animals thrive better than his father's. In his school composition there often figure the child's account of the father's amused skepticism, and the father's conversion to new ways of farming. Interest in grain-growing, interest in the dairy, a love of the farm, are born that way. And the girl or boy bringing the discoverer's zest to old tasks becomes a woman, not a drudge; a man, not a bumpkin. In the Eastern schools treated in this article, in a land fertile enough for wonderful market-gardens, we are bringing up children in stupid ignorance of their nearest resources.

THE RESULTS OF WASTEFUL ECONOMY

Country children have two resources—the soil and books. In these eastern schools they are taught to use neither.

Yet a child who had already observed enough or imagined enough to produce the following description—bad as the English is—must be amenable to such teaching. The "composition" was written in a very few minutes, from one of the subjects I suggested.

"One day when I was out walking In the field and down in the meadow there is poind with little fish they look like gold-fish and there are teartels and water bugs and fly and if you set sell you can see the fish eat the fly and you can see the teartels eat the fish and there is a stone fence and setting on the fence you will see the treetoads and there are snakes and swalowes"

In a village that shelters a group of New York city commuters, parents make firm objection to any reading not strictly "business." One book a year, "and that the Third Reader," they consider enough. They have their way. One of the school directors adorns the local (hotel) bar with a genial persistency. His hand upon the educational rudder is lax. His companions on the board are coerced by public opinion. The result of this usual economy of reading shows everywhere in a weak knowledge of English. Here is a few-minute sketch, written by a girl of fourteen, on "The Gypsies":

"The gypies was down to Riverbank they had two tents they had a graphone they had five or six wangons they was waiting for some more to come. They are up here now by Mr. Merrits they have about thirty one horses. They are a going to stay about two weeks more They have got a parrut. Two girls went up to have their foirtunes told. They are going over to Dr. Willians they waiting now for some more to come yet."

In the same school with this girl was a child of nine who did far better work. As in old-fashioned days, the child with natural gifts "gets on." The rest get where they can. Counting all the written work that I saw, the two hurried "sketches" that I have quoted make a fair average of impromptu labor. One was taken from one of the best schools in the group.

In weeks of visiting country schools, I have heard some children read distinctly, a few with a vague attempt at expression. Most of the reading aloud is excruciating; to imitate it one would have to simulate utter vacancy of mind. In these schools the writing and reading of English are in an embryo state. According to modern standards, spelling is embryo, too. To the speller, the words he spells are as Sanskrit. He can intone their letters. He would no more use them in his "composition" than he would attempt a Bach fugue on the school organ. Even arithmetic, where the work shows best, serves chiefly as mental gymnastics. These children come from homes where their fathers and mothers (save for the "one in a hundred") keep no accounts and have no

accurate idea of their relative outgo and income. Many farmers cannot tell at the end of a given year whether they have made or lost. Their children are growing up to follow in the same thriftless path.

In a forlorn schoolroom, a teacher whose hopefulness and youth were being crushed to death under a load of neighborhood indifference was trying to arouse some interest in reading. Parents were not only indifferent, but openly hostile. With enough food and drink, they were satisfied themselves, and desired no more for their children. "The people here don't want to read," sighed the teacher. "They'd rather gossip." Petty, self-centred, material, the community life is at best sterile and futile. Character cannot grow where it has nothing to feed on. In such places, immorality is grosser and commoner in the schools than in any city schools I know. Give children no resources, feed their imagination openly with no good things, and they will find excitement in secret scandals. The ignorance of these children, whose parents think "nature study" and science a "fad," is not only putting them behind in the struggle for a living income, but is destroying them in the struggle for manhood and womanhood. They are in no way having a fair chance at education.

In a "district" school, a child receives from one-eighth to one-fifth as much actual instruction as a child in a good graded school. In the schools I visited, the number of recitations ranged from seventeen to sixty in a day. The average was about thirty. These recitations last from five to ten minutes in one-roomed schools; fifteen minutes in the two-roomed schools, where two teachers divide the work. I secured the daily schedule of many of these schools, and its complications, no matter how well systematized, were absolutely prohibitive of effective work. One teacher teaching everything in what, in city schools, would be eight grades (with, in some instances, a ninth of kintergarten age), is not able to do what can be done by a teacher teaching one grade only.

In a New Jersey school, for instance, I heard (in the regular daily programme) seven recitations in thirty-five minutes. Classes shuttled back and forth, the receding wave passing the oncoming one with no time wasted. A geography lesson corrected the pronunciation of Genoa, and disposed of one other brief topic that concerned Italy. History, in a natural sequence, gave five minutes to the biography of Columbus. In grammar, a bright girl, not at all shy, a stupid girl, and a scared girl wrestled with parsing. The teacher was a good teacher, the school one of the best that I saw—the disadvantages enormous. In a good graded school, classes so far advanced would have had from thirty to fifty minutes for each recitation.

In a Connecticut school, a typical half-hour held a grammar and an arithmetic recitation. While these two groups recited, another group wrote in their copy-books pages of such inspiring themes as "O barn burn barn O," and "Zebu zones are wide belts." One group read geography questions and hunted upon the map for the answers; one studied history; one did sums; and several groups did nothing with great proficiency.

In the newer, graded village schools, the beginning of better things is visible. The children show more inventiveness, vigor, "horse sense." Two schoolboys of the Spring Dale, Connecticut, village school cut, last winter, eight tons of ice, and are peddling it out this summer at a good profit. This is evidence of "initiative." Most of them had home tasks that they looked upon with pride rather than with discontent, and several excused themselves after the first out-of-door pictures, saying, cheerfully, "I think I'll have to go now; my father expects me to help him." They were polite, obliging, attractive, and efficient. Their new school, which takes the place of a little, old-fashioned building, reflects the sentiment of the neighborhood, and shows good results in these children.

At Fox Chase, Pennsylvania, and at Closter, New Jersey, I found a typical state of things in the presence of a handsome graded school-building, only a mile from a one-roomed district school, where one teacher taught babies how to read and their elder brothers and sisters how to do everything. Why townships do not transport the pupils of little left-over-from-the-past schools to the graded schools near at hand, no one seems to know. But many teachers and directors have never heard of consolidated schools and transportation wagons. Teachers' salaries allow little opportunity for study of what

happens outside their own school walls. "Days off," for visiting other schools, appear a privilege monopolized by city teachers. Yet it is a stagnant pool that is never stirred by currents from outside.

The schools I am describing are among the best of the district schools of their States. Where population thickens, where city influences reach out they are being superseded by two-roomed buildings, by village schools. But the education given even in these is too often unrelated to the needs of the educated. Children no longer "commit to memory," but they do worse. In times long ago, the memory, at least, was drilled; and certain fragments of grammatical English stuck in the mind. Now, in unprogressive schools, they have no English, neither their own nor another's. Niggardly economy of a few pennies wastes lives that might mean something to themselves and to the State.

Watching the faces of children who are being stultified and petrified from active childhood into stodgy maturity—I thought of those whose school and home life is one vivid round of new interests, children scouring the woods, absorbed in the first principles of forestry, or formed into bands hunting, with scientific precision, the eggs of the apple-tree moth. I remembered that, by such quests, school-children have roused the interest of whole families, saved thousands of dollars to country places, brought knowledge into dead-but-not-buried communities.

From Pennsylvania to Connecticut, mean and ignorant economy is making of the public school a mockery for country children, and the most niggardly spot is the one that cries out most angrily when the village children use what life is left in them to get away. Poor schools and abandoned farms go together.

Six weeks in country schools close to two of the three largest cities in America have proved:

1. Most of the children of these country schools cannot read or write good English, nor make any really practical application of what they learn.

2. The parents of these children need to be convinced, by practical experiments, that education pays.

3. We cannot keep children on eastern farms till we make life there worth living.

INTERNATIONAL CONTROL OF IMMIGRATION

THE STARTLING FACTS ABOUT THE ORGANIZED MOVEMENT OF UNDESIRABLE POPULATIONS—THE PHYSICAL AND ECONOMIC DANGERS TO THE UNITED STATES ARE SO GREAT THAT BOTH EUROPEAN AND AMERICAN REGULATION IS NECESSARY

BY

JAMES DAVENPORT WHELPLEY

TWO million people emigrated from Europe last year, and one-half of them came to the United States. This vast stream of human beings is unnatural, for there is no maelstrom of activity anywhere drawing it into its vortex. In the natural course of events, immigration into the countries to which these people are going should now be at a low tide, for even the feverish industrial activity of a recent decade in America has subsided.

To escape political and economic wrongs is the principal purpose of this movement. But this desire is so fostered and encouraged by the transportation companies as to set many people in motion who would otherwise cling to their native soil, hoping for better things in the future. The menace to the peoples of the more highly civilized and more prosperous countries presented by this vast emigration is now realized.

The United States leads in severity of

restriction laws, and all legislation proposed for the future is intended to heighten the barriers against the undesirable. England is discussing regulations even more drastic than those in force in the United States. The problem has passed beyond the power of a single government to solve, however, and calls for an international agreement to police localities from which people are driven by unnatural and avoidable causes, and to check private greed in its efforts to take advantage of such a situation. Plans are now being laid for a conference of representatives of all nations affected by an outward or an inward movement of emigrants, in the hope that some understanding will be reached and coöperation made possible.

Traffic in ocean passages has reached a stage of fierce competition, unscrupulousness, and even inhumanity, inconceivable to those not familiar with its details. Men who profit by the march of these millions of people have a drag-net out over continental Europe so fine in its meshes as to let no person escape who has the price and the desire or need to go. Three great countries, Italy, Austria-Hungary, and Russia, where the masses of the people are low in the social scale, and where the percentage of illiteracy is discreditable to the twentieth century, are drained of their human dregs through channels made easy by those seeking cargo for their ships.

The transportation companies will disclaim any connection with the men who deal directly with this human freight, but, in the end, they get the business, and those who originate it for them must have their profit. Every inducement is offered, and every possible facility is afforded. Thirty dollars, or even much less, in times of rate-wars, will carry an adult from central Europe to New York. Tickets can be bought on instalments, and the transportation "touts" act as brokers, bankers, couriers, or in any other capacity to the end that another unit may be set in motion, fleeing from known evils to a vague fate in a brighter horizon.

The medical men of Europe are watching the vast movement of low-class humanity to the United States with professional curiosity. They freely predict, as one of the inevitable incidents of such a movement, occasional outbreaks of imported plague, which will arouse the American nation to the danger of allowing Europe to drain her social system into the United States. The American authorities are doing everything in their power to guard against such disaster, and are fully alive to the possibilities involved. During the past session, however, Congress utterly ignored a bill framed for the purpose of lessening this danger. With the exception of a few ports, there is no inspection of emigrants until they arrive in the United States, and the most meagre authority is now given for the elimination of undesirable persons at points of embarkation.

The people of southern Europe are accustomed to disease in its most horrid forms. Yellow-fever, bubonic plague, trachoma, favus, and other afflictions dangerous or loathsome in character are taken as a matter of course, and, while treated scientifically and intelligently, are never absolutely within control. In spite of strict regulations and skilful examination provided for by laws of the United States, it is impossible that human skill should be able to detect the presence of many of these ills in their earlier stages.

Five per cent., or 10,000, of the people who applied for emigrant passages to the United States from the Port of Naples last year were refused transportation because they were afflicted with trachoma. This insidious and disabling disease of the eyes has already found its way to New York city. Should it become prevalent in the United States, as it is in Italy, it would almost entirely destroy the value of the American public-school system, now regarded as the best and most democratic in the world. Should a disease like trachoma become general, no one who could afford to do otherwise would submit his children to the danger of contagion.

The facilities provided for the quick and easy acquirement of citizenship in the United States have become a means for evading immigration restrictions to an alarming degree. The United States Embassy at Rome last year issued nearly fifteen hundred passports to alleged American citizens, based upon naturalization certificates or certified copies thereof sent from the United States to Italy for the use of people desiring admission to the new country, many of whom would otherwise have been excluded. The use of these naturalization certificates has become a notorious and flagrant fraud. Upon their

face, they bear no means of identifying the original owner, and the mere statement of the man or the woman who secures possession of one of these compels the issuing of a passport which guarantees entrance for the immigrant.

New York has figured more largely in this scandal than any other point in the United States, although it may be said in all fairness that every State in the Union is represented during the year in the presentation of these certificates. An obliging friend in the United States who has become a naturalized citizen can secure, in return for a small fee, a certified copy of his papers, and send it to Italy to be used by some one else claiming to be the original owner. These papers carry on their face no description of physique, no photograph—nothing, in fact, by which the owner can be identified. A few simple questions are asked, as required by the regulations of the State Department, the passport is issued, and the immigration laws are thus rendered abortive. Another form of abuse is the use of these certificates by women claiming to be wives of the men to whom the papers were issued in the United States. With a copy of these papers, a woman can present herself at an American consulate, and, by stating that she is the wife of a naturalized citizen, secure a passport for herself effective in allowing her to land on American soil in spite of any disqualifications that she might otherwise possess under the law. The only apparent remedy for the abuse of naturalization privileges is for the general government to induce the States to issue certificates in a regular form, the face of each certificate carrying a full identification of the person to whom it was originally issued. To require proof of marriage, which can always be secured in European countries, would be a simple method of stopping their misuse by female emigrants.

In the past one hundred years, 23,000,000 immigrants have come to the United States. From them has arisen a sturdy nation, combining the best elements of all the others. The land richest in natural resources has, through them and their descendants, been developed until its output feeds, clothes, and provides for half the civilized world. In numbers, the arrivals of twenty years ago approximated those of today, but with a difference in character and purpose. Then they came from Germany, the United Kingdom, and Scandinavia, and the movement from Italy, Austria-Hungary, and Russia was comparatively small.

Today the conditions are reversed. The movement from the first-named countries is inconsiderable, and more than six hundred thousand, or about 70 per cent., of the arrivals last year were from new and less desirable sources of supply. Changing conditions and rapid industrial growth in the United States are partially responsible for this. The free land and golden opportunities of the western States a quarter of a century ago attracted the very best class of settlers. With free land practically exhausted, this tide turned elsewhere, or ceased almost altogether.

Then came the great industrial development and the consequent demand for labor. The native-born and the naturalized were fully employed, and, to fill the gap, the underpaid, dissatisfied, and oppressed of Europe began to arrive. It proved an endless chain; for son sent for father, brother for brother, and friend for friend. Then came the families, and thus a great army, gathering size and momentum, was soon on the march. A sum approximating $50,000,000 is sent from the United States in small sums each year to assist those left behind in the old world, or to enable them to emigrate. It has been predicted that the number of emigrants would soon decrease by reason of the exhaustion of the supply; but no such promise is warranted by the facts. Last year, 230,622 Italians, 206,011 Austrians, and 136,093 Russians successfully passed the immigration barriers of the United States. The people of those three countries are tremendously prolific. Poverty and discomfort apparently have no effect in decreasing the birth-rate, and phenomenally large families are the rule. The total population of Italy, Austria, and Russia, notwithstanding the drain of this enormous emigration, is increasing naturally year by year, this increase being confined, however, to the cities and the more prosperous agricultural districts.

In the past thirty years, Italy has sent more than 2,000,000 persons to the United States. A number of these have returned in the course of time, bringing with them carefully hoarded savings. A very large majority have remained in the United States,

however, and have induced many others to follow them. Between twenty-five and thirty million dollars a year is sent from the United States to Italy by Italians making remittances to relatives or friends at home. A large part of this emigration has been from southern Italy, induced by economic conditions so fearfully depressing in their influence as to bring Italy to the verge of ruin. These people have been literally starved out, and the present day sees no amelioration. In northern Italy, there are many small land-holdings, and the Italian peasant is able to maintain more or less individuality. In southern Italy, the land is held in great estates, and the peasant has no future for himself, his children, or his children's children. Taxes upon industry are high, and the whole tendency of the fiscal system is to restrain development. Unproductive land is lightly taxed, but, the moment the proprietor attempts to cultivate his ground, the tax-collector is at hand. Prices are low, and agricultural wages have dropped to a level inadequate to the maintenance of wage-earners.

The Italian peasant lives in a miserable hovel, and what he can dig from the ground is the limit of subsistence. Meat is scarce, and even salt is so heavily taxed by the Italian Government as to be beyond the reach of the slender purse of the peasant. Little or no attempt at education is made in the rural districts, and the peasant's mental state is generally as deplorable as is his physical condition. The diseases of the underfed and impoverished are rife among them, draining their physical powers, threatening the vitality of rising and unborn generations, and a menace to the entire world through their dangerously contagious character.

The one ambition of the Italian peasant is to go to the United States. He is fully aware of the advantages offered in this country, for many of his relatives have gone before and are constantly urging him to follow. If he can not himself get the money to go, it will be sent to him from abroad. There is nothing to hold him where he is. There is much to drive him forth. Although there is no religious or political persecution in Italy, oppression arises from economic conditions, and these are all-compelling in their power to dislodge even the home-loving Italian from his birthplace, and to induce him to sever ties of family and friendship so dear to the Italian heart.

A compulsory land-purchase act is now under consideration in Italy, to be enforced much in the same manner as the law which is given credit for ameliorating conditions in Ireland. It is proposed to give the Italian Government authority to purchase the large estates of southern Italy, and to parcel them out to the peasants, these smaller holdings to be paid for in partial payments extending over a long term of years. The Italian Government is not yet rich enough or strong enough to carry such a measure into effect, but considerable hope is expressed that the present King, to whom the best of motives are credited, will in time find himself able to bring about this reform.

More than $10,000,000 is sent every year from the United States to Austria, in small remittances made to relatives or friends of Austrians settled in America. Much of this money is for the purpose of assisting emigration. Economic and political conditions in Austria are not so bad as those in Italy, but the scale of wages and of living is far below that of the United States, the government maintains a closer supervision over its citizens, military service is exacted, and the people are more or less burdened with a corrupt bureaucracy, as they are in nearly all European countries. The movement from Austria arises from the instinct of self-preservation and betterment, and, with transportation so cheap and easy, thanks to the enterprise of the great steamship lines, the incentive to try for new fortunes need not be great to dislodge even the most timid from an undesirable environment.

In marked contrast to the conditions in Italy are the causes which induce the Russian Jew to emigrate. The result, however, is the same. In both instances, people are driven to the United States not so much by what is offered there as because of the hardships that they leave behind. The Jews of Russia number 5,000,000, and most of them live within what is called the Jewish Pale. Within the Jewish territory must also be included Poland, the combined population of these two districts being something more than 40,000,000. Under normal conditions, this territory would support this population in comfort and furnish adequate employment to all in the development of its resources;

but the conditions are far from normal. What are called the "May Laws" of 1882, enacted by the Russian Government, provided that only those Jews who had complied with certain requirements, and thus established a legal right of residence, prior to that year, should be allowed to live in the rural districts. All other Jews were driven into the towns.

This led to a congestion not only of population, but of employments as well; and, since the Russian laws still further limit the outlet for Jewish activity, life became most sadly burdensome for these people. No employment paid for directly or indirectly by the government is open to the Jew, nor can he obtain any work from the municipality in which he resides. The government also endeavors to prevent the Jew from obtaining work upon any enterprise over which there is government supervision. They are rigidly excluded from railway positions, even the humblest, and in these and a thousand other ways they are made to feel the opprobrium of their descent and their religion.

Overwhelming competition to obtain a living resulted from these conditions. The population of the cities increased enormously, and in these congested centres began a fierce struggle for existence. Of course, all the Jews in Russia are not poor or persecuted. The occupations of merchant and trader are open to them, and hardly a transaction can be brought about in which a Jew does not take part. The reason assigned by the government for the enactment of the "May Laws" was the charge that the Jews were oppressing the Russian peasantry in the transaction of business. That they did have control of the commerçe of the country is probably true. That they took advantage of this control may be possible, though the probabilities are that they farmed their opportunities to no greater extent than would the Russian Christians, or any other people placed in the same position. However just these charges may be, there is no question as to the effect of existing laws and regulations upon the population of that country, and indirectly upon England and the United States, for they are the cause of the very large emigration.

There is no such wide agitation for the repeal of these laws as might be expected, for the Jews who proved their right to remain in the country villages throughout the Jewish Pale and Poland thus secured a monopoly of trade extending from large enterprises down to the village shops; and naturally those on the ground are well satisfied that the government should restrict competition even from their own countrymen and coreligionists. The better class of Jewish emigrants are often inspired to move through the desire of obtaining educational facilities for their children. Jewish children in Russia are practically excluded from the schools, and even when Jewish communities organize schools of their own it is difficult to secure the consent of the government for their operation.

As a rule, the first move a Jewish emigrant makes is to England. He may pass directly across Great Britain en route to the United States, or he may find it necessary or advisable to rest a while in London and prepare himself more effectually to run the gauntlet of the American immigration laws. The very large Jewish community in London, already viewed with alarm by the people of that city, maintains institutions for the care and education of emigrants who need "reconstruction" before proceeding across the Atlantic. The Jews already established in business in London would be glad to see this movement of their countrymen checked, as it results in competition far more serious to them in labor and commercial circles than that met from Englishmen.

Thirteen per cent. of the people who go from northern Italy to the United States are illiterate, and 48 per cent. of those who go from southern Italy. Twenty-four per cent. of illiteracy is found among the immigrants of Austria-Hungary, and 25 per cent. among those from Russia. A sharp contrast to this lack of education is found in the emigration from Scandinavia, Germany, and the United Kingdom; for only 1 per cent. of the Scandinavians are illiterate, but 4 per cent. of the Germans, and 3 per cent. of the people from the United Kingdom. Illiteracy does not necessarily mean lack of intelligence, but, unfortunately for the United States, in a vast number of cases it means corresponding dullness of intellect and a lack of ability to grasp the meaning of self-government.

If the immigrants arriving in the United States were prompt to distribute themselves throughout the country, going naturally to

places where they were most needed and avoiding already congested centres, the situation would not look so threatening. Nearly all of them, however, have chosen their final destination before starting, and few of them arrive with enough money to carry them beyond the port at which they are landed.

The extremely severe laws against the admission of contract labor make it impossible to offer these people before they start any definite employment in places where labor is needed. Did the law permit, it would be possible to secure agricultural and mining labor for the West, and quite a number of those possessing moderate means and farming experience could be induced to settle upon irrigated lands belonging to great corporations where employment could be guaranteed to intending settlers. It is possible, also, that here may be found a great source of supply of labor to build the Panama Canal.

It has been suggested that immigration should be absolutely prohibited, or that the number allowed to land should be limited. To forbid all people from coming, or to limit the number, are not sufficiently practical ideas to warrant serious consideration. The mission of this great army of immigrants is ostensibly peace, but war against the body politic is its outcome. The dangers are none the less real because they are insidious. Lowering the physical and mental tone of the country, corrupting politics, lessening the value of citizenship, and creating municipal problems of most serious character, it is a peril to be met by the United States Government with fearless inforcement of drastic and intelligent restrictive legislation and the exercise of the highest and boldest form of statesmanship in dealing with the nations from which these people are now coming. And the time has come for some form of concerted international action.

WHAT PRODUCTION ENGINEERS DO

HOW THEY MAKE A BUSINESS SUCCESSFUL BY INTRODUCING A SYSTEM—STORIES OF LOSSES TURNED TO PROFITS BY THE APPLICATION OF METHODS OF COMMON-SENSE

BY

HROLF WISBY

THE productive engineer never uses the same system twice. He can have no cut-and-dried plan. Only by adjusting a method, or system, to every separate requirement can he be of service.

In a large Massachusetts shoe-factory, there is an organization-chart on the wall of every department. It defines the duties of each department at a glance, and fixes clearly the very delicate matter of responsibility.

"A great thing for inducing *esprit de corps* among the men," explained the officer who showed me around. "Eight departmental heads are made directly responsible to the treasurer and managing director. You have no idea how useful this simple chart is in avoiding compulsion and securing discipline. It even helps us in breaking in new men, for there is never any question as to who is boss.

"We have a chart for product also," and I was taken into the office, where a graphic schedule was shown, giving both the total and the average production by the month, and a variously colored line for each kind of material, so that the fluctuations are apparent offhand. Instead of a big, awkward, inaccessible ledger, a piece of card the size of your hand tells the story of a whole year's production!

"About ten years ago," said the inventor of the vertical card index to me, "I hunted high and low for people to try my idea, but it was generally ridiculed. My system was looked upon as of no value to the business man, and only insurance companies and libraries could be induced to adopt it at first."

But, to continue stories of the work of productive engineers, the owner of a large Penn-

sylvania factory of printing-presses thought that something was the matter with the works; and he summoned a production engineer. The engineer's plan for reorganizing the factory was considered too expensive by the president. The expert then offered to make a demonstration free of charge, to show that, though his plan involved a large expenditure, to fail to reorganize was much more expensive. In tracing the process of production, he had found a weak spot at the outset; a small part of a press, costing about fifty cents, would often delay the completion of a $15,000 machine. This lost time, of course, added expense. Then he received a contract for the complete reorganization of the whole plant, and not only was the capacity of the works increased, but the investment necessary for material was reduced 22 per cent.

The course pursued by the systematizer in making estimates on bids is very interesting. In one of the best-managed Massachusetts factories, the routine of operation is, briefly, as follows: The superintendent makes the quotation, which is transferred to the estimate clerk, who orders the method of making the article, records the weight, the manufacturing operations in proper sequence, the piece-work prices, and the cost of tool-wear in producing each part of the article. On the foreman's estimate, there is a record of the raw material and of the operations required to turn the work out. Attached to it is an assembling record, in case the article consists of several parts, giving the varying cost of making each part. Finally, the recapitulation sheet tells the whole story in a nut-shell: the detailed cost of the article, the factory expense, and the wear and tear on tools and machines.

"We find," said the manager, "that the average ratio of factory expense to actual labor for a year preceding the date of the estimate determines the percentage of factory expense that we are to charge to any given job. We didn't know that before. System gave us that knowledge. We now can make estimates much more quickly than before, and with absolute accuracy, and we have entirely eliminated the profit-killer of the usual factory estimate—guesswork."

A most remarkable instance of successful estimating involved an enterprise that did not exist, but which would have been financed if the production engineer could have proved that there would be big money in it.

It was a proposition involving a yearly output of more than ten thousand machines of twelve varying sizes. The promoters wanted to know what the profit of this output would be.

"I had to create imaginary buildings, with offices, machine- and pattern-shops, power-plant, etc.," said the engineer, "in fact, to conjure up a complete plant, equip it properly to the smallest detail, install all the machinery, and run it with an imaginary force of workmen and officers. This done, I could prove, by actual figures, that the equipment necessary for operating the plant would require precisely $1,922,000, and, partly on this basis, was figured the cost of building each machine. Thus, a machine of one size was found to cost 1.8 cents per pound in material and 6.3 cents per pound in productive labor.

"I allowed a further charge of 5.7 cents per pound for interest on investment, depreciation of buildings and equipment, cost of power, manufacturing expense, the office salaries, etc. Understand, my system provides for getting into any kind of a job or operation every single item of expense that belongs to it. In this case, the cost of the finished machine footed up 13.8 cents a pound, or $124.20 for the whole machine. By adding to this the salesmen's expense, 15 per cent. on cost, office charges, etc., the combined manufacturing and selling cost was increased to $142.83, which, subtracted from the net factory price of the machine—$250—showed a net profit of $107.17.

"Well, by financial summary, I pointed out that a total investment of $2,642,000 would be necessary for buildings and equipment, and a working capital required of $1,250,000, aggregating a total of $3,892,000. My cost-and-profit analysis showed that there would be an apparent gross profit of good size. But I then set up my schedule of comparative selling prices, pointing out the figures obtained by other makers, and, by comparing the weight in pounds with the net selling prices per pound with those of ten competitors now operating, the promoters decided not to go into it."

"So you had all your conjuring for nothing?"

"By no means. The promoters paid my fee cheerfully, and patted me on the shoulder in the bargain. You see, I saved those people the work of finding some four million dollars, and probably five years' time fooling

around and trying to do things that my advance estimate proved were not practicable at the margin of profit they insisted on."

The test of a practical system is the flawless execution of an order through all the departments. In an Ohio hardware factory, the order department keeps the original blank, stating the price, while duplicates go to foremen and the packer. So-called "partial"-shipment blanks are used when the whole order is not shipped at once. An order clerk is busy on file-cards, which give the various foremen advanced notice of the work that will be detailed to them, so that all are prepared.

The new "promise"-order system, in conjunction with a tracing department, enables a manufacturer very frequently to get higher prices for his goods, not necessarily because he can manufacture more rapidly than others, but because he can be relied upon absolutely to deliver the goods on time.

"So you know, this alone, in two very notable instances in my experience," asserted a Boston expert to me, in conversation, "has given a manufacturer in my town the complete control in several staple articles. We simply file a promise-reminder, in the shape of an index-slip, with the departments concerned, and the foremen check off the progress made from day to day. This prods the job along."

Production-engineering deserves the credit for inventing the cost-analysis. In a New Hampshire mill, this is accomplished by collecting and adding up all the labor-cards, thus giving the total productive labor-charge on each article, which has its own separate sheet in the analysis stating the operation, the piece-work—or the day-work time and price—the estimate and the register cost, and the actual cost per thousand pieces. To test the accuracy of the register and the pricing of the labor-cards, the prices of the latter are checked against the prices of the cost-sheets. Comparing such a cost-analysis with a sales-analysis often discloses startling results, as it did on one memorable occasion in this factory.

"At the time we showed for a year's operation $40,000 net profit, and we couldn't get past that figure," I was told by the secretary of the company. "One day a production engineer came in, and the 'old man' thought he would give him a chance, more for the fun of it than for any hope of improvement. He showed that, while we were making a net profit of $75,000 on three articles, we were losing $35,000 on ten other articles, so that it was no wonder we couldn't make more than $40,000. The 'old man' got nervous, looked into the scheme, saw the point, told the fellow to go ahead, and now we have dropped the ten losing things, and, by making a specialty of the three good things, we're clearing, instead of $40,000, no less than $100,000, and—it's increasing."

The distribution of indirect labor-expense has always proved a stumbling-block to manufacturers in general. This item is usually added up, and percentages charged to each department; but, since this frequently tends to cripple the first making of profits, or causes purely fanciful results, the production expert has evolved a new and better way. In order to get every expenditure for labor into the costs, the method of fixing the indirect expenses in an Illinois factory making light machine parts provides that the total charges to production and plant be balanced weekly with the pay-roll to verify the postings by the cost-clerk.

"Our main source of indirect labor-expense is the labor-cards," explained an assistant. "We sort and post these, and make out a weekly sheet for each department, charging it with every item on the cards, even to cleaning and sweeping. The labor-cards being very accurate, the sheet also is sure to be accurate, and thus it is possible to trace the variation of indirect expense through the whole factory, and to distribute it justly."

"Have you had any peculiar benefits from this method?"

"Decidedly. Before we thought of system in this connection, our estimate of the average indirect expense was a dollar of expense for every dollar of direct productive labor. To show you how we fooled ourselves, look at this schedule. You will here see variations from $2.85 down to 60 cents for every dollar of labor in the indirect expense rates of our thirty departments. And here is where we made an epoch-making discovery: the re-tabulation of the cost of the machine parts, made in the light of these revised expense rates, made it profitable for us to purchase from outside makers several parts on which we had been steadily losing money, though ignorant of that fact. Further, we dropped one whole unprofitable department."

THE EQUILIBRIUM OF EAST AND WEST

THE RAPID GAIN OF THE TRANS-MISSISSIPPI STATES IN POLITICAL POWER AND THEIR GROWTH IN INDUSTRIAL INFLUENCE—THE BALANCE OF THE TWO GREAT GEOGRAPHICAL SECTIONS AND ITS MEANING

THERE are twenty States and four Territories west of the Mississippi River (not including Alaska and Hawaii). They contain 65 per cent. of our area on this continent. This area holds 32 per cent. of our population, whose representatives cast 45 per cent. of the votes in the Senate and 30 per cent. of the votes in the House. It has 50 per cent. of the railroad mileage and 34 per cent. of the property value of all the States, as assessed for taxation.

Eighteen per cent. of the capital invested in home manufactures is within this territory, and it produces in value 20 per cent. of the manufactured products of the whole country. In addition to this, the "West" (whereby in this article is meant the area west of the Mississippi River) produces 47 per cent. of the total agricultural products of the United States from farms representing 57 per cent. of the total farm values.

The recent industrial development of the West has been marvelous, but the promise for the future renders present accomplishment comparatively insignificant. It did not "find itself" until the frontier had become a tradition, and the past twenty years have witnessed a partial realization of this better knowledge. Growth has been so rapid that, in two decades, it has caused the centre of population to move from Ohio to Indiana, the centre of farm values from eastern Indiana to western Illinois, and the centre of farming area from eastern Illinois to central Missouri. Twenty years ago, the centre of the manufacturing industry was in western Pennsylvania; today it is in central Ohio. The centre of the farm income of the United States now rests on the Mississippi River; and, while land values have declined in New England, they have increased by more than 100 per cent. in the West.

Politically, the West has always had an influence disproportionate to its population, because every State has two Senators and a member of the House regardless of population. Notwithstanding this over-representation to start with, the growth of the political power of the West has been very rapid. In 1880, when the Senate had but seventy-six members, the West cast 34 per cent. of the total votes. At the present time, when the Senate has ninety members, the West has 45 per cent. of the votes. No new Senators can be added from the eastern States. Should the territories become States, as they will in the natural order of events, the West will have practically as large a Senatorial vote as the East. Should California and Texas ever see fit to avail themselves of their constitutional privilege of subdivision, more members would be added to the Senate, and then the States west of the Mississippi would have more votes in that body than the States east of it.

In the House, the situation is different, for the population governs representation. The gain of western power in the House seems slow, but it is far from being a negligible quantity. In 1880, of the 325 members of the House, 24 per cent. were from the West. In the present House, with its 386 members, the West has 30 per cent. The East is making great strides in population, and for many years to come, possibly for all time, the East will retain control of the House. But the control of the Senate by the West is probably a mere matter of time.

With only 32 per cent. of the population, the West may, therefore, be said to hold today an equal division of political power with the East. The West practically controls the Senate; the East controls the House. To all intents and purposes, the political balance of the country now swings evenly. It was but a few years since the political weight of the East was overwhelming.

No harm has come to the East from this division of political power with the West, but much good. National politics have been broadened thereby, and conservatism has been

leavened with energy until national policies present a healthy and vigorous character.

The growth of the West has hitherto been based chiefly upon mining, agriculture, and stock-raising. The output of minerals was never greater than it is now, nor were prospects ever surer that it will increase. New ore deposits are discovered every week, old mines are reopened and worked at a profit by improved processes, large bodies of low-grade ore are now successfully treated for like reasons, and no mining State is assured of perpetual supremacy in production. Montana once rested secure upon her reputation as a producer of copper; now Arizona promises to develop even greater marvels as an ore-bed.

The agricultural product of the West is half the product of the whole country, and the East looks to it to supply the food deficiencies of a future time when denser population will demand the products from a greater area. Even now the West supplies the great surplus of foodstuffs which enter into foreign trade and constitute the bulk of American exports. Colorado leads in the production of minerals, yet her farms now produce an even greater total of values than her mines. Twenty years ago, irrigation was inconsiderable; today, 8,000,000 acres of land are supplied with water.

The stock-growing of the West of twenty years ago is becoming the stock-farming of the more closely settled country. The eastern States have more live stock to the square mile than the States of the West. The West is giving up the range industry for the more profitable and more scientific stock-farm.

Thus the balances measuring the power of the East and the West are slowly but surely reaching an equilibrium. They are practically equal politically. It will not be long before they approach equality industrially and commercially as well. This will come before the population of these two sections becomes equal; for the West has a greater per capita natural wealth, and the East a greater conservatism.

INTO MYSTERIOUS TIBET

THE PURPOSE OF COLONEL YOUNGHUSBAND'S BRITISH EXPEDITION; THE CLOSED COUNTRY, THE FORBIDDEN CITY, AND THE PERSONALITY OF THE INVADER

BY

CHALMERS ROBERTS

FOR more than a century the relations between the British Government in India and Tibet have been more or less unsatisfactory. There was an encounter in 1888 between the Tibetans and the Sikkimese, because the Tibetans had invaded Sikkim, and British troops had to go and drive the invaders out. After this a treaty about Tibet was concluded with Pekin, but it has practically remained a dead letter. An attempt was made in 1893 to inforce its provisions, but the regulations drawn up in that year have likewise been evaded. Finally, recent reports of Russian intrigue reached the Indian Government (it is even said that the Russians secured the entrance of a representative to Lhasa) and caused Lord Curzon to make an attempt to deal directly with Tibet by sending a peaceful mission. At least, it was peaceful until there was hostile opposition.

This is, in outline, the purpose of the expedition. In the great globe-circling game of land-grabbing, Tibet is a buffer-state of immense importance to India, whatever power finally gains predominance in China. Of course, the negotiations preceding the starting of the mission were studiously correct. Lord Curzon, in sending a complaint to the Tibetans, demanded the appointment of a joint commission for the purpose of discussing and deciding the two main issues in the neglected treaty—trade and boundaries. To this, the Lhasa authorities assented readily enough, but, for three months, the English commissioners cooled their heels at

the meeting-place before it was decided that the mission was "peacefully" to advance. It does not seem that the Tibetan commissioners ever intended to meet the English. From an Oriental point of view, this is by no means a breach of faith, but rather a creditable ruse. It places the English in a false and humiliating position, commits Tibet to nothing, and enables her to make preparations for defense in case her inactivity is resented. It is of such obvious disadvantage to India that Tibet should ever be opened up to the outside world, that Lord Curzon's protestations against annexation are sincere. The more tightly shut up the whole northern boundary of India is, the better for English supremacy in the South. The space between India and Tibet lies between two adjoining countries, which remain sealed so far as outside influence is concerned—Nepaul and Bhutan. Both these lie nominally within the British sphere of influence, but, save for the capital of Nepaul, Khatmandu, they are as unknown and as impenetrable as Tibet itself. What Lord Curzon wishes to secure is freedom from foreign influence in Tibet. As has been said in a recent British Blue Book published on the subject: "Any attempt to annex the wild and inhospitable upland kingdom would be the act of a madman. If the result of the present expedition be to turn the key in every gate to Tibet with a double turn, the utmost hopes of the Indian Government will be accomplished.

So much for the dry details of treaties and blue books. It is in the character of the country invaded, in the personality of the man who leads the mission, that the fascination of the thing lies. No white man living has ever seen Lhasa and returned to tell of it. This alone lends enormous interest to the expedition. Tibet is perhaps the last land of mystery remaining in the world. Certainly, every other land with as strong a claim to civilization has long since been explored, but this one great semi-savage land, guarded by the highest mountains in the world, remains the last place from which the innovating white man is fiercely excluded. Here one woman may have many husbands, but a man may have only one wife, many brothers often sharing the privilege of husbandship to the same woman; the ruler of the land is forever a child, for every ruler dies before he comes of age; the inhabitants wash themselves with grease, and praying is done by machinery. Within the walls of Lhasa itself, the great mystery where the Grand Lama dreams away his sacred but brief existence, only three white men are known to have set foot. In 1811, an Englishman named Manning entered, disguised as a lama or priest. In 1846, two French priests did the same thing; but, since then, no returning traveler has penetrated the stronghold. This alone is enough to make every youth in England long to hear the story which the present mission will tell, if it continue its march; to make even older men hope that it may push on regardless of opposition. So much for the glamour of sensation and romance with which this particular movement of red-coats is surrounded. Lhasa lies, as the crow flies, within 200 miles of the Indian boundary, and Colonel Younghusband may have reached it by the time this article is printed.

Tibet has an absolutely religious government, or theocracy, the head of which is supposed to be the Grand Dalai-Lama, looked upon as the reincarnation of Buddha, although the real ruler is a temporal chief called the Gyalpo. The Grand Lama is usually chosen at the age of five or six. He is kept in the palace at Lhasa, and is never seen by the outside world. The Gyalpo, or regent, has charge of the Lama, and, at the age of fifteen or sixteen, the Lama dies of some mysterious disease. It is then announced that his spirit has passed to another infant, who will be found at a certain place in a certain family. The child is always found as directed, and duly installed with great pomp and many weird ceremonies.

In Tibet, the many-husbanded ladies delight in decking themselves with the great matrix turquoises which we now see also on this side of the world, and they wear many so large as to be worth fortunes.

The prayer-wheel of the Tibetan, of which so much has been heard, is like a barrel with prayers written around it. The person who wishes to pray gives the wheel a turn on its axle, and the prayers are supposed to be said for him as long as the wheel continues to turn. What an opportunity for the praying man to go on with some other occupation! It would not take the inventive Yankee Buddhist long to arrange a mechanism by which his entrance into Nirvana, said to be

accelerated by prayer, would be pushed rapidly forward. Think of having a number of mechanically worked prayer-wheels going at once, and knowing that your spiritual progress was advancing over a period which would otherwise occupy millions of years of incarnations.

The Holy City itself has been often described, and even now English artists are drawing imaginary pictures of it for illustrated papers, deterred by no such small thing as lack of a sketch to work upon. The well-known young Asiatic traveler, Mr. Perceval Landon, putting together the several accounts that have reached the outside world, describes it as a comparatively small town, of about twenty thousand inhabitants, sheltered from the inclement winds of central Asia by a huge ring of mountains which have to be climbed before it can be sighted from any side. In the centre of this valley, which may be four miles across, lies the city—a pretty collection of gardens and low ochre-roofed houses, with water flowing openly through the streets. But the eye of the traveler would surely leap quickly over the mean houses encircling it, to the great rock which rises abruptly from among them. For there before him would lie at last the shrine which has been the object of so many ambitions. It is a saddle-back formation, sheer on three sides and steep on the fourth, four or five hundred feet in length, and covered from end to end with the sacred buildings of this holy of holies. From either side, a well-paved roadway zigzags up from the city, and, on the left, there is a flat-terraced and guarded space, reserved for religious ceremonies. All the masonry on either side is white. Only in the middle, like a great saddle of crimson on a saddle-cloth of white, rises the dull-red Palace of the Grand Lama. Tier after tier of windows, red or white, reach almost from the ground to the roof. Beneath the palace, just where the northern zigzag sweeps up from the plain of the city, stands the famous Pillar of Lhasa. This is the objective point of all Buddhist pilgrims of the north. In fact, it is to them what the black stone in the wall at Mecca is for the Mahommedans, the goal and shrine of all that their religion means to millions of the devout. Such is the description gathered from all available sources. It may be that, in ten years, it will be less difficult to reach Lhasa than the Klondyke. There is something pitiful in the small and ignorant resistance to investigation and discovery on the part of the people of this lonely mountain kingdom of holy men.

When the British expedition reached Gyangste, it put itself on terms of perfect amity with the surrounding Tibetan population. The camp was turned into a market, and the people came fearlessly within the lines, offering for sale vegetables, tobacco, and trinkets, delighted to find such customers in the strangers, who had dared to molest the ancient solitary reign of the Dalai-Lama. The British soldier never finds much difficulty, in his homely way, in making friends with native populations. He pays cash, and would much rather be on friendly terms with hermit populations than shoot them down, even in self-defense.

At Guru, for the first time, perhaps, these savage warriors met a foe who bound up their wounds along with his own, and set free prisoners unharmed. We hear, too, of an abbot coming at one place to see Colonel Younghusband in order to apologise for the conduct of his monks in joining a recent attack upon the British. They had no business to fight at all, he said, but they had been egged on to do so from Lhasa. He had admonished them as a superior should; he had had them beaten! Not for a long time has there been anything more comical in the history of war and diplomacy. The monks of a Tibetan monastery are soldiers, somewhat like the old-time Knights Templar, and, like them, no doubt they prefer fighting to praying. There is only the abbot's word for the second whipping which his holy knights received, and Colonel Younghusband is too good an Orientalist to believe all he is told. But he was so pleased with the abbot that he remitted the fine of grain imposed upon his monastery and allowed the old man to go back happy to his praying-wheel. What will next happen in such a country, no one can foresee. There came news later from the long-delaying Chinese Amban that he was on his way, as he had been for six months, and that the Dalai-Lama, at last rising to the necessity of the occasion, had provided him with a transport befitting his rank. Certainly, in the end, the Dalai-Lama, or those who act for him, will go to any extreme to keep the expedition away from Lhasa itself. It is

equally certain that the expedition will reach the city—or has reached it.

It is upon the leader of the expedition itself that the chief interest centres. And it would be a personal gratification, no doubt, to Colonel Younghusband himself to go there—the end of many years of long and hard travel roundabout. He is an authority on the country. Since his boyhood he has been taking journeys across Asia, and writing books to tell about them, until, with his brother, he fills a long page in the catalogue of the British Museum. His career is one of romantic adventure, combined with serious work of a kind so often done in the British service, and so infrequently done elsewhere. For, if older Englishmen at home love tales of sport and danger and discovery, young Englishmen abroad know how to supply them. This young man, really a Major, and Colonel only for this mission, has already a wonderful record in books of reference. He is fit product of the marriage of a well-known Indian soldier, now Major-General Younghusband, retired, with a sister of Robert Shaw, the great traveler. It has been, all told, a famous family, for his elder brother is that "Younghusband of the Guides" whose name Kipling has made a household word. In fact, it is not to be wondered that the average journalist mixes up the two brothers, George and Frank, to the utter distraction of the public. They are both great travelers, both write books of travel, and both have gone from honor to honor in the service and out of it.

To paraphrase briefly the Army Record, Major Francis Edward Younghusband was made a Companion of the Order of the Indian Empire (C. I. E.) in 1891, and was given the Kaisar-i-Hind medal for public service in 1901. For his travel across central Asia he was made gold medallist of the Royal Geographical Society, that coronation of the hopes of all young travelers. He joined the First Dragoon Guards in 1883, but was afterward transferred to the Indian Service Corps. He was traveling on leave in Manchuria as early as 1886. He went from Pekin to India by way of Chinese Turkestan in 1887. In 1889–90 and '91, he travelled on the Pamirs in Central Asia, thence to Hunza, where he was made political officer for the Indian Government in 1892. He held the same post at Chitral, a dependency of Kashmir in 1893–94, and went with the Chitral expedition of 1895 as special correspondent of the London *Times*. For the same journal, he visited South Africa in the troubled days before the war in 1896–97. On his return to India, in 1898, he was made political agent for Haroati and Tonk. This seems a very bare record, but it covers a world of interesting activity. Merely the story of that famous march, as a very young man, over "the roof of the world," set all England in a fever of admiration for him. This was when, in 1886, having, in Manchuria, explored and ascended the famous "Ever White Mountain," he went south to Pekin and began his journey to India. With great difficulty and in constant danger, he crossed the Desert of Gobi in Mongolia, China's northern dependency, penetrated Eastern Turkestan to its capital, Kashgar, thence southward to Yarkand, threaded the heart of the western Himalayas, by the Mustagh Pass, 19,000 feet above the level of the sea, and finally reached Srinagar, the capital of the northern Indian State, Kashmir. Of course, such a man would not be neglected by any government, and he has been constantly taken out of the service for political duty in the places enumerated above. It is difficult in these few lines to picture what such traveling means. For instance, without an Alpine apprenticeship in mountain-craft, it must have been no easy thing to drag not only yourself, but a train of ponies heavily laden with stores, over unknown glacier passes at the summit of the Himalayas; and this is what Younghusband has done again and again. For months at a time, he has camped in altitudes of from fifteen to sixteen thousand feet, often without a tent, sleeping in the open. His most famous book, "Through the Heart of a Continent," is now a perfect manual for travelers in Asia. Yet, in it, one will quickly discover that the author does not believe in unnecessary hardship, which he holds almost *tantamount to disaster*. He declares that it is always his principle to make himself as comfortable as circumstances will permit, and to husband all his strength for unforeseen hardships. As a result of this practice, he is today perhaps better acquainted than any man living with the difficult and mysterious country between the Indian Empire and the ever-advancing outposts of Russia.

COLONEL YOUNGHUSBAND AND HIS STAFF

THE CHANGELESS HIMALAYAS
Through which the British force made its way

COLONEL FRANK YOUNGHUSBAND

In Russia, they know him as well, if not better, than his own people do, and they fear him as much as the Russians fear any one. Indeed, once on his travels he was ordered off Russian territory in the Pamirs by an officer, Colonel Yonoff, in such a high-handed way that the Imperial Government at St. Petersburg afterward tendered him a full and official apology. With all this behind him, do you wonder that he goes on his way to Tibet with the keenest will; that Young England knows he will get to Lhasa if there is a possible path? From physical difficulties in the way he has surely nothing to fear, and the Tibetans have no trait or trick of cunning which he has not met again and again, and checkmated. In writing down his views upon the method of dealing with Eastern craft, he says: "If once the European gives up his higher moral standard and descends to intriguing with Asiatics, the chances are very much in favor of his being worsted. On the other hand, where real influence has been gained by a European over Asiatics, it has been due to his straightforwardness and strength of moral character, and not to any original mental superiority."

Mr. A. J. Montefiore Brice lately recalled to the readers of the London *Daily Mail* an interesting incident which had a great influence on the later life of the chief actors concerned. The occasion was a public eve-

A TIBETAN ABBOT OF HIGH INFLUENCE

A COMPANY OF TIBETAN NUNS OUTSIDE THEIR NUNNERY

ning at the Royal Geographical Society, when Lord Curzon—although he was not a peer in those days—read to a large and interested audience his remarkable paper on the Pamirs and the sources of the Oxus—and read it in his own brilliant, inimitably persuasive way. At the close of the paper, there arose from

THE FIRST CAMP OF THE BRITISH FORCE IN TIBET

A FROZEN WATERFALL ENCOUNTERED BY THE BRITISH FORCE

the benches in the hall a quiet-looking man, with a singularly soft and pleasant voice. At first there seemed nothing to distinguish him from a hundred other men in the room. He was of middle height, clearly a soldier, though tending to stoutness in his figure and to ease in his carriage; his features were regular, his mustache heavy, his chin strong, and his jaw square—apparently just one more of the many soldiers whom the Geographical Society gathers into its fold. But, as he spoke, he became changed. Deep below his heavy brows his large, clear eyes gleamed with a singular intelligence; and, though his voice was so softly modulated and his manner so simple—so full, perhaps, of the reserve of strength—he proceeded to apply to Lord Curzon's brilliant paper a criticism sharpened and pointed at every turn with personal experience. And it was all the more scathing and severe because it was spoken in a conversational tone, with slow, deprecatory gesture, and so, evidently, without either passion or prejudice.

The speaker was Frank Younghusband, then the hero of his great journey through the heart of the continent of Asia which won for him the society's gold medal and established his reputation for an intrepid daring and resource that comes to few. The pleasant sequel to this memorable evening is that, when Lord Curzon became Viceroy of India, he did not forget his critic. It is an open secret that he was strongly opposed to the withdrawal of Younghusband from Chitral. "Had he remained there," declared the Viceroy subsequently, "I believe the outbreak would never have occurred." As soon as he

Photographed by A. Fowler

TIBETAN SOLDIERS ARMED WITH FLINT-LOCKS

had the power, he sent Younghusband as agent to Indore, the capital of one of the Central Indian States, and now he has intrusted to him the delicate and difficult task of negotiating with the Tibetans for that commerce and those relations so long denied.

Colonel Younghusband is by no means merely a man of action. He is also and pre-eminently a man of thought. Beneath the mask of his genial manner, behind the reserve of his quiet voice, there lies an active, eager brain, without a single cobweb or grain of dust upon it. To such a brain he allies an indomitable will, and this he tempers with inexhaustible patience and tact. In him, you have the elements that go to make the ideal administrator in the ancient and changeless East. It is as a political officer, part diplomatist and part administrator, as the man with the iron hand in the velvet glove, that Colonel Younghusband has won his way to eminence in the service of the Indian Empire, and to a firm place in the hearts of the sentimental, adventure-loving people at home.

A FORTIFIED TIBETAN MONASTERY
Known as the Khamba Jong

A BRITISH OFFICER MEETING A TIBETAN DELEGATION

ROPING AND BRANDING CALVES

THE COWBOY OF TODAY

HOW HE TAKES HIS PLACE IN THE UPBUILDING OF THE WEST — THE PASSING OF THE CATTLE-TRAIL — CLEAN, HONEST, AND SELF-RELIANT, A PICTURESQUE AND ACTIVE FIGURE, WHO HAS CHANGED HIS CHARACTER AND ATTITUDE

BY

ARTHUR CHAPMAN

THE cowboy of today does not live under the same conditions that marked his life a generation ago. The old cattle-trail, from the Rio Grande to Montana, has been thoroughly obliterated. The railroad has superseded the trail, and what the railroads left undone the small rancher and sheep-herder have completed. Consequently, there are no more towns in the West like Abilene, Dodge City, and the rest of the cattle centres, which were the dueling grounds of so many reckless cowboys, who formerly left the trail for adventure.

But there is still plenty of work for a good cowboy, and there is no lack of romance in his work. The range horse is just as prone to buck today as he was when no barbed wire confined him. And the days of the round-up are as exciting as of old, even if the herds are smaller.

Owing to the breaking up of the great herds, there has come an increased demand for men who know how to care for cattle. Saddle manufacturers are turning out more cowboy saddles today than in the days of the range kings, simply because there are more men in the cattle business, and more herds. In the days before the wire fence, when a cowboy was in the saddle from sun-up to sun-down, and perhaps a good share of the night as well, it would have been a disgrace for a cow-puncher to do ranch work. But today the cowboy puts in his time between round-ups in helping on the ranch. Some of them even today wear their chaparejos, or sheepskin riding-overalls, and spurs when they sit on the mowing-machine in the alfalfa-field.

RANCH COWBOYS RACING TO DINNER

A HERD OF CATTLE WATERING — HORSE-"CAVVY" IN THE BACKGROUND

There is plenty of fighting, not against Indians, but between cattlemen and sheepmen — a war in which one powerful interest is arrayed against another. Under the forest-reserve policy, the United States Government has thrown open thousands of acres of fine grazing-lands to the cattlemen. After a bitter fight between cattlemen and sheepmen, it was

Photographed by C. A. Kendrick, Denver

HOW THE COWBOYS ROUND UP THEIR BEEVES FOR WATERING

decided that the sheep must be kept off the reserves, but the cattle could graze there.

The work on the forest reserves, however, constitutes but a small part of the cowboy's activities. In Arizona, New Mexico, Colorado, Wyoming, and Montana it is common for one company or individual to lease thousands of acres for grazing privileges. Some of these leased ranges are miles between fences, and the cowboy who sets out to round up the cattle on one of them can easily lose himself on his employer's land. Large herds of cattle are rounded up from these ranges twice a year. This gives employment to thousands of men, who would be utterly useless if they did not know every detail of riding, roping, and branding.

The daily life of the modern cowboy depends largely upon the season of the year. In winter, there is a strenuous hunt for good range, as the cattleman can seldom be brought to the idea that winter feeding, with alfalfa ranging up to $20 a ton, is a profitable business. Even in the earliest days, when there was unlimited range, cattlemen counted on a loss of from 10 to 20 per cent. of their cattle in winter. Today, with a restricted range, this loss is even larger, and the suffering of cattle on an over-stocked range is severe.

The cowboy, and especially the foreman of a ranch, must know the character of the range and its exact grazing capacity. The condition of the cattle at the end of the winter depends upon his foresight and judgment. In winter, the cowboy is in the saddle most of the time, keeping the cattle close to the good feeding-grounds and guarding against danger of loss of his charges through broken fences.

In the spring comes the calf round-up, which is one of the most active periods of the cowboy's work. The calf, apparently meek and innocent, is difficult to rope and brand. All cattle are branded with the mark of the ranch. After a calf has been cut out from the herd and roped, the struggle begins. The calf develops amazing strength. Sometimes two or three husky cowboys are needed to subdue one calf long enough to brand it. Nor is the beef round-up, in the fall, less exacting.

The man on a horse-ranch, instead of on a cattle-ranch, has a more varied existence than the cow-puncher. There are few horse-ranches, compared with the cattle-ranches. One of Colonel W. F. Cody's big ranches, in the Big Horn Basin, is given over exclusively to horses. When the horses are brought in from the vast stretches of the Big Horn country, sometimes as many as 2,000 head are rounded up to be branded or broken.

It is harder to watch broncos than cattle, for cattle are more gregarious than horses. At a round-up, each cowboy has six or eight horses for his personal use, as the work

A TYPICAL MODERN COWBOY

of cutting out horses from the large herds is severe on horse-flesh.

The range-horse that may have been driven until there was not a spark of spirit in him the day before needs only one night of grass-cropping with his companions to get back all the fire of his nature. Consequently, when he sees the cowboy in the corral, and notes the swing of the hated lariat, he is ready to dodge, and, if necessary, to fight. Nine times out of ten, as soon as the horse feels the noose about his neck, he becomes docile at once.

But the tenth horse may be a young horse, who thinks his fine strength is more than equal to the strength of a lariat. He rears,

TWO TYPICAL COWBOYS IN FULL CAREER ON "BUCKERS"

and plunges, and falls down. Then he gets up and backs doggedly away. But the noose keeps tightening all the time. The horse's breath comes in snorts and then in gasps. His eyes are distended, not from fear but from agony, and finally he spreads his legs to keep

never makes a sudden move in saddling a horse—and then, after a few caresses, he slips the bridle on the trembling beast. Then the saddle-blankets go on not less slyly, and, finally, the saddle is thrown over and cinched.

Standing at the pony's head, the rider turns

A BRONCO-BUSTER BREAKING IN A NEW HORSE

from falling from sheer weakness. Then the noose slackens, little by little. There may be two or three cowboys at the end of the rope by this time, and they recognize the first sign of distress in the horse. The man nearest the horses slides insinuatingly up the rope. His hand glides forward—for the cowboy

the left stirrup so that his foot can be quickly inserted. If the horse is particularly vicious, the cowboy's hand grasps the bridle, or perhaps the animal's ear, in order to keep the bronco from biting. Then the right hand, holding the quirt, grasps the horn of the saddle, and with a quick swing the cowboy

is in his seat, both feet in the stirrups, and ready for a bruising contest with a bucker.

The sports and amusements of the cowboy are few. Among the Texas cowboys and those of other southern ranges there is much gambling. The mania for trading, or "swapping," possesses nearly every cowboy. Sometimes a deal for a pair of spurs or a pistol-holster will consume the spare time of several days, while a trade for a horse or a saddle will go through in a few minutes. I remember a pair of "chaps," or yellow wool riding-overalls, which were the envy of a certain cowboy bunk-house. Just before the supper-call one night they were traded from one cowboy to another. At the supper-table, the cowboy who had received them was asked some question about them.

"They don't belong to me now," he remarked. "I've traded 'em to Gus, over there."

In the main, the cowboy of today is much better behaved than the puncher of the days of the old cattle-trail. This is in large measure due to the different environment. There is less drinking of bad whisky and less attention to the fascinations of the gaming-table. It is possible for a cowboy today to acquire a small ranch and start in business for himself with a small herd of cattle on an adjoining range. Consequently, his eyes are always open to this opportunity.

As a result of all these things, the cowboy is clean, honest, and self-reliant. His broad-brimmed hat shades a frank face, and when his right gauntlet comes off and his firm hand clutches yours there is no need to ask yourself if you are meeting a real man. There are large capacities in the cowboy, too —capacities in fields that have hitherto been closed to him. Andy Adams, a cow-puncher most of his life, by sheer force of determination has made himself a successful author at forty-five, an age when most men would not think of embarking in a new work. Charles M. Russell, of Great Falls, Montana, practised drawing and painting between round-ups, and now his canvases of cowboy life have made him famous. The owners of many large cattle- and horse-ranches in the West started their careers as range-riders, with seemingly no prospects beyond the low wages of the salaried saddleman. But, in a generation of opportunities, the Western man of the plains advances. Consequently, the youth who signs as a cowboy today is quite apt to be the foreman tomorrow and the owner of a brand the day after.

What the cowboy of the future will be it is impossible to determine. Perhaps, in time, he will yield to the encroachments of civilization and become a mere hired man; but, as long as there are spirited broncos to ride and cattle to be roped and branded, and as long as there is any range worth fighting for, the cowboy will be found about as he is today—picturesque in attire, boyish in play, but manly and reliable in the larger affairs of life.

COWBOYS AT LUNCH

WARRINGSTOWN, A VILLAGE GIVEN OVER TO HAND-LOOM WEAVING

Photographed by Welch

A NEW IRELAND

THE AMAZING PROGRESS OF THE GAELIC LEAGUE IN AROUSING A NATIONAL SPIRIT AND IN BRINGING AN INDUSTRIAL REVIVAL—THE POSSIBILITY OF A CONTENTED DEVELOPMENT OF THE PEOPLE AT HOME

BY

SEUMAS MacMANUS

UNREST has been, perhaps, the only monotonous attribute of the Irish for twelve hundred years, but during the past twelve years or so this unrest has entered upon a new phase. A change has been going on beneath the surface, but it is far enough advanced to show that a New Ireland is rapidly forming—an Ireland, its eyes withdrawn from the ends of the earth, now grown introspective, self-reliant, self-containing.

The downfall of Parnell and the resulting break-up of the people into warring factions, was, in reality, the greatest blessing that has befallen Ireland for a century. Before that, Irishmen had been used to have their thinking done for them, and to buy it at a penny a week in *United Ireland*. The thought, too, was usually modeled after British ideas of progress, and suited the Irish mind very badly. When Parnell fell, they began to think for themselves.

THE WORK OF THE GAELIC LEAGUE

The Gaelic League, which had been preaching that the use of the Irish language and the pursuit of strictly Irish ideals were essential to a national life, began to draw recruits, chiefly from the young men of the country. For ten years they have continued coming in, until today the Gaelic League, though not numerically greater than many political and agrarian leagues that preceded it, is morally stronger, has firmer roots, and steadier growth than almost any Irish league of the century. It has not only arrested a rapid

AN EXHIBIT SHOWING THE EVOLUTION OF THE IRISH CAR

decay of the language, but it has made startling progress in restoring it. It has fought and overcome the hostile National Board of Education, with the result that 3,000 of the national schools are teaching the language today to 95,000 pupils, as against a few schools that taught it to 313 pupils thirteen years ago. In addition to this, Gaelic is taught to about 100,000 others in the remaining primary schools, night-schools, intermediate schools, and colleges. Bodies of school managers are giving public notice that, after this year, they will not appoint a teacher not qualified to teach Gaelic, while the Dublin Corporation and several county councils and district councils have passed resolutions binding themselves not to appoint any official ignorant of the language. Prayers, in many of the Catholic churches of the country, are now conducted in Irish. Last St. Patrick's Day, the Protestant church of St. Kevin's, in Dublin, had its service conducted wholly in Irish. The big commercial concerns are finding it to their advantage to keep Irish-speaking employees, who can attend customers that insist on giving their orders, whether spoken or written, in Gaelic. The railways, the banks, and the post-office, after struggling sorely against the crusade, very soon required a knowledge of the language—both spoken and literary—from all candidates for clerkships. Several thousand pounds yearly, given in voluntary subscriptions, supply the wherewithal for the league to maintain nine organizers, who, in the various corners of the

Photographed by Welch

A FLEET OF MODERN FISHING-BOATS AT ROSSAPENNA, DONEGAL

REELING YARN FOR IRISH HOMESPUNS

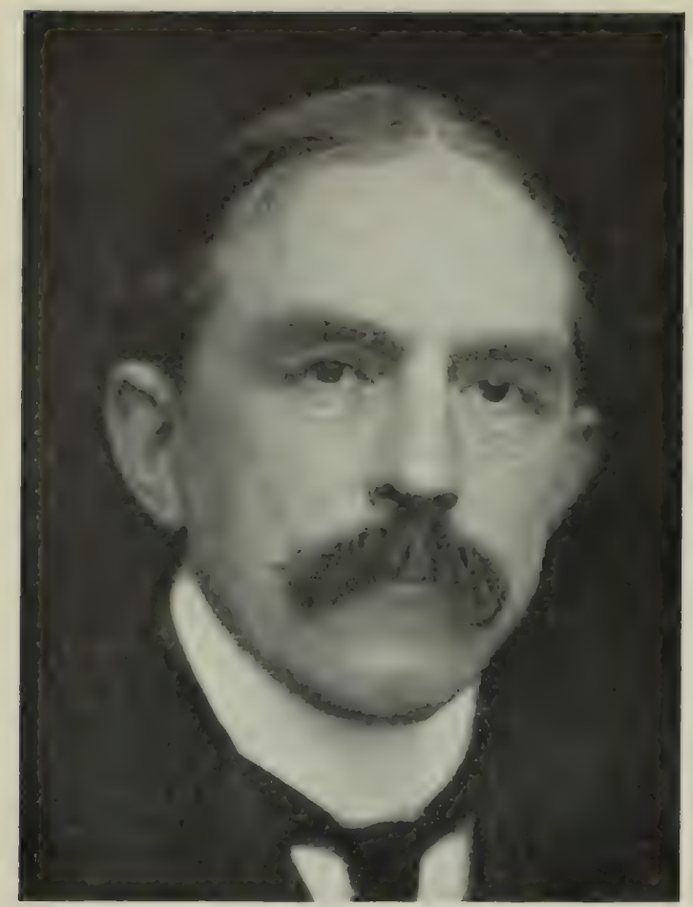
DYEING WOOL

country, control and direct the propaganda. Irish song and Irish drama are given at most entertainments. A great annual festival, lasting for more than a week, is held in Dublin, at which hundreds of pounds are distributed in money and in medals to the

Photographed by Welsh

AN OLD IRISH LOW-BACK CAR

GOING TO THE BOG FOR TURF



SIR HORACE PLUNKETT
Who has done much to improve Irish agriculture

best Gaelic orators, poets, dramatists, story-writers, story-tellers, students, dancers, pipers, fiddlers, whistlers; and numerous provincial and district festivals take place every year.

The volume of Irish literature, which was insignificant a dozen years ago, is enormous today. In addition to the journals printed in Gaelic, most of the Irish newspapers now give space to Gaelic news in Gaelic type. A public funeral, exceeding in numbers and impressiveness the funeral of Parnell, was given to Father Eugene O'Growney, whose "Simple Lessons in Irish" contributed largely to the spread of the language. The next generation in Ireland will use their own tongue for their home language, for their literary language, and, to a great extent, for their commercial language. And distinctly Irish customs and traditions will have been revived. Moreover, this idealistic movement propagates industrialism, teaches the people to practice mutual self-help, by patronizing home-products, discourages emigration, and encourages sobriety. The new Irish industrial spirit has been rendered possible only by the League's teaching.

The industrial revival has been growing

Photographed by Welch

A BELFAST HAND-LOOM WEAVER AT WORK

for five years, and is now well under way. Unthinkingly, we were sending out of Ireland, every year, millions of pounds for commodities which we not only could make, but were making as well and as cheaply ourselves. But Irish manufacturers waited for customers to come to them, while Irish merchants welcomed foreign manufacturers who brought things to their doors; and the masses bought any article that served their purpose, not caring whence it came. The Gaelic Leaguers took hold of the matter.

No conscientious Leaguer would wear clothing that had been woven or made in England, boots from Massachusetts, or a cap from Scotland; he would not write with ink from Germany, smoke cigarettes from France, nor subscribe for stained windows from Munich. The soap that washed him must be made in the County Tyrone, his towel in the town of Belfast, his biscuits in Cork, and his note-paper in the County Dublin; his shoe-blacking must be of Irish manufacture, as also the match that he applied to Irish-spun tobacco, in his Irish-made pipe. He let his tradesmen see that they must keep goods manufactured in the country. In self-protection, then, the merchants had to patronize home manufacture, with the result that most of the manufactures of the country were immediately improved, some of them doubling and some of them trebling their previous product; and men were encouraged to start new manufactures.

Although industry is still far from normal, there is a promise of vastly increased employment for Irish boys and girls, which must help to stem the tide of emigration.

INDUSTRIAL OPPORTUNITIES

Of the many Irish manufactures that have materially increased their product in recent years, the weaving of wool, both by mill-power and by the home hand-loom, has, I think, shown the most marked increase. Our people now know that much of the West of England "pure wool" which they have been buying never came from a sheep. Irish manufacture, they know, guarantees the honesty of a piece of tweed. They have learned that their own mills can give them at least as good an article as the foreign mill, and as cheaply; and, when they buy a bit of Irish-made cloth, they are aware that they are doing a patriotic duty. Moreover, Irish homespun has lately become the vogue, even outside Ireland, doubling the price and trebling the output of the stuff.

The woolen hand-weaving industry is centred chiefly in the mountains of western Donegal. The weavers are the small farmers, who work their land during the day and throw the shuttle at night, using the wool from their own sheep. Their wives and daughters spin and dye it. Over the hills, on their backs, they carry their webs to the market in the mountain village and sell them there to the wholesale merchants. Linen-weaving, however, in the northeast of Ireland, is decreasing now, because foreign linen of equal quality is produced at a cheaper rate.

The increase in Irish manufactures, though comparatively great and very promising, is still far from being as great as it might be. The one great facility that we lack is coal. The Irish coal-fields, few in number and limited in productiveness, cannot be relied upon as a basis of manufacturing activity; but we have a magnificent water-power, unexploited as yet, for want of enterprise and of capital.

Ireland is rich in minerals, yet there is scarcely any mining, though iron, copper, lead, tin, gold, and silver were formerly produced from time to time, but, during the penal days, as our woolen and other industries were killed off directly by Act of Parliament (in response to petitions from rival British manufacturers), so mining was indirectly killed off, or prohibited, by the same authority. The hills are rich with most of the minerals; the bogs contain much iron ore. There is a good opening in Ireland for men with capital and with enterprise to develop the mineral resources of the island.

But the industries that best suit our people are the home industries and agriculture. Our chief home industries, in addition to hand-weaving, are spinning and knitting, embroidering on linen and muslin, shirt-making, lace-making, and crochet-work. These, which are in great measure confined to the mountainous parts of the western border, have been materially developed of late years—by philanthropic individuals, who devoted themselves to finding new markets for the handiwork of our girls, and still more recently by the Technical Education Department. The Irish mountain girls do beautiful artistic work, but the pay they receive for it

is very small, and the supply of work is very limited. Those who work all day can only manage to eke out a bare existence by their very meagre earnings.

IMPROVED LAND LAWS

Agricultural development has proceeded at a greater pace. A generation ago, Ireland was sadly lacking in agricultural method and in scientific agricultural knowledge. Scientific knowledge today is far short of what it should be. But, as the combined result of experience and of Mr. Horace Plunkett's Department and of his Irish Agricultural Organization Society, the science of farming is dawning upon them, and the benefits of co-operation are coming home to them. The various Land Acts, of recent years, have prepared the way. Prior to these Acts, the farmer feared to make himself conspicuous by improving his land and cultivating it in a better way than his neighbor, for as sure as he did so his already too great load of rent was increased by his landlord. The many Land Acts passed by the British Parliament have given the tenant a grip of the ground which he never had before; and a certainty that, if now he improves his land, he shall reap the benefit.

The latest Land Act is a fairly good one. It is not, as some have believed, the greatest boon Ireland has had. Indeed, the hopes raised regarding it are followed by a wave of disappointment. The Irish farmers were led to believe that this Act would quickly give them complete possession of their farm, on the easiest terms. They now find that, notwithstanding the bonus which the government offered to the landlords to induce them to sell out, the landlords are unwilling to sell on terms advantageous to the tenants. The tenant thinks he should have his land for eighteen years' purchase (eighteen times his yearly rent); the landlord thinks he should get twenty-seven years' purchase. Comparatively few sales have, as a result, been made, though there is little doubt that, by and by, the landlords will consent to lower figures.

The usual type of Irish farmer owns from six to twelve acres of good arable land (or enough poor land to equal this in yield); two to four cows; a couple of year-old calves; and one or two two-year-old calves; possesses no horses; works his farm by the spade labor of himself and his children, eked out in the spring and in the harvest by a day-labourer, who receives his food and twenty pence a day. The Irish small farmer of today—although still very far from being as well off as his fellow in Scotland, England, or France—is much more comfortable, and possessed of much more ready money, than the farmer of the last generation; and his prospects are daily getting brighter. This condition is due to improved land laws, to the progress of agricultural knowledge, and to American money.

How much American money was sent into Ireland during the past half-century will never be known, but the sum has been vast. Many a poor Irish boy or girl sends back to father and mother, for years, every dollar earned beyond what is necessary for subsistence. The money sent home by their sons and daughters enabled the failing Irish farmers of the last generation to free their little places from debt, to restock them, and to adopt a better, if more costly, system; it enabled the farmer of this generation to improve his farm, to clothe himself and his family, and to feed them and educate them in a manner to which his predecessor was a stranger.

Only a very small percentage of our people who emigrated have returned with fortunes, and this small percentage is showing no signs of increase. Irish-Americans retain their sympathy with Ireland, but they like to keep their heels fixed on American soil. Less than 10 per cent. of her emigrants have returned to Ireland, and remained; and a goodly number of even this small proportion were girls, who, having come back to Ireland for a holiday, married here.

THE EMIGRATION EVIL

It is a pity for Ireland that more of our girls do not return. Emigration is the greatest evil that Ireland labors under today. The country is being depleted by this drain, which, for one hundred and fifty years, has not once ceased flowing, and which has been running with fearful rapidity during the last sixty years. The government returns show that, in the last fifty-three years, 4,000,000 Irish people emigrated. During the 'forties, for which we have no record, and especially during the famine years, the outflow, in coffin-ships, of famine-driven, fever-stricken fugitives—tens of thousands of whose whitening

bones on the sea-floor still link Ireland to America by a terrible chain—was tremendous. The census returns for the decade 1841–51 show that Ireland had a net loss in those ten years of sixteen hundred thousand people, or one fifth of its population. In 1841, Ireland had a population of 8,200,000; in 1901, the population, which, at the natural rate of Irish increase, should have been more than nine millions, had fallen to 4,460,000! In sixty-four years, Ireland has sent out more emigrants than there are people in the island today. Now the birth-rate is decreasing, because the percentage of unmarried adults has been increasing, and because the average marrying-age has been growing higher. So, our people, who at one time were proverbially prolific, will soon have lost that character. As the great birth-rate, which tended to moderate the effects of emigration, lessens, the emigration evil, year by year, assumes a more and more alarming aspect.

Those who have the interests of Ireland at heart now ask themselves whether, unless a great check and a great change soon happen, in another fifty years Ireland may not be lost to the Irish people. They unwillingly acknowledge that the case shows signs of becoming desperate; and they are now to grapple with the evil, before it be too late. An anti-emigration society has been started, and a crusade from press, platform, and pulpit begun. It is argued that emigration is reprehensible patriotically, damaging to our people spiritually, and even unprofitable from a worldly point of view. The teaching of the anti-emigration society may have a good effect upon 5 per cent. of our people, but will have no effect whatsoever upon 95 per cent. The emigration fever is in their blood when they are born. They grow up with their eyes ever turned to the West. All their dreams are of America; and every youth in Ireland, be his cabin ever so lowly, is lord of many castles there.

No amount of theorizing will dispel his illusions, and no amount of oratorical artillery will crumble his castles. To be successful, the anti-emigration society must become an industrial society, and, likewise, a society for the revival of joyous life in Ireland. Home work must be found for boys and girls, and capital circulated throughout the country. The monotony which has been coming down on Ireland during the last half-century must be lifted by a revival of the old games and old customs, and innocent buoyant merry-makings. The intellectual life of the youth must be stimulated and good and appropriate literature plentifully provided. All development, to be effective, must be worked out according to traditional Irish ideas. You cannot develop an Irishman according to the rules found effective with a Saxon or an Italian.

Now the Gaelic League is organized to revive not only the Irish language, but Irish industries also. Moreover, it is reviving and fostering our dances and merry-makings, our old games and customs, making our hearths warmer, our hearts lighter. It has quickened, to a wonderful extent, the intellectual life of the country. It is causing us to read with avidity, to think earnestly, hope eagerly, and strive determinedly; and with all these, it is giving us the dreams in which, beyond all else, the Irish nature revels and on which the Irish nature thrives. If the Gaelic League succeed, the Irish youth need not, in the future, bind his fancy to the building of castles abroad. Ireland will have become what she has every facility for becoming—a vigorous, prosperous, self-contained little State. If failure should be the lot of the League, the one thing to which that failure alone will be attributable is want of capital. For some centuries, there has not been such a chance as there is today for an Irish millionaire to revolutionize history.

EDUCATION SPREADING

As the result of penal laws which set a price upon the head of the schoolmaster, our people for 200 years had little education. Seventy years ago, a public-school system was given to Ireland. This system nearly wiped out the Irish language. During the last forty years, the "National" School system—many Irishmen put the qualifying word in inverted commas—was universally adopted, and National Schools built all over the land; and our people, ever thirsting for education, flocked to them. The children often, in the mountainous regions where the schools were sparse, traveled, ill-clad and bare-footed, six miles of mountain and moor to school daily, through all weathers. The result has been that, whereas, in 1841 (there are no earlier records), only 28 per cent. of five-year-olds and upward could read and

write, there were, in 1901, only 14 per cent. who could neither read nor write, and I think I might say that, of all in Ireland today between the ages of five and forty-five, there are not 5 per cent. who can neither read nor write. There are no people who have a greater respect for, nor love of, education than the Irish.

In 1901, there were 636,000 pupils attending primary schools, 35,000 attending intermediate schools, and 3,200 attending colleges. An Irish pupil, leaving one of the ordinary schools of the country, having passed through all the classes, is very well grounded in reading, writing, arithmetic, grammar, geography, theory of agriculture, book-keeping, algebra, geometry, and mensuration. When a farmer's six sons have completed their education at the National School, one of them goes to farm with his father, one goes to the "town" to enter commercial life, one of them—if the farmer be comfortably circumstanced—goes to college to study for a profession—usually the priesthood—and three of them take to the old, old path, to the seaport, whence sails the "Amerikay" ship.

THE LOT OF THE FARM LABORER

The agricultural laborer lives comfortably in Ireland now, and need not want for work. He lives much more comfortably than a great portion of the poor small farmers. The day-laborer, who eats at home, receives from 40 to 65 cents a day, and his children, at certain times of the year, can earn 12 to 24 cents a day each. The relations between laborer and farmer are always most amicable. The laborer is independent, and is as respected as the small farmer. The laborer generally dresses better on Sunday than the small farmer, and has a better table. His children attend the National School, getting a thoroughly good elementary education, and many of them go to the "town" afterward to enter commercial life. More frequently, perhaps, they either go to America when they grow up (their passage to the States being paid by relatives who went before), or they hire out by the half-year as servant-boys and servant-girls to the large farmers of the richer valleys and plains.

The Laborers' Act, which was passed several years ago, empowering local bodies to commandeer ground from the farmers and build thereon comfortable cottages, which, with a little garden attached, were to be let to laborers at a moderate rent, has proved a boon wherever it was adopted; but its adoption has not been general. Trades-unions are fewer than in other countries.

IRISH RELATIONS WITH ENGLAND

The Local Government Act, which was granted to Ireland a few years ago, giving home-rule in the small affairs, relieved the country of much petty maladministration. The work of the District Councils and County Councils has been conducted with more than a fair amount of levelheadedness, and another effect of the Act has been to help bridge the chasm that used to yawn between the privileged class and the partially disfranchised. Another thing that brought the parties together was the finding of the Financial Relations Commission, which showed that England had for long years been robbing Ireland of upward of £2,000,000 per year, in the shape of taxation beyond her proportion. England courteously acknowledged the debt, indeed, "But," she said, "we will let bygones be bygones." But, in the vain agitation for the restoration of the money, the landlords and all the pro-English party in Ireland made common cause with the multitude.

The relations of Ireland to Britain are still a paramount question. The Celtic race is essentially sentimental, and they revere independence. The Celt idolizes freedom, and chafes unceasingly under even a shadow of restraint. Water-cress for food and the world for a pillow mean immeasurably more to him than the ownership of a kingdom, if nominal servitude go with it. The Anglo-Saxon mind never grasped this trait of the Irish character. But English statesmen, of late years, have been systematically experimenting with kindness, Catholic emancipation, church disestablishment, land acts, arrears acts, parochial government acts, royal visits, low rents, no rents, a new breed of hens—all have been, or are being, tried. Yet, in all of the 732 years that have elapsed since first an English army set foot in Ireland, I doubt if there was ever a time when the bulk of the Irish nation more earnestly longed and strove for independence than today. Perhaps, within five years, certainly within fifteen, Ireland will be granted a large measure of Home Rule.

OUR INLAND MIGRATIONS

STREAMS OF PEOPLE, BOTH NATIVE AND FOREIGN, THAT FLOW INTO OKLAHOMA, THE SOUTHWEST, AND THE NORTHWEST—HOW THE RAILROADS ENCOURAGE THE MOVEMENTS—A FIRST-HAND STUDY OF THESE NEW REGIONS

BY

I. K. FRIEDMAN

THE main stream of the inland migration of the people of the United States may be regarded as breaking itself into three rivers, one flowing toward Oklahoma, the other toward the new Southwest, and the third toward the great Northwest. The quality of the immigrants determines their direction.

Just now, for instance, Oklahoma's population is undergoing something like a process of remaking, and it attracts those immigrants who have capital enough to buy out the poorer settlers who went there first. A majority of the 42,000 said to have made their homes there in 1903 were either smaller merchants, eager to find profitable investments for their capital, or prosperous farmers from Iowa, Nebraska, Illinois, Kansas, Michigan, and Missouri, anxious for the opportunity of multiplying their acres and cultivating larger farms.

Those, in turn, who "homesteaded" lands in Oklahoma, or purchased them at a nominal price, are moving farther west, investing the profits from their sales in the cheaper lands of the Texas Panhandle. Their numbers are augmented by the steady outpouring of people from the southern States that lie practically along the same parallel of latitude and the same isothermal and crop lines. Moreover, to the more prosperous, whose means enable them to make a choice, the question of health plays a large part in the selection of a home; and many from the West and the North who are troubled with pulmonary diseases seek both restoration and profit in the irrigated lands of the Pecos Valley or of the Colorado desert.

The Northwest draws its share of people from Iowa—a pioneer State of a generation ago, whose inhabitants seem ready to "pioneer" again—from Missouri, from Michigan—in a word, from the Middle and Central States of the West. Besides these, the foreign emigrants from the Scandinavian Peninsula and the north of Europe flock thither naturally, preferring the cold winters, to which they are accustomed at home. The whole recent movement is formed, in the main, of American-born persons. The census shows that 13,000,000, or nearly 21 per cent., of our native-born population was living outside of the States and Territories of their birth in 1900, and that all of the States east of the Mississippi, except seven, had lost by interstate migration, and that all west of the Mississippi had gained.

This migration generally moves in a straight line, keeping to crop and isothermal lines. Thus, in a country like Oklahoma, where there is a difference in climate between the northern and the southern portions, where wheat, corn, and cotton grow, the people from the northern States take naturally to its wheat- and corn-fields, while the immigrants from the southern States are likely to be found at work planting cotton in the southern counties, and many of the sons of Arkansas devote their energies to the felling of the forests of the Creek nation. Few natives of the southern States are willing to brave the cold winters of the Dakotas, while the Scandinavians and the Russians are drawn thither on that very account.

HOW THE RAILROADS ENCOURAGE MIGRATION

The head of every family that settles in a new country is worth to the railroads from $150 to $250 a year. The railroads, therefore, are very active promoters of immigration. The Southern Pacific road publishes *Sunset*, a monthly magazine, to set forth the attractions of the country through which the road runs. The Rock Island and the Sante Fé roads issue monthly papers, *The Western Trail* and *The Earth*, devoted to an

exploitation of the advantages of their realms, and the Great Northern circulates an annual bulletin of much the same general type for each of the separate States it traverses. The cost of the other advertising that they do in the newspapers and periodicals costs huge sums. Twice a month, each of the roads runs excursion trains at less than cost for the exclusive benefit of the homeseeker. All the roads employ agents, speaking various tongues, to work among their various peoples and communities—to attend Dunkards' conventions or Swedish Sängerfests; to follow, by a personal visit, those who have begun a correspondence with headquarters, and so on. The Great Northern—the pioneer in immigration work—gives free stereopticon lectures to show to people in the Middle States the scenery and the productivity of its Northwest; and the Northern Pacific sends everywhere its exhibition car, filled with specimens of the crops harvested from its own fields.

Nor is the work of immigration finished when the immigrant is carried to his new home; for nothing advertises a new territory better than the success of those who go there and write their friends to follow; and nothing profits the railroad better than to see that the new settler goes about his task in the right way. The Great Northern, for instance, in order to get the best results of which its lands are capable, annually gives fifty farmers from each county free transportation to Fargo, that they may benefit from a study of the experiments of the agricultural station, established there by the government. The same road gave practical demonstrations of the value and mechanics of irrigation; and it distributed hundreds of vari-colored posters, setting forth the pleasures and profits of poultry- and cattle-raising, in order to divert its immigrants from the exclusive growing of wheat and flax. If a man discover on his fields gold, or oil, or anything else of value, the Southern Pacific will help him to obtain capital or to organize a company to develop it. Taking quite an opposite tack, the Rock Island offered prizes, in cash, and transportation to its immigrants for the best letters on their experiences in Oklahoma. The campaign of advertising that a railroad carries on to exploit a country differs with the nature of each region. In 1900, the census showed in Oklahoma 60,794 natives of Kansas, 33,626 of Texas, 11,739 of Arkansas, 11,715 of Kentucky, 47,238 of Missouri, 27,409 of Illinois, 19,255 of Iowa, and 17,351 of Indiana, and the other States made contributions according to their distance away. In brief, the inhabitants of Oklahoma are Americans; there are very few foreigners. Four years ago, the foreigners formed less than 8 per cent. of the population.

BOOM TOWNS IN OKLAHOMA

Now, the American pioneer is a born builder of towns. He enters a new country dreaming that every hamlet may become a metropolis, that the corner saloon will soon give way to a skyscraper, the wooden shack to a marble mansion, and the post-office, where general merchandise is sold, to a six-storied department-store. He rushes for town-lots and farm-lands, the ultimate value of which depends on the fertility of the region, which is a matter of chance. He is resolved, however, to attain success.

He sneers at statistics, and multiplies the population or the size of harvests. Even today the citizens of Oklahoma seem to be members of a self-constituted committee to boom the territory; though they boom it with a lusty cheerfulness that vouches for their sincerity and frees them from a suspicion of any wish to deceive. Everybody is interested in something, and everybody believes in his investments. A stranger bent on a mere visit will be invited to a secluded corner to look at the contents of a bottle. The liquid looks like ordinary water, but he is assured it is oil—lubricating oil—the thickest and the best. Or a rock will be held up for his unstinted admiration, and he will be informed that it is gold, covered with a thin filament of stone. The colored auditor, in his office at Guthrie, said, when I asked him how his statistics were compiled: "The legislature, in its infinite wisdom, didn't allow any pay for assessors, so we had to guess at our figures up here, and, naturally, not wanting to fall behind, we just reached down and gave ourselves a good measure." A minister on the train, who explained to me why he thought Oklahoma cotton less profitable than the same southern staple, was bitterly assailed by an old man who overheard the conversation.

Yet it is this spirit that, practically in ten years, converted Oklahoma from "No Man's Land" into the cultivated, developed country

it is today, bedecking it everywhere with farmhouses and buildings that compare favorably with those of the older States. The Easterner who goes there prepared to scoff at its crudities remains to wonder at its accomplishments; his Americanism is fired by the marvelous rapidity of the victory of civilization over the wilderness.

Recently, I had the good fortune to see the opening of a new Oklahoma town. The crowd, assembled by omnipresent real estate agents, was there; the band played patriotic airs; the prize cattle and imported stallions, gaily beribboned, were set off to the best advantage. Then the procession formed, the bandmaster at the head. The country vehicles, bearing men, women, and children, in holiday array, came next in line. Then came the farm-wagons, with their loads of specimen crops and poultry and hogs. The prize bulls and stallions fell in behind. The drawing of lots was consummated; the toy cannons thundered, and lo! a new town was dedicated. The county judge mounted his platform of dry-goods boxes, and, in his oration, predicted to gaping listeners a future metropolis that would outrun the marvels of Rome and of Paris; and he came down to earth with the promise that, in a few years, electric-car lines would carry citizens to the city limits for five cents—a cheap fare, considering the distance.

Oklahoma towns, provided with modern conveniences, were built ahead of the railroads; the salient characteristics of the frontier disappeared between the night of the territory's opening and the day of the people's arrival. Then the railroads saw what a harvest in freight and traffic awaited them, and hastened to gridiron the region with their lines. Population increased rapidly, the people drawn by the glowing accounts that the press spread broadcast; and the process of city-building went on apace.

The great railroads were given promising urban centres and progressive Americans to work with, and their problem was simply to persuade industries and business to come to the towns, and to induce farmers with capital to develop the resources that the poorer farmers of the first tide of immigration were obliged to leave undisturbed. The Santa Fé, accordingly, endeavored to attract prosperous farmers from both the East and the West, prevailing on them to trade one acre at home for two or four in Oklahoma, concentrating its efforts on a few individuals rather than on carloads of people. And the Rock Island exploited the business opportunities in the towns located along its line.

In March of last year, one railroad made public a list of 182 business openings in the cities of Oklahoma, and, before the end of April, forty-two of these were seized. Some days brought in over 600 letters of inquiry to the central office, all of which were taken up in order and handled systematically. John Smith, of Illinois, for instance, writes that he is dissatisfied with local commercial conditions, that he has a capital of $3,800 to invest, and he wishes to know if the sum is sufficient to build an oil-mill, needed, according to the advertisement, at El Reno, Oklahoma; whereupon Mr. Smith is put into communication at once with the Commercial Club at El Reno —an institution founded to push the interests of that place—and the club endeavors to prevail on him to cast his fortunes with theirs, if not for an oil-mill, why, then, for one of the innumerable other prizes that a thriving town like El Reno offers to an able, energetic man like Mr. Smith. No town in Oklahoma is without its Commercial Club. One railroad alone established twenty-five of them. Working in conjunction with these clubs is a body of industrial agents whose duty it is to study the needs and the opportunities of each community and to submit itemized reports thereon to the central office of the railroad.

The process of filling up the country intensifies a struggle for existence which is already too keen, and stimulates a growth that is already going on at an abnormal rate. Towns in Oklahoma are often so close as to suggest cities with many suburbs. Railroads weave a complicated mesh across the Territory. The traffic between stations is enormous. The trains are always filled, and the stations are crowded.

From a coign of vantage in Woods County, south of Alma, nine towns can be seen with the aid of a spy-glass. The fortunes of the cities fluctuate. Six months after its opening, Lawton boasted of 173 saloons, 263 lawyers, and about an equal number of doctors; and today, in this three-year-old town, the "to let" signs flaunt ominously from all sides. Four years ago, Perry had about 30,000 inhabitants; today it has about 10,000.

It would be unfair to expect stability from

a new territory; but it will be a long time before Oklahoma's population will settle down enough to warrant predictions of the future of its cities. The opening of Indian Territory is sure to cause additional changes. After all, manufactures are the magnet which draw and hold big urban populations, and of factories Oklahoma is practically barren—partly because of its newness, and partly because of the high freight rates imposed, until recently, on the fuel hauled from Indian Territory. The region must depend on its agricultural resources. But the farming area from which the cities draw their sustenance is practically filled. In 1890, the census allotted the Territory a population of 60,416; today the population is probably 700,000, though those who are best acquainted with its resources and possibilities say that it can support another 100,000 comfortably.

From the emigrant's point of view, however, Oklahoma is already a fixed and settled quantity, with no suggestion of possibilities of small beginnings for small beginners. The cheap good lands have all been taken; fairly good lands that are cheap must be cultivated extensively to yield profitable returns; and it is questionable whether it would now pay the farmers of the East and the Middle West to move thither, in order to double or triple their acreage.

MIGRATIONS TO THE NORTHWEST

In North Dakota, the Great Northern Railroad met with an entirely different condition of affairs. Even in the memory of the present generation, North Dakota seemed far off and inaccessible. Foreigners went there from Canada and Europe before Americans would venture. In the days of its early development, unlike Oklahoma, it was not encircled by populous and thriving States, but, for the most part, by a territory equally empty of settlers. In the early eighties, there was a great influx of an agricultural peasantry from the north of Europe to America. These, with Canadians from across the border, formed the greater part of the first tide of immigration to North Dakota. In 1900, North Dakota's foreign-born population formed 58.7 per cent. of the whole. There were more than 42,000 Scandinavians and Danes; more than 28,000 Canadians; almost 15,000 Russians; and more than 11,500 Germans. Another striking difference between Oklahoma and North Dakota is — Americans were in Oklahoma before foreigners knew of its existence.

Moreover, North Dakota has 70,712 square miles to overshadow Oklahoma's 38,715, and its larger area is capable of supporting a much larger population. Concentration was never necessary. In addition, the natural tendency of the rural-born-and-reared foreigner was toward selecting a quarter-section, rather than a town lot. So, when Mr. James J. Hill, President of the Great Northern Railroad, invaded North Dakota and the other northwestern States, he found there vast stretches of rolling prairie-land, the monotony of which was unrelieved by towns, and a conservative people not likely to keep abreast of its opportunities. His first task, then, was to induce sufficient numbers of progressive immigrants to settle in his territory, neglecting the rearing of cities, on the theory that towns would come in the due course of events. Therefore, the agents fostering northwestern immigration devote their attention to young men and fathers of large families—expend their efforts on people of brains and energy, rather than on people of capital.

Coming east on the Great Northern, a traveler is whirled over untilled acres that recall the solemnity of the deserts by their lack of human activities. One who carries with him a fresh impression of the cultivated farms of Oklahoma may easily believe that he has sped beyond the limits of civilization back to the frontier. Yet, here and there, on one side of the track, the fertility of irrigated lands gives a welcome relief to the eye weary of resting on the dreary, endless expanse of sage-brush and bunch-grass on the other side. Here and there, too, the newly arrived wagon and the hastily erected tents of an immigrant, or the log-and-mud cabin of the homesteader promise the better things soon to take their place. Crude though they are, towns like Kalispel and Wenatchee, situated in fertile, beautiful valleys, are eloquent of what is to be. If Oklahoma tells a story of an opportunity that was, the extreme Northwest presents an opportunity that still is. One wonders whether it will be long before the restless army of American pioneers will acquire every acre of this domain of cheap, good land.

VIVID PICTURES OF GREAT WAR SCENES

DESCRIPTIONS OF BRAVE DEEDS AND DARING EXPLOITS IN THE FAR EAST WHICH GIVE AN INSIGHT INTO JAPANESE CHARACTER AND SHOW NEW KINDS OF ACHIEVEMENTS IN MILITARY HISTORY

BY

O.

[NOTE.—These descriptions, written from the scenes of the events described, or from places as near these scenes as correspondents were permitted, appear in the WORLD'S WORK and *Blackwood's Magazine*.]

THE HEROIC BLOCKING OF PORT ARTHUR

THE officer in command of the doomed ship stood in front of the wheel, with his eyes glued upon the deepening base of black darkness in front of him. The increasing shadow betokened the land he was striving to make. Ever and anon he seized the night-glass and peered into the thickness.

Suddenly, a great flood of light cleft the darkness ahead. It was so white and clear that the faces of the three men on the bridge looked pale and death-like. The man at the wheel winced with the stroke—it was literally a stroke of light; but the officer only moved his hand. The enemy had defeated their own ends; they had shown him the passage. There stood the white stones of the lighthouse.

For the space of perhaps fifteen seconds, the great white eye penetrating the darkness was fixed full upon the boat. Then it winked irresolutely, flashed upward, then down again, away to starboard, until the elliptical base of the fearsome cone of light was well abeam. Then back it came, and glared savagely full upon the steamer, silently closing down upon it. It looked long and steadfastly, and then, as suddenly as it had come, it was cut off. And all was dark and dreadful again. But only for a second. From the centre of the great, overpowering mass ahead there shot up a long, meteor-like rocket. In a moment, what was darkness became a semicircle of scintillating light. The great beam of the Golden Horn searchlight leapt into life. It was supported by a score of lesser searchlights from the foremasts of the ships in harbor. But there were other lights—lightning flashes from the breast of the mountain, which, at intervals, the acute beams of the searchlights revealed—flashes which seared the gloom and vanished. Within a moment's space after this blaze of light came the ominous rattle which discovered its origin. The forts of Port Arthur were firing the guns which at night are always trained upon the harbor approaches. The tumult was deafening, as the great bare flanks of the mountains behind caught up the deadly roll of discharging quick-firers, and flung the sound back in deafening reverberations. But that was not the worst sound. The hissing rush of projectiles, the ear-splitting swish as they struck the water and exploded, or shrieked in ricochet overhead—in a moment the tension bred of apprehensive darkness had changed to an inferno of modern war.

The man at the wheel bent his head forward with the impulse of a man meeting a storm. But the officer never moved, except his directing hand. The ever-appearing and disappearing arc of the searchlights gave him his point, and he steered directly upon it, while the four men crouching at the lifeboat falls and the sweating engine-room volunteers wondered when the whistle would blow which would call them on deck from the chance of the most awful death to which mariners live exposed—death from the escape of disabled boilers!

Then, for a moment, from amidst the circle of flashes, low down on the port-bow of the doomed ship, a smaller searchlight showed. It seemed to break up from the very water-level. It was the forelight of a destroyer. At last, the Japanese officer gave evidence of

sensibility to the Hades which surrounded him. He had brought his ship far enough into the passage. The beam in front told him that the enemy would do the rest. He blew the whistle which his teeth had almost bitten flat. In a second, the men manned the falls of the lifeboat, while the petty officer, responsible for the igniting of the bursting charge in the vessel's hold, dropped down the hatchway to the point where his duty lay.

"Port, hard a-port!" the officer was now fairly gesticulating. As her head came slowly round, a heavy shell hit her forward. So great was the impact of this metal stroke that for a moment it nullified the efforts of the helm, and flung the officer and man at the wheel from their feet, while the men at the falls became a woeful heap in the scuppers. Then another shock. This was different. It was as if an earthquake had struck her; as if some great monster of the deep had seized her in its tentacles and shaken her. Instantaneously, the engines stopped. If the officer could have seen them, he would have found that they were twisted out of all semblance of symmetry. A torpedo had struck her amidships, and had brought her mechanical movement to a standstill. She would not even answer her helm. And, in spite of the inferno below, an unending hell of projectiles tore the darkness above. Again the whistle sounded—three times in long, shrill notes. It was the order to take to the boat. As the men slipped down the ropes, the base of the after-mast and smoke-stack were swept out of her by shell-fire. In the boat, the officer stood up and counted his men. There should have been fifteen. One was missing. "It is the petty officer in the hold!" the word was passed along. In a moment the officer had swung himself up to the deck again; and, as the boat's crew waited, the man with the boat-hook could feel the inches sinking, as the ship they were deserting settled. Then a three-inch shell took the boat-hook out of his hand, and, to save her from drifting, he had to jump up and hold on himself. Again the light of the destroyer was on them, and the quick-firing projectiles clanged and hissed against the vessel's iron sides with the tumult and continuity of hammers in iron-foundry works.

The officer was at the rail again.

Had the petty officer returned? No! The officer disappeared back to the hold. A giant hissing from the engine-room told him that the water would soon reach the boilers. It was hopeless. The petty officer must have been killed by the explosion of the Russian torpedo. The officer was on deck again. The ship was listing heavily. He shouted to his men in the boat, now hanging on in momentary terror of being engulfed in the wash of the sinking ship. His foot was on the rail, when the destroyer reopened with its quick-firer. A shell took him in the neck and shoulder, and, bursting on impact, carried this brave man's head and brains away with it. His headless trunk fell forward among his anxious men, struggling to keep the boat on. For a moment they did not know that he was dead. He was aboard. They pushed off, and gave a cheer as they handled the oars. Then they discovered that it was the warm thick life's-blood of their chief, and not the spume of the sea, which had made them so wet in the darkness. They were three lengths away when the water reached the boilers. A rush of steam, a report that dwarfed the raging gun-fire, and the *Fukui Maru* rolled over, and settled just in the place which her officer, Commander Hirose, of the Japanese Navy, had chosen. And three other similar tragedies were taking place in the narrow channel of Port Arthur's harbor entrance this very night.

PUTTING THE "BAYAN" TO FLIGHT

Written at Nagasaki, Japan.

The rear-admiral and his flag-captain had been on the bridge the whole night. It was miserable weather; the wind had veered round toward the north, and in spite of the promise of spring which the last fortnight had given, the sleet from the squalls was as icy as that of a mid-winter blizzard. Every quarter of an hour, the navigating lieutenant made his way up to the bridge to apprise the admiral of the position of the squadron. Half an hour ago, the first signs of approaching dawn had cut into the gloom in the east, but the squalls had

rolled up again, and practically nullified the first efforts of awakening day—so much so that it was almost impossible to make out even the outline of the vessel following the flag-ship, although it was only two cable-lengths astern. For one moment the navigating lieutenant turned on the little reading-lamp on the bridge, which gave sufficient shrouded light to enable the admiral to read the markings on the chart. The admiral glanced at the pencil-marks, then looked at the clock. He nodded his head, with the single remark, "We are in the right place"; in a moment the little light was turned out again, and all was darkness. The three men peered anxiously into the murky darkness on the port beam—the haze of the driving rain-storm was still very thick. Something seemed to catch the navigating lieutenant's ear, for he left the senior officers and made his way across the bridge to the starboard rail; for two minutes he remained motionless, the pose of his body indicating rapt attention. He seemed satisfied, for on moving back to the others he whispered something in the admiral's ear, then all three officers went over to the starboard rail. There was no doubt about it now. The wind, which had brought the squall, dropped as suddenly as it had risen, and the low, muffled murmur which heralds firing at sea could be distinctly heard above the wash that the vessel made as she drove her way through the water.

The squall had passed, and, almost immediately, the increased vigor of returning day forced itself superior to the shadows of the fast-vanishing night. What had been black now became the dull-gray of a humid mid-ocean morning. The great mysterious shadows of the ships astern picked themselves out from the surrounding mists, while even the low hulls of the wicked-looking little torpedo-craft, on either flank, began to show as indistinct masses against the false horizon. As day dawned, the sound of firing seemed to increase. Now it was quite distinct—a rattle of quick-firers burning ammunition in deadly earnest. The torpedo-craft had got it now, for suddenly the three indistinct blotches which betokened the vessels on the starboard beam put up their helms and disappeared into the mist. It was too thick yet to make a flag-signal, so the admiral stood on his course. As one looked down from the bridge, it seemed that the flag-ship was some ghostly death-ship. Everything was lean and gaunt and silent; there was no movement, save where the rain-wash trickled over into the scuppers; few men could be seen, and, of these, each stood motionless to his quarters. It was a depressing sight. There is probably nothing in this world so oppressive as the appearance of the modern warship, fined down to the actual requisites of slaughter, as she appears from the bridge on a cold gray morning, with officers and crew strained by waiting for that moment in which the vessel shall commence to put in practise the desperate object of her existence. If this strain were to be continuous, it would be more than the most magnificent nerves in human nature could support. Such is the state at dawn, but daybreak generally brings relief. So it is in this case. The torpedo-boats had hardly been absent five minutes when they were back again, and the leading boat steamed in close alongside the flag-ship. Six, eight, five little flags fluttered up on its apology for a mast. The navigating lieutenant had gone below, but the signalman read them in spite of the mist; the admiral looked at his flag-captain, and they both smiled. The expression of the smile was that of a man who had played for a high stake and won. The admiral said three words, and the flag-captain passed them on to the signalman—up fluttered the answering pennant, and, a second later, the message was hoisted beneath it. Other little pennants appeared on each of the dumpy masts of the torpedo-craft, and they disappeared full steam ahead.

It was now quite light, and the mist very rapidly cleared, disclosing the squadron of cruisers, line ahead, forging forward at just sufficient speed to keep them upon their course. The senior officers of the flag-ship still stood grouped on the starboard rail. It was now broad daylight, and the wind changed suddenly to the west: as it changed it rolled up patches of the fog, so that, almost in the time that it would have taken to cross the bridge, a gray stretch of open sea was visible toward the north. The four officers on the bridge saw a heavy pall of smoke at the same moment—that tell-tale smoke which is proof of cheap coal in the stoke-hole. The wind cleared it. The flag-lieutenant was the first to speak. "One, two. three, four," he said, as he counted the smoke-stacks; "that is the *Bayan*."

The Russian made the squadron out at the same moment, for the black smudge of her hull against the horizon was pierced by the lurid yellow of burning cordite. There were a few seconds during which the officers on the bridge became erect from the stooping position which had been theirs when gazing into the haze—then came a rushing, swishing sound, the terrifying screech of projectiles in passage through the air. Two hurtled overhead, while a third, falling short, exploded upon impact with the water, and sent a great salt spray driving across the bridge. The *Bayan* is a handy vessel; but all the skilful manœuvring in the world could not have saved her if she had persevered in action against six cruisers. But, to get away, there were just a few seconds when she had to show her broadside. She did it bravely, the yellow flashes sparkling up and down the whole length of her lean hull. The flag-captain was at the speaking-tube, and, as the Russian turned, quiver after quiver shook the bridge. The ear-splitting reports which followed showed how the flag-ship took advantage of the broader target. Not only the flag-ship, for the signalmen were busy at the halyards; and, as the admiral glanced sternward, he saw behind him a flickering line of yellow flashes, proof positive that each of his captains had read his signal. As for the *Bayan*, it looked for all the world as if she were the centre of a shoal of spouting whales. Great geysers of water seemed to splash almost as high as her smoke-stacks, and from the burst of those projectiles which made their contact it would seem that the vessel was bound to be destroyed. But, as already remarked, she is a handy craft. Only a few seconds of this fearful ordeal, and then her four funnels seemed to disappear into one, and she was making the best of her 22-knot speed to Port Arthur. No ignoble flight, for her stern still gave evidence of her sting, and, in rapid succession, three great projectiles ricochetted high over the flag-ship. For a moment, the admiral had it in his mind to make the signal to pursue; then he remembered his orders, and the squadron stood steadily on at half-speed. The wind rolled up another squall, and the *Bayan* was lost to sight almost as rapidly as she had appeared.

IN CAMP BEFORE PINGYANG

Written at Chinampo.

For the twentieth time that morning the column came to a halt. It was just a repetition of the same blocks which had delayed the troops since daybreak: the wind was too boisterous and the snow too heavy for any one to hear an order. The files simply took their cue from the files in front of them. As each particular four came to a standstill, the men turned their backs to the teeth of the blizzard. Thus, when his turn came, Private Kawada turned with them. The men immediately placed their rifles between their knees, and did their best to resuscitate the circulation in their hands. One or two of the files, recking nothing of the state of the ground beneath them, and borne down by the weight of accoutrements and skin coats, heavy and saturated, dropped to their knees. Kawada took off his left mitten and put his fingers in his mouth, in the hope that he might get back some little warmth into the extremities. How different it all was from what he had expected when he had first been mobilized in Tokyo! How different his sensations now from what they were when his corps had marched to the Shimbasi station! Then, he had felt there was no hardship in fighting for one's country, it all seemed so easy and pleasant. He looked round at his three more intimate companions in hardship; their faces were the color of the parchment of a drum discolored by age and ill-usage. Some of them were literally green with cold, and the state of the ground they were crossing was such that the very clothes which were intended to protect them seemed, in their weight and unwieldiness, their worst enemies. When they had debarked from the transport, the men had landed singing. They had all sung patriotic songs as they marched into their first bivouac, but that was ten days ago, and, at the present moment, there seemed to be none left who had the heart or spirit to sing. An officer passed down the line: he was riding a shoddy little pony, which looked as if twenty-four hours must see the finish of the lease of its life. This officer shouted to

the right-hand files that there would be a halt of half an hour. As the men heard this, they wrapped the flap of their coats tighter round the locks of their rifles, and, just as they stood, flung themselves down in the sleet-slush. One of the more enterprising in the group of which Kawada now found himself the centre had carried, slung to the end of his rifle, a small perforated tobacco-tin, containing an inch or two of live charcoal. This primitive heater was pressed from hand to hand, men even pressing it against their cheeks in the endeavor to persuade some artificial heat into their systems. Kawada crouched down in the snow-morass, and, if he had not been a true Japanese, imbued with the sense that whatever service done as a national duty was a light service, he would have wished—as so many thousands, comprising all known nationalities of the world, have wished before him—that he had never been a soldier. To keep dry or warm was out of the question, but, by huddling close together, some protection was afforded from the cutting wind, and a little collective animal heat arrived at. And so tired, so weary, and so cold were the men that they even, in spite of their bitter situation, dozed off. Kawada's thoughts turned to Tokyo: he thought of the pleasant garden in Aoyama, which, from all precedent, should by now have begun to give evidence of that spring life upon which is founded the whole artistic virtue of Japan. He thought of the last evening that he had spent in Shimbasi; of the well-lighted and warm rooms of the fashionable tea-house, and the delicacies in fried eels and rice; of the bright eyes of the peerless Hoorji, as she knelt in front of him; in fact, he thought of all the pleasures of the luxurious life he had left behind him. And in comparison, what was his state now? Perished with cold, nauseated with the taste of the glutinous rice, which he carried in the little wicker-basket attached to his belt; miserable and friendless, save for his companions in misfortune around him, and, for all he knew, forgotten, but—and here the great heart of the Japanese people welled up in him—it was all being suffered, all being endured, in the service of Japan, in the service of the country which was destined, perhaps even in Kawada's time, to be the greatest Power in Asia.

There was some movement ahead: the men in the preceding files were rising to their feet; Kawada's section followed suit, and, in another three minutes, the whole force was plodding wearily onward, squelching into the teeth of the northern blizzard. Thus they pushed on, miserable, weary, and footsore, the tiny little advance-guard of the great enterprise which Japan had undertaken to the astonishment of the world. Just 300 men, battling with the adverse elements, to reach Pingyang. In front of them they had the might of the great Russian Empire of the north. Just 300 men! what if the Russians should have been before them in this race for the all-important goal? What could 300 men expect to do if the great army of Cossacks should already have overrun Korea? The snow-clouds ahead obliterated all that was in front of them; in fact, at times it was almost impossible for them to see the road by which they were traveling. But they knew what they had behind them: they were the advance-guard of the army, which, if the necessity should arise, would consist of 500,000 men; of the nation which, before it would acknowledge defeat, would find 20,000,000 of men prepared to enter upon even a more desperate enterprise than that in which this little advance-guard was now engaged. If Pingyang were reached in time, what would past hardships matter? What would it signify that the road from Hadju to Pingyang was strewn with the bodies of the weaklings from the forlorn-hope?

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A week later, and all was forgotten. Kawada and his companions lay in the snow trenches north of Pingyang. They cooked their rice themselves, and were able, when not on duty, to sit round a bowl of smouldering charcoal, and watch behind them the great black line winding its way through the snow-drifts, which betokened the head of Kuroki's army, as it marched up to take possession of the position which the forlorn-hope had won. And, as Kawada gazed out across the miles of white in front of him, he ceased to speculate as to whether Hoorji had found another lover: his only thought for the moment was when the rifle, which he nursed so carefully under the flap of his fur-lined coat, would be called upon to do its duty. And that very morning, as he leaned upon the parapet, far away in the north he made out a few black specks standing out in bold relief against

the snow. He called a sergeant, and together they examined them through the glasses. The specks were coming up from under a rise. More and more appeared, until at last they were able to count twenty, and, as they came nearer, the magnifying-glasses disclosed the tell-tale lance-poles. These specks were the first messengers from the great Power of the north. They were the advance-guard of six sotnias of Cossacks, detailed to seize and hold Pingyang.

In less than an hour, Kawada's rifle burnt the first cartridge in the land struggle of the Russo-Japanese War.

A FIGHT BETWEEN JUNKS ON THE YALU

Written at Chinampo.

The Korean fisherman did not like his job in the least. He cowered down beneath the gunwale, chattering like a maniac, and with difficulty maintained his hold on the tiller and the sheet of the lateen sail. No one took any heed of his chattering, and, save that the naval lieutenant threatened him occasionally with his scabbard, he was left to his own devices. The junk's sails were well filled, and, as the current was with her, she was making a good eight knots as she threaded her way between the sand-dunes. Ever and anon the boat would be obliged to force its way through fields of drift-ice, for the Yalu had only just commenced to disgorge its winter surface. But it was not the difficulties of navigation which had reduced the Korean fisherman to such a state of abject terror—it was the fact that he had been impressed by the boat's crew of Japanese sailors from the scouting gunboat to take them up to the mouth of the river. None knew better than he that seven miles of the course that he was now steering would take the boat right into the Russian lines. And his chattering at the moment was due to the uncertainty of thought whether it were better to be shot at once with the revolver aggressively hanging from the lieutenant's belt, or to have his lease of life deferred until they were at a range from which the Russian outposts would do the shooting. But the little lieutenant recked nothing of this argument; he was busy disposing of his seven men at the thwarts, and, at the same time, watching the sand-dunes, as they raced past them. Half a mile ahead, a great bank jutted out across their course; on the far side of this he could make out a lateen sail, similar to their own. As soon as the fisherman saw it, his chattering redoubled, and in the anxiety of his desire to communicate to the lieutenant he let go the sheet. All Japanese objurgations are polite, and, feeling that he had nothing in his vocabulary to meet the case, the little lieutenant rescued the sheet with his right hand and brought the boat up to the wind again himself, while, with his left, he belabored the steersman. They had to make a considerable detour before they could get round the obstacle in front of them, but, once they were clear, they found that they were half a mile away from the junk, the sight of which had so agitated the Korean. As a rule, in these waters fishermen do not carry arms, and the first thing the lieutenant made out, when he got a clear sight of the strange craft, was the glint of the morning sun on rifles. Had a Japanese boat's crew ever had such luck before? and the little officer smiled all over his face as he communicated the joyful tidings to his men—here, indeed, was a situation; a primitive sea fight on the racing waters of the Yalu. The Korean steersman saw the glint of the rifles at the same moment; the sight did not fill him with similar enthusiasm, and he settled all doubt that had hitherto possessed him as to the safety of the mission by abandoning the tiller and jumping overboard. For a moment, the thought of the death penalty flashed across the little lieutenant's mind, and his hand instinctively closed on the butt of his revolver; but he had no use for cowards, dead or alive, so, with a loud laugh, he himself took the tiller, and, pulling the sheet taut, bore down upon the Russian junk.

Nor were the Russians refusing. If they had had any misgivings as to the identity of the Japanese boat, these were dispelled as one of the blue-jackets rove on to the halyards the emblem of the rising sun, so that it fluttered out above the lateen sail. The rival commanders must have given the ranges to their men simultaneously, for the smack of the small-bore rifles of both parties burst out

together. The Russians stood off a couple of points, so as to bring more rifles to bear. The range was now 500 yards. The Russian shots whizzed overhead, sang through the rigging, ripped tiny holes in the sail, and splintered the planks of the forward whaleback. The Japanese answered deliberately; the little lieutenant, with his foot on the tiller, the sheet in his right hand, and his glasses in his left, directed the fire. Fifteen minutes of this, and suddenly the sail of the Russian junk went aback, round came her ponderous prow. She had had enough. The breeze again caught her great sail, and she headed up with the tide. The lieutenant reduced his firing strength by two, as he ordered two bluejackets to man the junk's sweep: himself, he never moved either his foot from the tiller or his hand from the sheet, even though a bullet carried the glasses out of his left hand and scored a great scar in his forearm; he was going to have that junk, or perish in the attempt. The Russian commander evidently thought so, too, for he only stood upon his new course long enough to see that the smaller vessel was overhauling him, when he put his helm over, and ran the boat for a sandbank. In three minutes she was aground, and her crew of nine soldiers wading to the shore. This gave the Japanese bluejackets their opportunity. Up they jumped, and let their magazines do their best. The water round the Russians became as agitated as the surface of a pond in a hail-storm. But the men made good their passage to the shore, and, opening out, doubled to the summit of the dune. The lieutenant brought his boat up alongside the abandoned junk, and, as his men made it fast, they found in the corpses of two Russians the evidence of their good shooting; but they had not time to apprise the value of their capture, for it was up and into the water in pursuit. By this time, the Russians had taken up a position to prevent a landing, and as the bluejackets waded to the sandbank they in their turn suffered the ordeal of a concentrated fire. But they made the shore and were advancing to the attack, when suddenly they descried two more junks bearing down upon them from round the end of the bank. There is a limit to the odds which even a junior naval lieutenant dare encounter; so the youth doubled his men back and pushed both the junks off: at least, if he could not complete his skirmish, he would carry off the spoils of war. Loyally, his men answered to his call—they fixed a tow-line and manned the sweeps, but it was no good; the two junks could not make sufficient headway against the tide, and he found the reinforcements rapidly overhauling him. There was nothing for it but to cast off, and then, with four men at the sweeps and two men firing, he beat his way under the cover of a friendly sandbank.

THE ABUSES OF POSTAL FRANKING

ENOUGH MATTER SENT FREE THROUGH THE MAILS TO ACCOUNT FOR THE DEFICIT OF THE POST-OFFICE DEPARTMENT—A LOOSE AND UNBUSINESSLIKE SYSTEM—STORIES THAT ILLUSTRATE THE EVIL

BY

HENRY A. CASTLE

AUDITOR OF THE POST-OFFICE DEPARTMENT, 1897–1904

MUCH has been written in reports of postal officials, as well as in periodicals and newspapers, denouncing the abuses to which the "franking privilege" has been subjected. Vigorous and persistent efforts have been made to correct these, but some of their aspects are growing worse.

Every branch of the government loads the mail not only with letters, reports, speeches, documents, etc., but often with machinery, furniture, even fire-proof safes. If the free matter of Congress, the courts, and the various executive departments, which now passes through the mails, were paid for at regular rates, our annual postal deficiency would be replaced by a handsome surplus.

From sixty or seventy tons, in 1833, the amount of free matter has grown to thousands of tons, and the objections to the system have increased in proportion. Out of the vehement demand for lower postage on letters may be evolved a reform of the system. Unfortunately, there is no adequate method for ascertaining its magnitude, nor determining what should justly be charged to it; approximate estimates only can be made.

Down to about 1845, postmasters receiving less than two thousand dollars a year salary were allowed two cents for handling and delivering each piece of franked matter, and their sworn returns, upon which compensation was based, afforded the necessary data for computing its amount; but for many years no general attempt has been made to secure this information. Only fragmentary and indecisive records have been kept.

From examinations made in the Washington city post-office, covering a period of about two and a half months, it was discovered that 979,820 pieces of paid matter and 5,900,000 pieces of unpaid matter of all classes went through, the unpaid matter on some days running as high as 135,000, while the percentage per day would often go as high as 93, and averaged 85¾ per cent.

The National Board of Trade has forcibly maintained that the present law adds a fictitious cost of fifteen millions annually to the operating expenses of the postal department. The absence of a systematic check upon the franking privilege naturally encourages preventable abuses and extravagance.

Much controversy is caused, and many ludicrous situations are created, by the franking authority connected with the annual distribution of government seeds by members of Congress. Every year, the propriety of this gratuity comes up in the debate upon its appropriations which, in eight years, despite opposition, have grown from $75,000 annually to $300,000.

The original intent of the law, which authorized the introduction of new and valuable varieties of plants, has been perverted. This year, 45,000,000 packets of garden and flower seeds will be sent out, few of them differing in any respect from those sold at retail stores, but public opinion seems to sustain the policy.

Representative Stevens, of Minnesota, forwarded, not long since, to one of his people at home, a package of garden seeds. In a few days, a letter profuse with thanks was received, with this concluding paragraph: "Please send me a sack of oats, a sack of corn, and as many trees as you can get at the Agricultural Department."

A Congressman from Boston, although representing a city district, declares that he has some constituents who thoroughly appreciate the benefits of the seed distribution.

"Some time ago, I thought I would send a few of my people some flower seeds to find out whether they cared anything for these perquisites. I received an answer from one of them. He thanked me for the flower seeds, which, he declared, it was his intention to plant in his back yard. Then he went on to request that I secure from the government for him a lawn-mower, a set of garden tools, and 100 feet of black hose."

An application received by one of the representatives from a northwestern State read thus: "Please send to me, and to a number of relatives, names herein given, some garden seeds. I also want a gasolene engine of 18 horse-power, a wood-saw, and a barrel of gasolene. Please send them right away."

During the debate of the garden-seed appropriation, one congressman read a letter from an intelligent voter applying for a "union suit of clothes, a coat, 38 size, pants, 33-34."

Representative Cooper, of Wisconsin, had been sending very fine grass seed to one of his constituents for several years. At last he received this letter: "Dear Mr. Cooper: I want to thank you very much for the seed you have been sending me. Please do not send me any more, as our canary died ten days ago. The bird did not seem to thrive on the seed you have been sending."

Thus do some of the guileless children of the great republic misinterpret its intended benefactions. But the implications of "graft" connected with seed allotments are less serious than in some other quarters.

There is enough abuse and menace in the admitted perversions of the franking privilege to warrant us in classing it among the serious defects of our postal service, as now administered. It is one of the evils to be remedied when Congress takes up, as it is to be earnestly hoped it will, at no distant day, the important duty of reorganizing, systematizing and reforming the entire mail system.

A GROUP OF DENMARK MARES
To be used in improving the breed of Philippine horses

AMERICAN HORSES FOR THE PHILIPPINES

THE INSULAR GOVERNMENT'S PREPARATIONS TO IMPROVE THE BREED—THE FIRST TIME THAT ANY DEPARTMENT OF OUR GOVERNMENT HAS UNDERTAKEN SUCH A TASK

BY

JOHN GILMER SPEED

[Mr. Speed was engaged by the Philippine Government to buy horses in the United States to be sent to the islands]

THE common roads of a country are at once the measure and the means of its civilization. When the Philippine Islands came into the possession of the United States, there were no highways there worth speaking of. The military authorities very soon began the construction of roads. These, however, were primarily for military use—for the movement of troops and the transportation of supplies. The civil government of the Philippines has continued this work, the continuation being in the interest of peaceful civilization. To be sure, considering the area of the islands, not much has been done in the way of road-making; but a start has been made, and, if there be no change in the present enlightened policy of the governing commission, the work will go on. But of what good are roads if there be not proper horses to use on them? That is the question that presented itself to the commission, which, encouraged by the authorities in Washington, is now endeavoring to answer it. The present answer, of which it is my purpose to speak in this paper, was framed by Colonel Clarence Edwards, of the Army, and at present detailed as chief of that bureau of the War Department dealing with insular affairs.

It must not be inferred from what has been said that there are no horses in the

"THE DUKE OF ALBANY"
Half Morgan, half thoroughbred

Philippines at present. On the contrary, there are very fine horses, or rather ponies, there. When Spain was a conquering country, the Spaniards had the best horses in Europe, as the native stock had been improved by infusions of Arab and Barb blood, taken in by the invading Moors. Wherever the Spaniards went, they took these horses with them, and the wild horses of many parts of the world—notably the plains of North and South America—are descended from the castaways of the Spanish explorers. The Spanish occupied the Philippines almost continuously for several centuries, and what we call the native horses there have descended from Spanish stock, without any absolute reversion to a wild state. The effect in the Philippines has been better than in the Americas, for the Filipino pony is a more finished horse than the mustang, and every bit as hardy. But he is a pony after all, and not large enough for the use of white men. And, though it is the Filipinos who are to be civilized, it is white men who must do it. Colonel Edwards has long seen that one of the best agencies toward this civilization was the breeding, in the islands, of general utility horses, large enough for farm use and capable

A PURE-BRED ARAB STALLION
Purchased by Mr. Speed in Massachusetts

of carrying white men, whether officers of the constabulary or mounted men in the army of the United States.

For military purposes, a great many thousands of horses have been taken to the Philippines, but, as they were practically all geldings, they have had no influence on the native stock. Colonel Edwards's first attack on this problem of breeding better horses was a recommendation that the United States Cavalry in the islands be mounted on mares, which, when incapacitated for army use, could be used for breeding. Here he ran against a stone wall of prejudice. Cavalrymen do not like mares. It was no matter to them what the ultimate purpose was—they do not like mares and will not have them, if they can help it. In this instance they had their own way. So another plan has been resorted to, and a ship-load of horses and mares has been sent from this country for breeding purposes, with the idea of grading up the Filipino ponies, and, at the same time, keeping a supply of highly bred Ameri-

"HATIM," A PURE-BRED ARAB STALLION
Bought in Massachusetts

can horses, so that breeders can get stallions to continue and broaden this work of improvement.

I was chosen to select the horses that have been sent out. In a general way, I will say that I selected only such horses and mares as seemed to me to have a similarity of blood with the Filipino ponies. All repro-

ducing horse-types are founded on the Arab and Barb. So specimens of any of these types, not made utterly dissimilar by reason of size—the Percheron, for instance—appeared suitable. Available in America were the Morgans, the Denmarks, and the thoroughbreds. I secured stallions of these three types, and also a few Arab stallions which had come to this country by way of England. The brood-mares were all bought in the Bluegrass region of Kentucky, while some work- and brood-mares for the Agricultural Experiment Stations were bought in Missouri. The immediate purpose is to breed Filipino stallions to American mares, and American and Arab stallions to Filipino mares, keeping, however, a supply of strictly American mares and horses as a kind of parent stock, on which later to draw.

Of course, this mingling of American and Filipino horse-blood is an experiment, and no one can tell, with absolute certainty, what the result will be. That the progeny as individuals will be an improvement over the native horses is tolerably sure; but the experiment cannot be considered entirely successful unless the mingling of blood, aided by infusions of Arab blood, results in a reproducing type of sturdy horses suitable for work on the farms and fit also for use by the army and constabulary. This can no doubt be accomplished in time, for the breeding of

"CHESTER, JR.," A KENTUCKY BAY OF THE DENMARK STRAIN

domestic animals has become very much of a science, and it is inconceivable that the Philippine Commission will permit this experiment to be conducted by ignorant men, who would be very apt to inflict on the islands a breed of mongrels. Mongrels, it may be said, are often most excellent as individuals, but as parents they are far from desirable, on account of the tendency, when heterogeneous blood is mixed, that the defects of the elder generation will be exaggerated in the progeny, and the virtues diminished.

It is interesting to note that this is the first time our government has taken any part in horse-breeding. And even now it may not be proper to say that it is taking a part, for the present experiments are made by the civil government of the Philippines, and the expenses are paid out of the Philippine revenues. If the experiments succeed, however, it will not be wonderful if the Federal Government should establish a breeding-plant of its own, so that cavalry and artillery horses of uniform types could be obtained. France, Germany, Austria, and Russia breed horses for military use, and also to foster horse-breeding. The English Government does not need to do this. In that country, the custom of primogeniture keeps estates together, and there is a continuity in breeding

"WISTARIA," A KENTUCKY MARE OF THE COMBINATION HARNESS AND SADDLE TYPE

A BLOODED STALLION FROM VERMONT

plans. In America, we have long suffered from a lack of such continuity. More frequently than not, when a horse-breeder dies, his collection of breeding animals is sold, and his plans end with his life. That is why it is desirable that the government should undertake the work of preserving the most useful types.

"THE RAIDER," A PURE-BLOODED ARAB STALLION

This is a most critical time in the horse-breeding industry in the United States. The adoption of other agencies has relieved the common horses of the greater part of their work. And so their value will decrease, until they are not worth their keep. But the finished general-utility horse—such, for instance, as the Denmark, of Kentucky, and the Morgan, of Vermont—is in greater demand than ever before, and good specimens bring most satisfactory prices. Should this experiment in the Philippines inspire the home government to take up horse-breeding, it will be an excellent thing, for the government could then teach the farmers of the United States how to breed good horses.

A PAIR OF DENMARK MARES IN THEIR NATIVE KENTUCKY BLUEGRASS

SECRETARY MORTON

A SHORT SKETCH OF THE NEW HEAD OF THE DEPARTMENT OF THE NAVY—A MAN WHO DOES THINGS—HOW HE ROSE FROM CLERK TO VICE-PRESIDENT OF A GREAT RAILROAD—A TYPICAL AMERICAN STORY

BY

WILLIAM HASKELL SIMPSON

WHEN President Roosevelt selected Mr. Paul Morton, of Illinois, to be Secretary of the Navy, he made a somewhat radical departure from the usual political methods. Mr. Morton is known to be a railroad manager, but he is unacquainted with the sea. More to the point—he is a business man, and not a politician. Even his open support of the Republican party is very recent; and his appointment was not solicited by any strong party faction. The President had only this knowledge to proceed on—Here was a strong man, a clean man, a man of executive ability. He had managed the freight and passenger service of a transcontinental railway, and he would administer the Navy Department according to modern business methods. The two tasks are not so different as they may seem.

Mr. Morton grew up on the Nebraska prairies, where, in the early sixties, it was a day's wagon-trip from horizon to horizon, and nearly as long a journey from ranch-house to ranch-house. He grew up with breadth of chest and breadth of view, knowing the joy of life in the open and the dignity of labor. If Mr. Morton had spent his boyhood in a great city, he would, no doubt, have become a successful man. But you feel, when you know him, that his leadership might not have been so strong and so true; for there is something distinctly wide and western in his character.

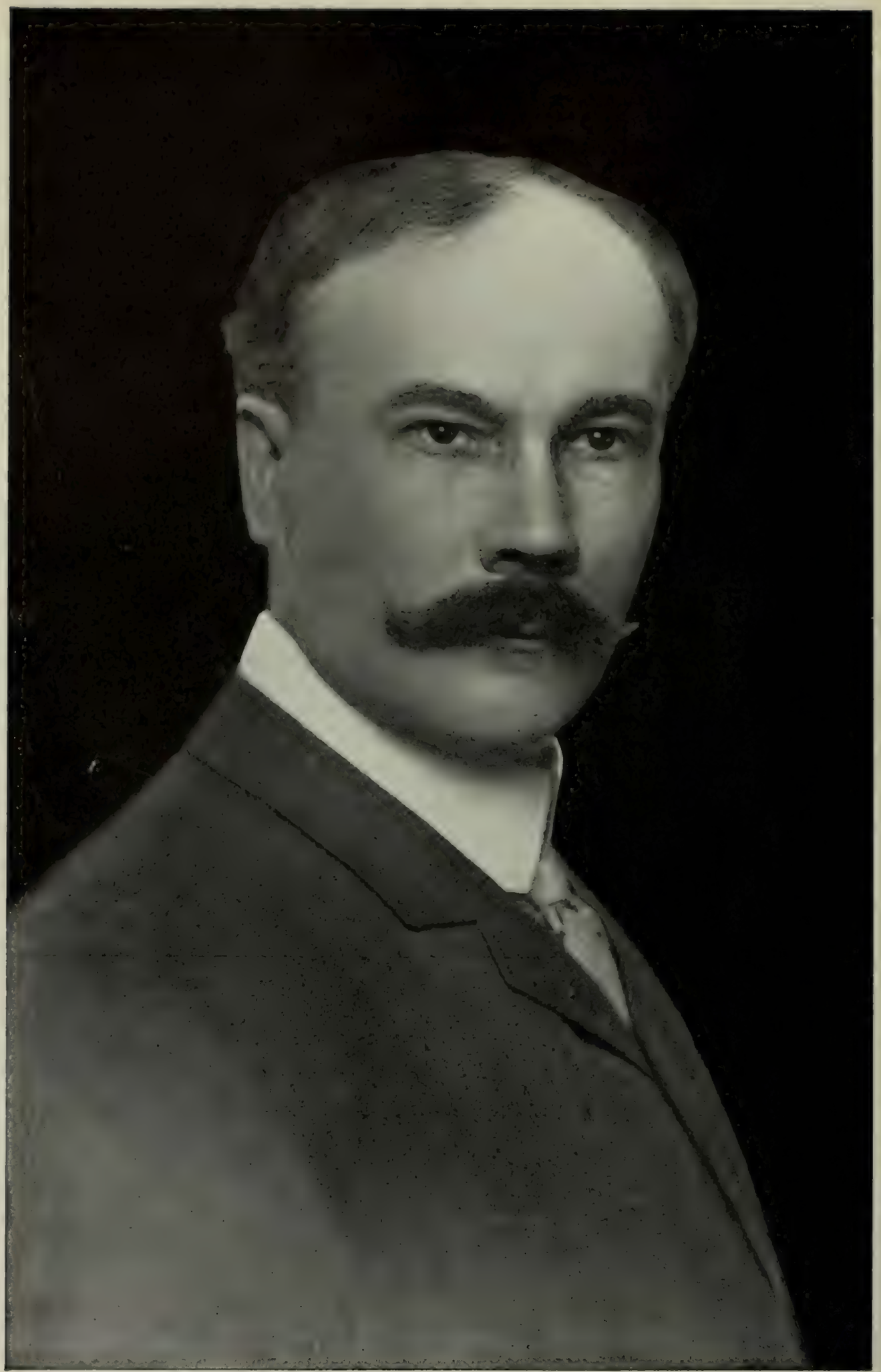
He lives in a beautiful home on Drexel Boulevard in Chicago, and his family consists of Mrs. Morton and their two daughters. His library is a good general library in history, government, stories of the old and new West, transportation and allied topics, and books which tell of American development and progress. He is not a college-man, but one of those men who seem not to have required college training. He has been at school in the world of affairs, which knows no vacation. In his home, he has a room filled with specimens of Indian handiwork, blankets, and baskets, and the like, and in his collection is the beaded buckskin vest that Geronimo wore. Pictures of scenes and of life in the Southwest adorn the walls.

His father was Mr. J. Sterling Morton, the Secretary of Agriculture in Mr. Cleveland's last cabinet, and most gratefully remembered as the founder of Arbor Day. His mother—before her marriage, Miss Caroline Joy—came of a prominent family in Detroit. It was in Detroit that Mr. Paul Morton was born, May 22, 1857. When six months old, he was taken to Nebraska City, where he remained on his father's homestead until he was sixteen years old.

In those good old days of the California Trail, long trains, drawn by mules and oxen, went slowly by the farm, bound for Pike's Peak and Salt Lake. Then young Morton decided that he would give his work to transportation. To be a wagon "boss" or a stage-driver was his first ambition. Today, he and his two brothers own the very stage in which Mark Twain, General Sherman, and General Sheridan rode a part of the way across the plains. It was once Ben Holliday's palatial private-coach, the private-car of the limited train of that period.

The old Morton homestead, appropriately named Arbor Lodge, is now maintained by the three sons—Mark, Paul, and Joy—as a place for frequent family gatherings and for valuable experiments in tree culture.

In 1872, Mr. Morton went to work for the Burlington railroad, for $16 a month. When he was twenty-one, he had become the Assistant General Freight Agent of that line. Afterward, he became its General Passenger Agent, and later its General Freight Agent. He remained in that post until 1890, when



Photographed by the Matzene Studio, Chicago

MR. PAUL MORTON

The new Secretary of the Navy

he engaged in the coal and iron business. In 1896, he became Third Vice-President of the Santa Fé railway system; he was afterward promoted to the Second Vice-Presidency. He held this position when he was called by President Roosevelt to a cabinet position.

Starting with no capital except brain and brawn, Mr. Morton has become a man of fortune. He began as a railroad-clerk, and he now meets financiers, statesmen, and railroad "magnates" as on their own ground.

When Mr. Morton came to the Santa Fé railroad system, its earnings were $34,000,000 annually; when he left it, the yearly earnings had reached $68,000,000—an increase of 100 per cent. in seven years.

How did he do it? Probably he himself does not clearly know. But he did it by not being afraid to assume responsibility or to take the initiative. He has an indomitable will, tireless energy, a shrewd knowledge of human nature, the faculty of absorbing details and deciding quickly, a good memory, and the capacity for making steadfast friends. His intimates include not only captains of industry, but journalists, authors, and men of many kinds of culture. The private office latch-string is always out for newspaper men, who rarely go away without a good story if there is any news worth imparting. He is a companionable man—a just one too. He has been fair to railway-patrons and fair to railway-employees. Conductors and engineers know him as their friend. Shippers have confidence in his desire to deal equitably with them.

While politic, in the sense that he does not needlessly make enemies, neither convictions nor sense of propriety are set aside for the sake of avoiding trouble or criticism. He is absolutely clean in business methods, as well as private life.

The only interval that he has had in his railway service was a period when he was an important officer of the Colorado Steel and Iron Company.

As Secretary of the Navy, his salary will be less than one-third of his former railway-salary. The new position (not sought, but urged upon him) involves a financial sacrifice. A man so willing to serve his country will give that country faithful service.

He is on record as favoring a larger and improved navy for the protection of our growing world-commerce. In a speech lately made at the Merchants' Club dinner in Chicago, he said: "The American navy is the policeman by day and the watchman by night of our foreign trade. The beat it travels is anywhere in the great universe where American trade or American interests are to be protected. . . . The navy of the United States is, and ought to be, a first-class fighting-machine. It should be the most formidable in existence."

He believes also in an improved consular service. He would employ first-class salesmen or "traffic" men. He favors irrigation of the semi-arid West, which is internal, instead of external, expansion. He would help solve our nation's vexatious "open-door" problem by promptly placing the newly arrived immigrant on the fertile lands of the Southwest and California, there to be self-supporting from the start. He wants more American-owned and American-manned merchant ships, carrying American-made goods around the world.

Many stories are current about Mr. Morton—among them, these:

Called into conference to discuss the most available man for a higher place than his own in railroad-service, just vacated, he is reported to have said jokingly, yet half-seriously: "I know just the man for the job. His name is Paul Morton." The place was given to him.

He once facetiously called the Western Freight Association the "Great Reduction Works," when it adopted a scaled-down schedule not wholly to his liking.

A reformed prize-fighter, who conducts a mission-chapel, often receives a liberal cash contribution and fifteen minutes of Mr. Morton's time. "It's worth the cost to hear this apostle of muscular Christianity tell of another tramp forcibly converted. No backsliders in that flock. That man is doing more good than many ministers who preach only the doctrine of peace."

He said at a recent dinner: "I was brought up on a Nebraska farm. There is a great difference between plowing the soil in agriculture, plowing the air in oratory, and plowing the sea in the navy. When I think of doing either of the latter 'stunts,' it naturally occurs to me what a farmer I am."

And this, at another dinner: "I did not follow Horace Greeley's advice and go West. I arrived there ahead of the advice."

"GOLDEN RULE" JONES

THE UNUSUAL STORY OF THE LATE MAYOR OF TOLEDO—HOW HE WON HIS CAMPAIGNS DESPITE THE OPPOSITION OF NEWSPAPERS AND POLITICIANS—AN INTIMATE STUDY OF THE MAN AND HIS SIGNIFICANCE

BY

BRAND WHITLOCK

WHEN Samuel M. Jones was first nominated for Mayor of Toledo, a delegate arose in the Republican Convention and asked:

"Who in —— is Jones?"

Jones, fortuitously nominated, was indeed unknown. He had come from Wales, as a baby, in the steerage of an emigrant-ship, and, after working in the oil-fields in Pennsylvania and Ohio, had finally invented a sucker-rod—an appliance used in oil-wells. In his factory, in Toledo, he had posted this:

RULES FOR THIS SHOP.

"Therefore, whatsoever things ye would that men should do to you, do ye even so to them."

That was all. It was difficult to understand; it seemed that Jones was unsophisticated enough to take the thing seriously. Still, he was popular among the workingmen, and even if, in the campaign that followed, he was dubbed "Golden Rule Jones," and even if the politicians were made to feel rather self-conscious and silly about him, they supported him, and he was elected by a small plurality. Jones took the Golden Rule into politics with him, although the politicians complained that he would not apply it in their usually desperate case, for he would not do the things they wished him to do. He was independent; no one at the city hall had any pull. More than this, he committed the high crime of party treason; he said that a party is but a part of the people, and that he was mayor of all the people.

Two years later, the politicians, by a trick, defeated him for renomination; the chairman they put over their convention declared that 125 votes were more than 126 votes. That evening, Jones announced that he would run as an independent. The campaign was one of the most picturesque in American municipal politics. The politicians, indeed, resorted to every conceivable device. Jones was assailed by every one; he was attacked by the press and the pulpit; he was ridiculed and abused. And—he was elected. He received 16,773 votes, the Republican nominee 4,266, and the Democratic nominee 3,148. That fall, he was nominated for Governor by petition, and polled about 125,000 votes. In 1900 he refused a nomination for Congress, to which he could easily have been elected, and a year later he ran again for mayor as a nonpartisan and was elected by a large plurality.

In 1903 he was nominated for the fourth time and a final desperate effort was made to defeat him. Both the leading parties and the Socialists, as well, made nominations. All the wealth and influence in the city were united, all the organizations, political, social, religious, and financial—churches and all—were arrayed against him; the newspapers agreed not to mention his name or to report his meetings. When they referred to him, it was as "The present incumbent of the Mayor's office." And he was elected, receiving a plurality of about 3,000 votes.

During all his seven years in office, Jones was harassed by a hostile council. A Republican machine was being built up. One by one, all the offices in the city and in the county passed into its hands, until in Jones's last two terms it lacked only the mayoralty to complete its control. This machine was never idle. Opposition to Jones did not end with the elections; it was continued day and night throughout his terms. It would be difficult to imagine any accusation that was not made against him. He was said to be insincere and dishonest; he was called a crank, a lunatic, a charlatan, a demagogue, a socialist, an anarchist; he was said to be unsafe and dangerous, in league with the saloons and with the crimi-

nals. Nothing that could be said in the way of vituperation was omitted.

Nevertheless, Mayor Jones was somehow accomplishing things. First, he took the clubs away from the policemen, telling them that their new mission was to help and not to hurt. He was largely instrumental in introducing free kindergartens in the public schools; he established public play-grounds for the children; he instituted free concerts in the parks; he secured for the city employees an eight-hour day; and not a contract was let that did not specify a maximum eight-hour day and a minimum wage of $1.50, for common labor. In the winter, he used the park teams to give the school children sleigh-rides; he devised a system of lodging-houses for tramps; public golf-links were laid out in the parks; he organized a policeman's band. And he did many other things. Others helped, of course, but all the achievements were the result of his spirit. Besides, in a series of remarkable messages to the council, he advocated home-rule, the merit system, a municipal directory, free night-schools, public baths, the abolition of the contract labor system, municipal ownership of all the public utilities, and reforms in the prison and police court systems. The same spirit was at work in the city's affairs that inspired the coöperative efforts in his factory, and his gift of Golden Rule Park, where notable meetings were held every Sunday afternoon.

The machine, however, was always hostile. Every possible situation was devised to trap and to humiliate him, and, one by one, his powers were shorn by laws and ordinances. In 1902, the Legislature sought to wrest the control of the police from him by an act that vested the appointment of the police board in the Governor. The act was passed, the board was appointed, and Jones, passionate for home-rule always, refused to surrender. The people were astonished, the politicians horrified, the lawyers amused. By all the decisions of the Supreme Court, for fifty years, the law was constitutional. The new police board gaily went to law, and Jones resisted, and—the Supreme Court sustained Jones.

Toledo's battle with her street-car company is but a repetition of all municipal battles. Here were the big corporation, with its mysterious agencies, a political machine, a suspected council, a citizenship trembling, uncertain, and afraid—and Golden Rule Jones. Last summer, when the traction company had its council pass an ordinance, renewing its franchises, Jones promptly vetoed the ordinance. Then the council, guarded by husky conductors and motormen, the doors barred against the public, prepared to pass the ordinance over the mayor's veto. The citizens stormed the doors, thrust back the traction company's employees, and burst into the suffocating council-chamber, with Jones at their head.

"I suppose, Mr. Jones," sneered the attorney for the traction company, in one of the lulls of the human storm, "that this is the kind of government we should have under the Golden Rule."

"No," replied Jones, on the instant, "this is the kind of government we have under the Rule of Gold."

The council did not pass the ordinance over the mayor's veto.

But these are not the things most significant of Jones. Walt Whitman says:

"He or she is greatest who contributes the greatest original practical example."

Whitman was Jones's favorite poet, and his writings influenced Jones more than the writings of any other man, excepting, perhaps, Tolstoi. A little autograph volume of "Leaves of Grass" lay on his desk, beside a Bible, both of the books well worn and marked with red-pencilings. A picture of Whitman—two pictures of Whitman, indeed—hung on the wall, and around these, pictures of Tolstoi, Lincoln, Burns, Ruskin, William Morris, Emerson, Lowell, Whittier, John Boyle O'Reilly, Frances Willard, and many more. On the walls, he had painted quotations from Isaiah, Jesus, Whitman, Tolstoi—there was even a passage from the Declaration of Independence, and these words, burned by his own hand in wood: "Judge not, that ye be not judged."

These, somehow, show the man better than anything else could. He had gone to the public schools for about thirty weeks, in childhood, and that is all. And yet he knew mechanics, sociology, literature, music, the philosophy of history—and knew them well. More than all, he knew human nature, as few know it. Men seemed to stand naked before him, stripped of all degrees, distinctions, or honors. He never truckled or coddled; the robes of office never added

anything to a man in Jones's eyes. Judges, mayors, presidents, kings, were all men to him, and nothing more. He could talk and joke with workingmen without that fear of being misunderstood or resented that would assail the ordinary politician, and make him condescending—it never occurred to Jones that he was any better than they or at all different from them. So, too, he could go to the prisons of the city, as he did daily, and laugh and joke with the prisoners. And, without any sort of preaching—which he despised, as he did everything dogmatic, or authoritative, or doctrinaire—he, somehow, seemed always to leave them feeling that, while he hated the crime, he loved the criminal. During all the time he was mayor, he never once took a cent of his salary—he gave it away to the poor. His office was a kind of charity bureau. Every day, the wrecked and the stranded were there, telling him the tales of their squalid, hopeless poverty. Such tremendous draughts on his sympathies were more than any one could endure, even one so full of humor and so bouyant and optimistic as he—no doubt they shortened his life; for the charity he was able to dole out gave him no comfort—he doubted always his right to money that came to him in the form of profits. He gave and gave. He devised all sorts of expedients for sharing profits with the men who, he said, made them for him. He lived like an anchorite himself. I tell these things, because they seem to me to represent a remarkable culture—such a culture as Matthew Arnold must have meant, for Jones made life "a study of perfection." He revealed his spirit best, perhaps, in the beautiful "Letters of Love and Labor" which he wrote to the men in his shop, putting them, each week, in their pay-envelopes — letters which, because of their clarity, their artless simplicity, will some day rank high in the literature that is being evolved out of a slowly awakening social conscience.

Jones was a natural orator and one of the greatest campaigners of his time. His political meetings were political only in the sense that politics and life were one with him, just as religion and politics were one with him. He could not separate the relations of life any more than he could separate men into classes, or separate from their consciences the functions they were officially called upon to perform. He was naïf enough and literal enough, and, as the pulpits of his own town were constantly complaining, impractical enough, to take the sayings of Jesus literally, just as he was impractical enough to take the Declaration of Independence literally. And so it was that a stranger happening into a "Jones meeting" might have supposed that it was a religious meeting, or at least a revival. Jones, indeed, insisted on their being religious meetings. He would stand on the platform, and, after he had led the people in singing the words he had himself written and set to some old Welsh tune, he would talk of liberty, of life, of kindness, of the brotherhood of man, of the belief he had in all men. Out of his marvelous memory he would recite poetry, Tennyson's, Burns's, Lowell's poetry—even Browning's, now and then—and always Whitman's. He would quote Emerson to them, or William Morris, or Ruskin, or Lincoln, or Washington, or Jefferson, or Joseph Mazzini, but always spontaneously, naturally, unaffectedly—and the people always seemed to understand. Even the Poles, standing under the flare of torches, in the strange garments they had brought from Europe with them, their caps on their heads, their pipes in their mouths, appreciated.

"What's the Polish word for liberty?" he might ask.

The dull faces brighten, a word is shouted.

"Say it again," says Jones, turning his head to listen.

They give it with a mighty shout.

He tries to pronounce it, but he cannot; he laughs, and they laugh.

"Well, I can't say it," he says, "but it sounds good to me."

Then he goes on, talking about liberty; and what it should mean in America, and in Toledo, and he quotes Mazzini to them.

One of the last meetings he attended was held in the most fashionable church in the city, for the purpose of discussing "Law Enforcement." A leading citizen, of wealth and influence, had criticized Jones's policy, and, when he had finished, every one waited for Jones to reply. This is what Jones said:

"We will never become good and righteous through laws, penitentiaries, or fines. You say you are in favor of the enforcement of all laws, Mr. ——. There is a law on our statute books that all property should be

returned for taxation at its true value in money. Now, let all the saints who believe in the enforcement of that law just raise their hands. I'll wait for you. . . . Where are the hands?"

This was as near to saying anything that hurt as Jones ever came. He resisted the fascination of sarcasm—it was one of his ambitions to realize in his own life that which was said of the Nazarene: "When he was reviled, he reviled not again." He never spoke disparagingly of his opponents; his platform was free to any one to speak what he chose; he never asked any one to vote for him; he said always, "Vote as you believe." He made but one suggestion to those who campaigned with him, and that was "Draw the sting."

He always offered to divide his time with his opponents. In several meetings, he pleaded with his own followers to listen to speakers who abused him. He gave the men in his own shop an hour with pay to listen to campaign speeches from the candidates who were running against him.

When he was buried, the other day, the wide lawn in front of his home was crowded with people down to the sidewalk and across the street, to the lawns on the other side, and both ways down the street, and on the cross-streets. In that crowd were all classes of the people he refused to classify—clergymen, lawyers, judges, workingmen. I saw a pugilist, and a doctor's wife, and a Negro, and an old-time pickpocket standing near each other—bareheaded, for three hours in the hot sun, the tears rolling down their faces. The crowd lined both sides of the streets through which the body had been brought from its lying in state down town, to the home, from the veranda of which the simple funeral was held; it lined the streets miles further on to the cemetery, the people standing in deep silence with uncovered heads while the workingmen, the women, and the children marched by in the street, a loving procession, without a weapon, not even a policeman's club, in it. There were thousands more at the grave; and, until the evening after the grave had been closed, societies which could not take part in the services at the house, because the summer day was too short, were there singing German songs. It began to look as if there might be something in it, after all.

THE RUSSIAN REVOLUTIONISTS

AN EXPLANATION OF THE REVIVAL OF TERRORISM—THE SEVERAL SOCIETIES AND THEIR METHODS—DE PLEHVE'S DOOM

BY

ABRAHAM CAHAN

THE man who killed the Russian Minister, de Plehve, has, according to newspaper despatches, refused to give the authorities any information either about himself or about the plot which culminated in the fatal explosion. But the "underground" press has made a statement on this subject, and it is that the Fighting League of the Social-Revolutionists was responsible for the assassination. There are several revolutionary societies in the Empire, but this organization is the only one professing "terrorism" as a conspicuous part of its programme. It was this Fighting League which killed de Plehve's predecessor and several other high officials. That de Plehve would be their next target was an open secret.

While most of the Social-Revolutionists devote themselves to printing and distributing secret literature, to oral propaganda, and to revolutionary demonstrations, plots like the one which resulted in the death of de Plehve is the special business of the Fighting League.

The experiences of the Nihilists of the eighties led the terrorists of today to keep these two branches of their activity separate. The weakest point in the organization of the men who brought about the death of Alex-

ander II. lay in this—that the "terror" absorbed the main strength and the best forces of the Will of the People, as their party was called. In order to prevent this mistake, the new terrorists comprise only a very small part of the active men and women of the organization, and are so detached from the other groups as to prevent their conspiracies from interfering with or being interfered with by the other work of the party. Accordingly, the Fighting League is an isolated organization, communicating with the main body through one or two representatives, a rather small force numerically, but with a long list of candidates to fill the places of those who fall into the hands of the enemy. It is not every member of the Social-Revolutionist party who is ready to join the Fighting League, but the number of those who are ready and who beg for a chance to attack a man like de Plehve is really very large.

The revival of organized terrorism, after an interval of fourteen years, dates from the spring of 1901, and grew out of the drastic measures which the government used in dealing with college demonstrations. The last attempt at bloodshed by members of the celebrated *Narodnaya Volia* (Will of the People) took place in 1887, on the anniversary of the death of Alexander II., when several Nihilists, with bombs under their coats, were arrested on the steps of a cathedral which the reigning Czar, Alexander III., was about to enter. When the would-be regicides were brought to the nearest police station, one of them threw a bomb on the floor, apparently expecting to blow up the building, but the missile did not go off. The other bombs turned out to be equally harmless, the construction of these explosives being symbolic of the revolutionary organization by which they had been produced. Moreover, the plot had been known to the police from the start. Stepniak likens the short-lived career of the Will of the People to the explosion of a bomb. Nothing remained of it but fragments of its old shell. But, if the Will of the People was dead, the revolutionary movement had not been buried along with it. A new form of agitation was making rapid headway among the working classes, as well as among the educated part of the population. It was a Russian version of the Social-Democratic parties of western Europe, the factory proletariat being the embodiment of all its hopes and aspirations, just as the peasantry had been the personification of the ideals and dreams of the peaceful propagandists of the seventies.

The government adhered to its old policy of repression. Peaceful missionaries and organizers of secret trade-unions were treated with medieval brutality. But the Social-Democrats went on with their work of education and organization, and their party throve. Their teachings gained a foothold in many a factory town, while the universities were as full of this form of Nihilism—a term, by the way, which in Russia has long since been out of use—as they had been once full of that spirit which pinned its faith to the village commune as an instrument to work out the country's political and economic salvation. The peaceful, unresisting "peasantists" had been gradually converted, by the senseless cruelties of the government, into assassins, and now its blind policy of oppression and persecution in its campaign against the peaceful Social-Democrats was bound to lead to similar results.

The straw that broke the back of the peaceful movement, three years ago, was an order issued by the Minister of Education, backed by the Minister of the Interior, sending 187 students of the University of St. Vladimar, at Kieff, to the army, for taking part in a certain demonstration. The demonstration was held as a protest against a rule forbidding students to hold meetings, and had nothing to do with politics, and the unprecedented punitive measure called forth indescribable indignation. A young man, named Karpovich, then went to St. Petersburg from Berlin, where he was studying at a local university, obtained an interview with Bogolyepoff, the Minister of Education, and shot him dead at his office. Karpovich had no accomplices. As was proven conclusively at his trial, not a soul had had any idea of the object of his visit to the Russian capital until his purpose had been achieved; but the shot he had fired met with hearty approval all over the country, and served as a signal for an organized revival of the tactics of the old Will of the People. The nation was so aroused by the policy of the two ministers that the assassin was openly cheered, and demon-

strations in his honor were held in different parts of the Empire—demonstrations which resulted in new conflicts between the revolutionists and the police, new wholesale arrests, new persecutions.

It was then that the Fighting League was formed. The Social-Revolutionist party, of which it is a section, was a new organization, a rival to the peaceful Social-Democrats. It declared itself "successor to the Will of the People," and, thanks to Karpovich's pistol-shot, it at once jumped into popularity, particularly among college students. "It is useless to confine oneself to peaceful agitation in a land where peaceful agitation is punished by exile or slow death in an isolated prison cell," they argued. "We must show the government that it cannot go on riding rough-shod over the faintest attempt at free speech with impunity. Until we have extorted from the authorities the right to speak and to think according to one's honest conviction, it will be a criminal waste of energy on our part to fill prisons without showing the slightest resistance, without meting out to the murderous officials the punishment which they deserve."

The proclamations of the new terrorists read almost exactly like the proclamations of the Will of the People; and, like the members of that organization, the new terrorists pledged themselves to abandon acts of violence as soon as it became possible for a Russian subject at home to express his opinions through the press or from the platform. For the rest, the new organization professed the same teachings of Marxian Socialism as the Social Democrats—with this difference, however, that, while the latter practically confined their propaganda to wage-workers, the most energetic work of the Social-Revolutionists was planned among the peasantry and in the universities.

The first two men to be condemned to death by the new terrorists were the Minister of the Interior, Sipiaguine, and the Curator of the Holy Synod—the real power behind the throne—Pobiedonosteff. Sipiaguine was even more generally hated than Bogolyepoff had been. Besides being held responsible for the measure for which the Minister of Education had been shot, he had incurred the bitter enmity of all classes by the inhuman methods that he had employed in suppressing a street demonstration in St. Petersburg, when, at his order, thousands of peaceful men and women were beaten and maimed by a horde of Cossacks. "Let another demonstration take place and the capital will be flooded with blood," he declared.

The man who was commissioned by the Fighting League to carry out the "death sentence" which it had pronounced on Minister Sipiaguine was a handsome young college student, of twenty, named Stepan Balmasheff. This revolutionist was born in exile, of a Nihilist couple who had taken part in the movement in the seventies. He came into the world on the day when the assassins of Alexander II. were executed in St. Petersburg; and his biographer dwells on the coincidence as something emblematic of the idea that the gaps created by the death of revolutionary martyrs are sure to be filled by other heroes. He was one of the 187 students sent to the army. In his last letter to his parents, he said, among other things: "I offer my life to the great cause of relieving the sufferings of toiling and oppressed humanity. . . . This is my excuse for my cruelty toward you, my dear father and mother, whom I love so fervently and respect so profoundly."

That he was hunted by the new terrorists Sipiaguine had every reason to suspect. Accordingly, he took every possible precaution to guard against an attack. He surrounded himself with spies, and made himself inaccessible to any but people of whose "political reliability" there could be no doubt. But Balmasheff came to him under the guise of an *aide-de-camp* to the Grand Duke Sergius, come from Moscow with a special message from his Imperial Chief, and, as he played his part well, he was admitted at once. The scene was the office of the Ministerial Council, and the time was just before an important cabinet meeting. The handsome young college student, officially transformed into a private of infantry, but at this minute dressed in the dazzling uniform of an adjutant to his Imperial Highness, handed the Minister of the Interior a large envelope, and, while the latter was tearing it open, fired several shots at him, exclaiming coolly:

"This is the way one deals with an enemy of the people!"

In a proclamation which the crowds found posted on the public buildings the next morning, the Fighting League declared:

"In a land where, upon an attempt at a peaceful public protest, Ministers threaten to flood the capital with blood, and are in a position to carry out such a threat; in a land where the government makes it its business to force the people to silence—it is inevitable that some members of the community, at least, make the voice of the nation heard through another kind of language.

"The buzz of the bullet—this is the only kind of conversation obtainable with our Ministers, and will be until they shall learn to understand the speech of common humanity, and to lend an ear to the voice of the country."

DE PLEHVE AND THE REVOLUTIONISTS

When de Plehve was called to fill the vacancy left by Sipiaguine, the revolutionists knew that the reactionary policy of the government, so far from being relaxed, would assume harsher forms than ever. The new head of the Interior Department was no stranger in the struggle between the authorities and the revolutionists. He had been prominently connected with the work of ferreting out Nihilism for many years, having taken an active part in the crusade against the Will of the People before and after the killing of Alexander II., at first as a public prosecutor, and then in the capacity of the Director of the Police Department of the Empire. Indeed, it was because of the iron-handed methods that he used during that period that he was invited to the post made vacant by Balmasheff's bullet. Nor was the country surprised by his conduct, a year later, in connection with the Kishineff massacre. There was a long series of anti-Jewish riots in the South, in 1881 and 1882, when he was the head of the Police Department, and the behavior of the police in all these outbreaks was strikingly similar to the attitude of the Kishineff police at the time of the slaughter in the Bessarabian town. Moreover, the circumstances surrounding the atrocities of 1882 and those which occurred last summer had significant points of identity. Then, as now, the country was shaken by a portentous spirit of revolt; then, as now, the kindling of race prejudice and the embroiling of the various elements of the population with one another could not help being beneficial to the security of the throne.

One of the first things that de Plehve did, in his new office, was to revive the use of the knout, an instrument which, even in Russia, had long since come to be looked upon as a relic of barbarism. It was at his behest that several governors ordered workingmen and peasants to be flogged for such offenses as an attempt to parade the streets on Labor Day, or to raise a voice of protest against certain forms of land robbery. The result was attempts against the lives of two of his governors, although of these only one was made by a member of the Fighting League.

Another governor, the chief executive of the province of Ufa, had an orderly crowd of workmen fired upon by the military because they had asked for the release of their committee from prison, where they had been put for representing their fellow-workmen in their appeal for higher wages and better treatment. This official, whose name was Bogdanovich, was killed a few months later by another member of the Fighting League, the assassin making good his escape, so that his identity is still a puzzle to the authorities. The government charged all these attacks to a highly educated Jew, named Gregory Gershuni, a gifted scientist and poet, whom de Plehve regarded as the head and front of the whole movement. Doctor Gershuni was captured soon after the killing of Governor Bogdanovich, and was made the central figure in the first and sensational case of members of the Fighting League. Meantime, Kotchura, the member of the league who had made an attempt on the life of one of the other two governors, and who was serving a life-sentence at the Fortress of Schlusselborg, had broken down, and agreed to turn State's evidence. He was one of the witnesses for the prosecution at the trial. Gershuni's speech in court and his behavior throughout the proceedings produced a profound impression on his judges, and called forth the admiration of revolutionists and liberals alike. He was condemned to death, but his sentence was commuted to imprisonment in the same terrible fortress, Schlusselborg, in which languish the few surviving members of the Will of the People. By putting Gershuni in an isolated cell, de Plehve thought he had locked up for good the activities of the entire Fighting League and paralyzed the work of the whole Social-Revolutionary party. Indeed, the late Minister of the Interior had undertaken, shortly after as-

suming office, to put an end to the whole movement of today in a year and a half's time. But his violent death showed not only that, by the arrest of Gershuni, the authorities had failed to stay the movement, but also that the new terrorists, who had so far confined themselves to the pistol, had revived the use of that weapon which killed Alexander II. on March 13, 1881.

The terrorists and the party with which they are affiliated derive their financial support from the various classes of the nation, including not infrequently members of the highest nobility. The Social Democrats are still a strong and active organization. So is the Bund, a Social-Democratic society especially devoted to the revolutionary education of the Yiddish-speaking proletarians. So is the Socialist party of Poland and a number of similar societies. A biweekly newspaper published in Stuttgart, Germany, and smuggled into the Empire of the Czar, has a large secret circulation, and wields great influence among the professional classes, army officers, and land-owners. Its name is *Emancipation*, and, unlike the other revolutionary organs, which are either published on "underground" presses in Russia or are smuggled in from other countries, this journal abstains from socialist propaganda, conducting its agitation along the lines of constitutional reform.

NOVELS VERSUS OTHER BOOKS

WHAT THE LIBRARIANS AND BOOKSELLERS SAY OF THE NATIONAL HUNGER FOR READING—NO FALLING OFF IN THE POPULAR DEMAND FOR NOVELS, AND AN INCREASED DEMAND FOR MORE SOLID BOOKS—THE CAUSES OF AN IMPROVEMENT IN LITERARY TASTE—A SUGGESTIVE INQUIRY

BY

CHURCHILL WILLIAMS

IN one of the big department-stores, in half an hour, I saw twenty-two persons select books from a table on which were shown the newest publications. Fourteen of them bought novels; two of them chose a well-known and costly biography; four, as many different nature-books; one, a standard history; and one, a volume on household economy. As two of these customers asked for novels and were induced by tactful suggestion to substitute books of another kind, they are eliminated from the count, which then stands: For fiction, fourteen; for books other than fiction, six. The saleswoman thought this was about representative of the daily sales at her store. My own guess would have favored fiction more strongly. But what I overheard said by the bookbuyers spoke for a decided friendliness for books which are not fiction; and with the idea of learning how general was this disposition, I asked fifteen of the largest booksellers in different parts of the country, and six of the big libraries, what was indicated on this score by their experience in the past two years. From the replies before me I infer:

First: That the demand for the novel shows no diminution.

Second: That the demand for books other than fiction is growing more rapidly than may be explained by the normal increase in the whole number of readers.

These deductions are interesting evidence in the case of Novel *versus* its Critics. For some time, we have been hearing of an intellectual degeneracy, resultant from indiscriminate novel-reading, and, more lately, of the waning of the novel, together with prophecies of what was to succeed it in popular favor. It seems that there is little to support such views. It was only the other day that novel-readers were almost a class by themselves; today, nearly everybody reads novels. And if this condition has been brought about by methods which of themselves insure no stability for the demand which they have created, it is also true that sales of novels in the

aggregate continue to grow. At least, so booksellers say, and the observations of librarians give the statement indorsement. It is true that, in the number of titles which the writers of fiction yearly have added to the lists in the past eight or ten years, there has been no material increase—new fiction in 1903 constituting, as in 1896, roughly one-fourth of all the books issued in that year. But these figures are somewhat misleading. What was thought to be an excellent sale for a novel in 1896 would be regarded as moderate today, and this in spite of the fact that we had no phenomenal sales in 1904 such as marked certain seasons previous. To what is this to be attributed—this widening demand for fiction? No one will assert that it is referable solely to the increase in population. It must therefore be that, by agencies of one kind or another, we are making book-readers of people who did not read books before, and at a rate which makes the character and influences of the books which these people read of considerable importance.

Whether the novel is or is not a form of literary expression of which a fine regard for our intellectual future should make us distrustful, I leave to others to discuss. But that any direct effort to suppress, or even to regulate, the reading of novels would be effective, is doubtful. The novel has been in evidence for some years, and is more than ever in evidence today. The list of the "six best-selling books," however misleading in the relative positions which it gives to certain titles at times, proves that the great body of readers buy more novels than books of any other kind, or perhaps of all other kinds. And those whose livelihood depends upon judging such things aright, say that the novel will continue to be first in favor in the years to come. Of the fifteen booksellers to whom I applied, but two had noticed, in the past twenty-four months, any decrease in the aggregate sales of fiction. One of them thought that "people were beginning to tire of fiction, owing to the quantity of inferior work which had been offered," and expressed the opinion that "no more serious misfortune could fall upon us than the acquirement of the novel-reading habit, which, persisted in, weakened the mind and made intellectual development impossible." A second bookseller believed that whatever decrease in the sales of fiction there had been was due to circumstances which would soon disappear. A third was doubtful whether there had been any appreciable diminution in the sales of novels. Twelve booksellers, who had noticed a continued large demand for fiction, were almost a unit in declaring that the future popularity of the novel was assured. One of the largest jobbers of books declared that the increase in sales of all kinds of fiction in the past two years had been unprecedented, and had "followed, logically, the enormous extension of advertising." The head of the book-department in a department-store had observed, recently, "a decided increase in the requests for standard novels—Bulwer, Dickens, and Thackeray—as well as a general inclination to be more critical with novels by writers of the day; but no falling off in the sales of fiction as a whole."

Of the remaining booksellers, one complained of the unsatisfactory character of the novels of the past two years, which was responsible for less of an increase in sales than there would have been otherwise. One of the most capable and experienced of all the trade representatives declared: "The demand for fiction is only in its beginning in this country. Every one enjoys a good tale, and the novel of today must do for us what the wandering story-teller did for his audiences in ages past. The form of the novel may be modified, the choice of subject and its treatment be influenced by passing fancies or by some social or spiritual revolution; the novel's real purpose — entertainment — will never change; and for entertainment we are always ready. There are certain first principles to which the world will always respond; and these are the springs of action in every good novel." This seems to me to hit the nail squarely.

The world-old appetite for "a story" has been stimulated in the seventy-odd million people of this country; but comparatively few of them have had the opportunity to satisfy it. In time, the book-publisher and the bookseller will give them this opportunity. When two periodicals sell, every month, approximately 1,000,000 copies each, and two others, weekly, about 600,000 copies each—fiction, by the statement of the editors, being an essential feature of the publications—it would appear that all that prevents a sale for novels beside which present sales would be small

indeed is a present lack of mastery of the methods of circulation.

Nor is this looking so far ahead as to be without relation to immediate conditions. The novel is surely the greatest of all makers of book-readers because its appeal is first to the imagination, and its comprehension imposes the smallest tax upon the mental faculties, so that it reaches the largest number. Nor is its reading less tonic than the reading of other books, though on this point I will confess that the observation of librarians —who, perhaps, have the best chance to inform themselves—does not throw much light. Of the six to whom I put the question, "Do any considerable number of those who begin with the reading of fiction develop an appetite for reading of other kinds of books?" but three gave a positive answer, and one of these answered in the negative. None-the-less, I entirely agree with the opinion of the head of one of the largest and most wisely conducted of all the public libraries in this country, who said to me: "Those who notice what books are taken out, especially by young persons, will quickly see an abandonment of the Roe and Holmes class of book. I would dare to say that even these are better than nothing, but the steady improvement in the character of the reading, begun on this plane, is a thing which must impress itself upon every close watcher of the volumes selected by all users of free libraries."

But whether or not agreement be given to this statement, it is undeniable that upon the character of fiction depends a good deal more than its immediate effect on the reader's mind. When from forty to sixty-five per cent. of all books taken from the libraries are novels, their influence is a thing to be reckoned with. Recent developments should make this influence more positively beneficial. The reaction against the omnivorous reading of fiction, which, until recently, made a commercial possibility of almost anything bearing the name novel, must bring about an improvement in our fiction. The fraud of spurious advertising is being discovered, and that you cannot fool all the people all the time is again exemplified by a distrust on the part of bookbuyers, which makes it steadily more difficult to sell a novel from an untried hand, or even a novel by a well-known author, if his preceding book has not been liked—be the allurements of the publisher's announcements never so enticing and generous. Readers insist on an entertaining story, though they accept faulty workmanship because most of them know no better. So the career of more than one novel, heralded as a "big seller," is cut ignominiously short, and so also some meritorious work, which was modestly announced, has been helped to popular recognition. But the most pronounced effect of this awakening on the part of readers has been the exercise, by those responsible for the writing and printing of books, of greater conscience in the performance of their duties. The preservation of artistic values, so far as they relate to the novel for the ten-thousand-and-one, is not, nor is likely to be, the determining factor in the choice of what shall be published; but there is evident a tendency to give these values larger consideration—larger consideration, perhaps, than they have had at any time since an almost accidental, but extraordinary, success with a novel, some years back, opened the eyes of publishers to the vast commercial opportunity before them. And, for this much, we should be thankful.

Whether the experience which we have had with novels, in the time since then, is to be paralleled in the next few years with books other than fiction is a question, though the nature of these other books would appear to impose certain limitations upon any tendency to such extravagance. But if, as booksellers believe, the demand for books other than fiction is growing more rapidly than is explained by a normal increase in the whole number of readers, the temptation will be strong to take every advantage, legitimate and otherwise, of the chance to achieve big circulations. And, in such event, we are likely to have a great serving-up of books on history, biography, economics, sociology, and nature, all seasoned and garnished for the delectation of literary palates, which, being slow to distinguish between the imitation and the real, will rebel only when gorging enforces a diet. There are signs of something like this ahead in the eagerness with which all manner and kinds of books have recently been tumbled upon the market in response to the aroused interest in the literature of nature; and, while the protests against the outpouring which have come from a few devoted students of nature seem

a little strained, the protests are not without reason. The very fact that an increased call for "serious" books is indicative of a more healthy mental digestion, and of a more profitable use of our robust literary capacities, should make us jealous of our administration. The abuse of an opportunity to educate people by widely circulating books which play with the great truths and with the facts of history would be even a greater misfortune than to give no encouragement to reading in this field. On the other hand, it should not be forgotten that, in every department of knowledge, there must be a primer as well as an advanced text-book, if it may be called that; and the volumes of history, biography and the like, which are to be put into the hands of thousands of beginners, will accomplish little if they fail to bring their subjects within the grasp of the reader, and fall equally short of their aim if they do not present what they have to tell in a form to engage attention.

It is only just to say that some booksellers allot to the work of the educator and of the librarian a generous share of whatever credit is due to any individual agency for what has been done to make popular books other than fiction. One dealer says, "The improvement of taste in popular reading, as shown by the titles called for in my store, is largely the result of improved educational methods in private and public schools." Another, "It seems to me that widening educational influences, together with what the magazines are doing to popularize subjects of serious interest, are responsible." A third thinks that the libraries have done more than any other single agency "to open people's eyes to the chance to broaden their education without going to advanced schools or colleges." Still another says, "The literary and scientific clubs and societies, with their lectures and discussions on topics of the day, start people, most often, to asking for serious books, and it is the fresher and less formal style of writing in which many of these books are written which makes it easy to keep on reading them." A fifth bookseller thinks that the wide circulation of newspapers, which now print much that the magazines formerly printed exclusively, has something to do with it. A sixth man contents himself with the explanation, "growing intelligence, due to the spread of education and more active interest in public affairs." The majority of booksellers answer, in effect, "because books other than fiction are made, both inside and out, more attractive to the great body of readers than they used to be."

Nature books have received the largest share of this increased popular demand. At some libraries, the percentage of calls for such books runs as high as eight per cent. of calls for all kinds of books, though at most of them it is considerably lower. Of fifteen booksellers, nine unhesitatingly say that they have more requests for books upon the various phases of outdoor life and study than for anything else, fiction, of course, excepted. Three dealers have noticed a special demand for biography, and one of them pertinently remarks that "when a single store can sell, at retail, in a few weeks, 100 copies of Morley's Life of Gladstone, at $10 a copy, it looks as if the general reader was a little bit more interested in the higher class of literature than he formerly was." Poetry, which I thought had gained a few readers, is, by unanimous report, declared to be practically unsalable, except such verse as comes from the hands of three or four well-known writers, one dealer emphasizing this statement with the observation that "If there is anything deader than poetry, it has never been on my shelves in thirty years of dusting a good many corpses"; another remarking, "People have not the time to read poetry, unless it goes straight to the mark, like a bullet, and very little of it does that."

One interesting point—especially interesting in view of the frequent assertion that women constitute a large proportion of the readers of fiction—is, to all intents and purposes, left unanswered by booksellers and librarians. Men, women, and children, in about equal numbers, it would seem, call for the books which are not fiction; or, at least, where, in one case, the greatest interest in such books is manifested by women, in another it is by men, and in a third, a decided growth of interest in this direction has been noticed among young people. The significant statement is made by one librarian that, so far as his experience goes, it is evident that "the middle-class of workingmen are posting themselves upon their lines of work, by reading much more than they ever did before, and are showing a larger appreciation of the standard authors."

A RAILROAD ADOPTING ELECTRICITY

THE superseding of steam-power by electricity for land transportation has reached the point of practicability, for the New York Central & Hudson River Railroad has begun the electrification of its entire suburban service out of New York. This, together with the installation of electric locomotives for hauling through trains into the city from a point thirty-five miles outside, marks the most important epoch, so far, in the use of electric operative power.

Instead of waiting half an hour for trains, suburbanites will be able to board an electric train every ten minutes, and instead of being accommodated with but very few stops, they may get off or on the cars at almost any station. Instead of choking with smoke and cinders in the Park Avenue trains, they will be able to sit with windows open, with no fear of discomfort. The electric locomotives will afford equal freedom from discomfort for passengers on through trains. Thirty-five miles from the city, the panting steam, dirt-producing locomotive will be replaced by a clean electric locomotive, and the train will whirl into the city at the rate of sixty miles an hour.

At Port Morris and at Yonkers, the central power-stations are being built to operate the suburban service. Turbine generators, 7,500 horse-power each, will be installed. The use of turbines, instead of reciprocating engines, is based on the opinion of the commission of engineers in charge that they cost less, require less space, and generate more power. The central power-stations will be connected, so that one may do the work of the other in case of accident.

The distribution of power will be made by a third rail, which will be provided with a protecting shield against accident from contact and from sleet. In the crowded railway-yards, the third rail will be placed overhead. There will be eight sub-charging stations.

New fire-proof cars will replace the coaches now in service. Each car will be equipped with motors, and will be able to run independently of other cars; yet, coupled, they will all be operated from the first car. In essence and operation they will be like the elevated or subway trains.

The electrification of the suburban service makes it necessary to construct a new terminal in New York City, and work on this is under way. It will be underground, immediately behind the Grand Central Station. Here trains will whizz back and forth without the aid of panting and smoking steam-engines. The depressed station will reclaim all the yard-space from Forty-fifth to Fifty-sixth streets now covered by tracks, and will permit the streets, now cut off, to be continued. This underground terminal will be connected with the rapid-transit subway, and thus will add to the links of underground railway communication in New York.

But, fully as interesting as the electrification of the suburban service, is the installation of electric locomotives. At the Schenectady Electric Works, the first of these engines are being built. The total weight of each engine will be eighty-five tons. The heaviest Atlantic-type steam-locomotive in service on the New York Central weighs, with tender, 150 tons. Thus, for every pound of effective draw-bar pull, the steam-locomotive weighs 12.2 pounds while the electric locomotive weighs only 5.2 pounds. This gives the motor twenty-five per cent. more weight available for traction than the steam-driven engine. There is less dead-weight on the wheels, too. The electric locomotives will be cast-steel, thirty-two feet long, with drive-wheels forty-four inches in diameter. The driving-power of the locomotive will be furnished by four 600-volt motors, each 550 horse-power. This will make the average horse-power 2,200. The average horse-power of the steam-locomotive is 1,500. This large horse-power is necessary for the reason that these electric locomotives will be required to haul express trains nearly a quarter of a mile in length and weighing 800 tons. It is impossible to equip with motors through passenger-cars, coming from half a dozen different roads in the West or South. Thus,

all the hauling-power must rest with the electric locomotives. These locomotives will have a maximum speed of seventy-five miles an hour. Thirty have been ordered, with the understanding that the number will be increased to fifty.

Electric switching-apparatus will be installed thirty miles from New York, so that the substitution of electric for steam locomotives may be expeditiously made.

The New York Central Railroad is building six miles of experimental track between Schenectady and Hoffman's, upon which all electrical road-equipment will be tested. This track will be a model of the construction intended for the New York district.

The significance of the elaborate introduction of electricity is simply this: Wherever it is possible, a great railroad system is replacing steam-power with electricity. And what is happening with the New York Central is about to happen with other roads.

HOW A STOREKEEPER BECAME A BANKER

IN one of the towns in Alaska that command the entrance to the gold-fields is a prosperous merchant and banker whose success was founded on an interesting combination of circumstances and enterprise. Before the rush for gold, he had been sent by a firm of San Francisco merchants to open a little branch store in a town not far from Skagway and not far from Juneau—it is not permitted to give its name here.

By the first year of the Klondike fever he had built up a snug business for his employers. They sent up stock—everything from pins to pork—in one of their own steamers, and took back the profits in the captain's safe.

When the army of prospectors began to pour in on their way to the gold lands, the business became still more thriving. Trade multiplied, and prices went up. All this prosperity, of course, filled the pockets of the owners down in San Francisco, and not those of their agent, who worked on salary. His chance came later, and was almost forced upon him.

After a time, men began to come down with gold. Some of them were satisfied and went home. Others returned to the Klondike. Some were going to the States for a little rest and celebration. The problem of what to do with so much raw gold was perplexing to men who had never in their lives had occasion to step into a city bank. There were no banks in this new country, and many men found their riches a yellow elephant on their hands. Shipments to the States were possible and safe only by certain steamers. If a man were bound for San Francisco only for a spree, he did not want to take all his gold with him, but needed to leave some behind for the return, and against bad luck on the next prospecting trip.

At first, the saloon-keepers were the amateur bankers. They were popular, usually trustworthy, and, of all people in the town, most sure to continue in business. Next, the agent of the general store was asked to fill his safe, and after a while it occurred to some of the home-bound men to ask him for orders on the central store in Frisco. In this way he was soon led into a banking business without at first realizing it himself.

But the banking business got too large. The firm could not be burdened with too much of this gratuitous labor. The agent went home with the steamer on its next trip, visited some friends in Frisco, got together $50,000, and, returning to Alaska, opened a bank. The discount was of course at high rates, but was not burdensome to a miner who came down with a chest of gold-dust and some in his pockets to burn. That "banker malgré lui" got rich as fast as if he had struck one of the best mines in the Yukon. He secured regular correspondents among the bankers of the large cities in the United States and Canada, took safe and scientific means of shipping gold to San Francisco and Seattle, built deposit vaults—in short, founded a modern bank on the edge of the gold-fields.

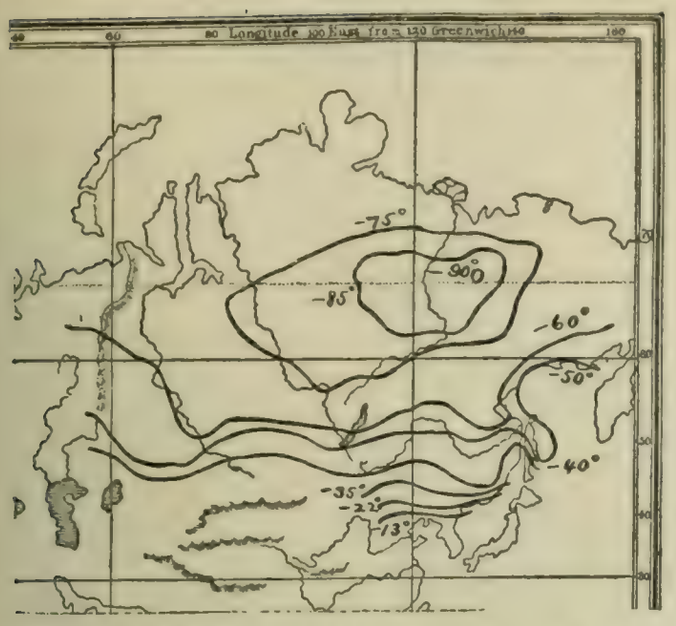
Not content with getting rich one way, he established general-supply stores in several towns, and thus made other channels through which part of the continuous stream of riches from the Yukon could be deflected into his pockets at its very source.

THE EFFECT OF CLIMATE ON THE WAR

AS the Russian-Japanese War continues, the effects of topographical and climatic conditions become more and more apparent. If the war proves to be of long duration, they may become of very great moment. For, if the Japanese keep pushing the Russians back along the railway, their operations will have to be carried on in a broken country, in which the climatic conditions are far different from what they are in Korea.

With the climate of Manchuria and Siberia the Russians are, of course, familiar. The Trans-Siberian Railroad parallels the old trade-route from East to West which has been traversed for nearly two centuries, and the Russians have kept records of temperature and weather in the regions along the route for 150 years.

Until the establishment of the new German



ABSOLUTE MINIMUM TEMPERATURES BELOW ZERO IN EASTERN ASIA

Lines of equal minimum temperatures

observatory at Potsdam, the Russian meteorological observatory at Pavlovsk was the finest and best equipped in the world. Indeed, the Russian Government have made a systematic meteorological survey of the whole Russian Empire, with a thoroughness that is the admiration of the world's meteorologists. It is a question, of course, how well acquainted the Japanese are with the conditions in northern Manchuria, and how well prepared they are to meet them.

In January, the average temperature at Port Arthur is about twenty-five degrees above zero. But, with an advance northward, there is a very marked decrease of average temperature—amounting to four degrees for every degree of latitude. Where the railroad crosses the Amur, the average temperature for January is eighteen degrees below zero. It would be a bold nation that would send an army into such Arctic regions, especially since temperatures may fall as low as fifty-eight degrees below zero.

The average daily temperatures remain below freezing for about 180 days, or half the year, throughout the line of the Trans-Siberian railroad; in the central Amur region the number of freezing days reaches 190.

Summer temperatures in the war zone run as high as 104 degrees at midday, though the nights are cool. The maximum of rainfall comes in the summer—in Manchuria, in August and September. Heat and rain interfere with the progress of an army nearly as much as cold. Throughout the year, then, the climate fights on the Russian side, for it is the Japanese who must do the pressing onward.

SWIMMING THE BEST EXERCISE

A SERIES of experiments, conducted by Dr. Philip B. Hawk, demonstrator of physiological chemistry at the University of Pennsylvania, has proved that swimming is the most beneficial exercise. He visited the dressing-rooms at the athletic field, and immediately before each athlete left for his exercise drew blood from him by means of the regularly prepared sterile needle. Then, when the athlete returned to the dressing-room, after running, jumping, pole-vaulting, or engaging in water-polo, the needle would again be brought into play, and a second sample of blood drawn. Analysis of the blood, to discover how far each exercise increased the number of red corpuscles, showed that water-polo and other forms of swimming resulted in the largest increase. The swimming exercises were thus shown to be the most beneficial, for the greater the number of red corpuscles the richer is the blood. Swimming resulted in an average increase of twenty-one per cent. as against seventeen per cent. for the next best exercise —short-distance running.

After one of these examinations, during the athletic season, while the men were in the pink of condition and exerting themselves to the utmost, Dr. Hawk found the following results, in round numbers, from the count of the blood corpuscles: Percentage of gain after the 100-yard dash, 25; 120-yard hurdles, 21.5; half-mile run, 18; mile run, 14; two-mile run, 9; broad jump, six jumps, 15; three-minute water-polo game, 27.

The blood of the average college-athlete contains 5,600,000 red corpuscles per cubic millimetre, while that of the average man contains but from 4,500,000 to 5,000,000. Exercise increases the number of these corpuscles by bringing into circulation a great number of cells that ordinarily lie inactive. In addition to showing that swimming is the best means of awakening these corpuscles, Dr. Hawk's experiments indicated that, in all forms of exercise, the briefer efforts produce better results than the longer efforts. Running 100 yards caused an increase of twenty-five per cent. in the number of red corpuscles, while a two-mile run resulted in an increase of but nine per cent. Short dashes on a bicycle produced an increase of sixteen per cent.; longer bicycle rides of but ten per cent.

MILL KITCHENS WHERE FLOUR IS TESTED

IN the heart of Minneapolis, not far from the business section, are the famous flour-mills whose reputation is world-wide. From hundreds of elevators throughout the

Red River Valley of the North and the surrounding districts wheat is shipped to these huge mills, and from them flour is sent to all parts of the earth. The processes through which the wheat goes in the mills have become highly scientific.

After the wheat has been automatically unloaded from the cars, it is passed through separators to remove the wild buckwheat, straw, and foreign seeds. Then follow a scouring and tempering, that the cuticle of the grain may be toughened, so that the bran can be kept in large flakes during the breaking process. Then it goes to the laboratory for testing. If it passes the tests, it is ground by the latest and most approved devices. Six sets of breakers are used before the material is put through purifiers, while dust and dirt collectors are ever busy catching any impure matter. In all, there are more than 150 separations made in handling the wheat until the flour is made.

Much of the success of these mills depends on the complete testing system. Not only are products from the mills themselves tested, but various qualities of wheat from different sections of the country are examined to determine the effect of drouth and frost. During the making of flour, samples are sent every hour to the testing department, where they are put into glass bottles. If, by chance, a purchaser, later, should find anything wrong with a barrel of flour, the chemist, by obtaining the number on the package, could at once compare the flour returned to him with that in a bottle of the identical run of flour; for all samples are kept at least a year. The comparison would show whether the spoiled flour really left the mills in good condition.

If a car-lot does not promise to make flour of good color and nutritive value, two or three kinds are blended. Experiments have been conducted for years to find the right mixtures, and tests of samples are constantly made to secure data for mixing. One of the processes is to pass all samples of wheat through a tiny mill, complete in every particular.

In the gluten test, each sample of wheat is mixed with water into a tiny ball, which is kept under water until all the starch is absorbed. The weight of the gluten then remaining determines the exact amount in the wheat. There is a queer process, called the doughing test, where flour and water are mixed into pats, which are placed on glass. By frequent turning, and noting the changes in the color, an expert determines the quality of each pat. Twice a day the flour in the process of making is analyzed.

The most interesting tests, however, are in the kitchen, where samples of each milling of flour are made into loaves of bread and baked. Much of the poor bread in private homes is due to the cook's guessing at the proportions of the ingredients; here the flour is accurately weighed, and made into bread, under perfect chemical conditions. Finally, it is baked in electric ovens, where the heat can be measured by a thermometer, and where the bread is constantly in view through glass doors. Each loaf is mixed separately, that no two kinds of flour may be used together. When finished, the loaves vary slightly because a different flour has been used for each loaf.

Early in the afternoon, the baked loaves are measured and cut in two for examination. The head millers turn the loaves this way and that, punch them to see if the air-cells are large or small, and examine them thoroughly. Then the loaves are arranged according to merit, and each is numbered and credited to the mill which produced it.

Flour-milling, like the other industrial processes of the age, has become an accurate science.

THE LARGEST STEAMSHIP

THE new steamship *Baltic* is the largest vessel that has ever been built. She is twenty feet longer than any other vessel now afloat, and her tonnage is 4,000 tons greater than the next biggest ship. She is larger than the *Philadelphia*, the *Etruria* and the *Germanic* put together. She has eight decks, the highest of which is sixty-eight feet above the water-line, and accommodations for more than 3,000 passengers and nearly 400 crew. Her cargo capacity is enormous, as she can carry more than 850,000 bushels of wheat, or the average crop of 425 farms of 160 acres each. Her capacity is larger than that of 1,500 freight-cars. She can carry 28,000 tons of freight, and, when she is loaded to her Plimsoll mark, displaces 40,740 tons of water. But this great capacity cannot be used, as, when fully loaded, she draws so much water that she cannot sail over the bar of New York harbor, and it is estimated that it will be about seven years before the government will have dredged the Gedney Channel so that she can be freighted to her full capacity. Electricity is used wherever possible, from automatic egg-boilers and forty gallon coffee-urns, to the signaling apparatus. On her first round-trip, her passengers and crew consumed 36,000 pounds of fresh beef, 1,200 dozens of eggs, forty tons of bread, and other things in similar proportion.

MARQUIS OYAMA AND HIS WIFE

Marquis Oyama is the Commander-in-Chief of all the Japanese armies in the field. His wife is a graduate of Vassar College

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The March of Events

MOST students of public opinion who study the political campaign without partisanship—with their personal preferences detached—expect Mr. Roosevelt to be elected. The larger facts that point toward such an expectation a month before the election are these:

Let us take the last presidential election as a starting-point. Then the Republican party was overwhelmingly the stronger. But it received the votes of a considerable number of Gold Democrats, most of whom—perhaps practically all—have returned to their party, and will vote for Mr. Parker. The starting-point in the calculation, then, is a very large Republican plurality, lessened by the return of the Gold Democrats to their old party.

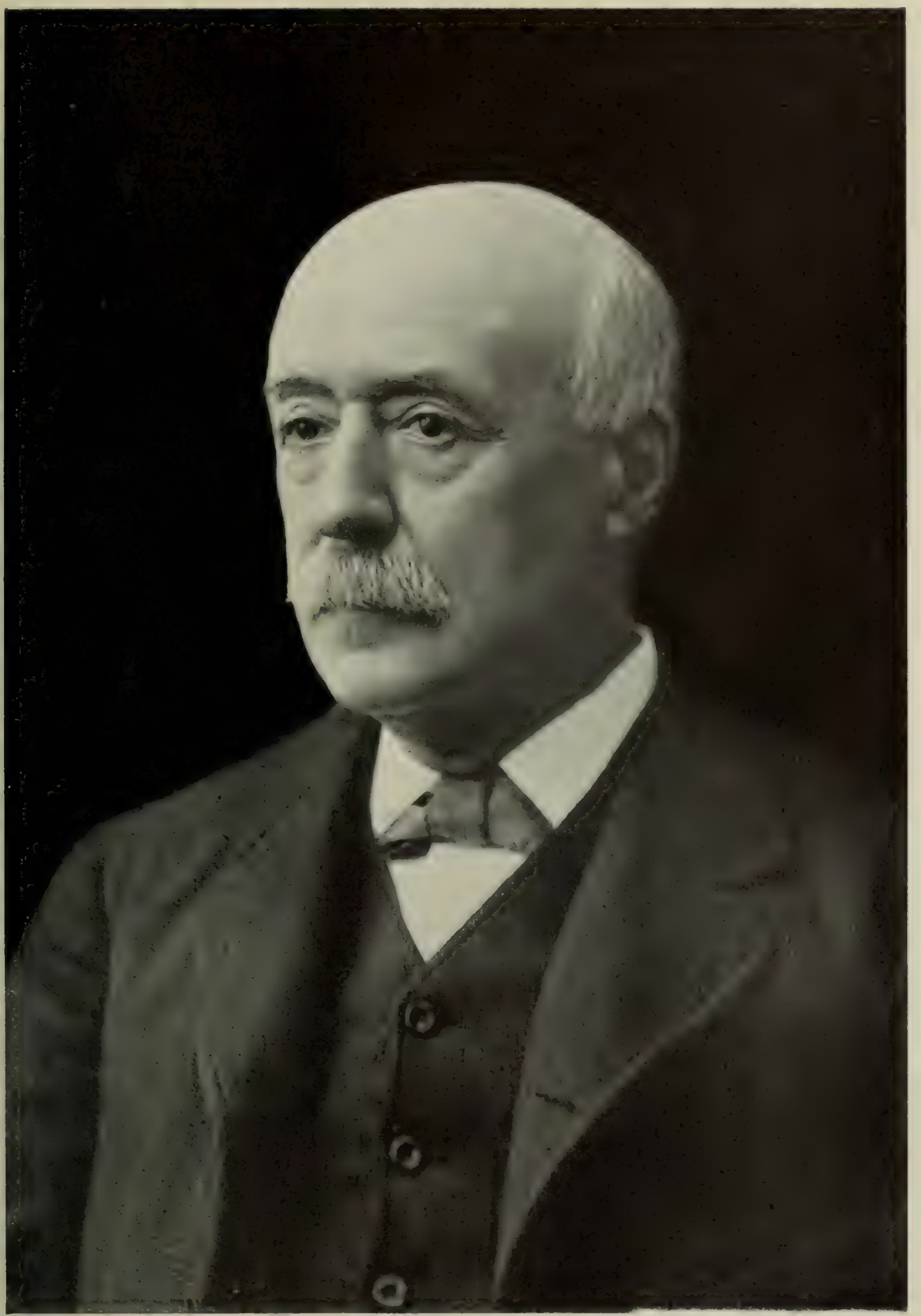
The Republicans still have the advantage; for the State and Congressional elections that have been held since 1900 have not shown Republican losses. There must, then, be a very large defection this year from the McKinley ranks to elect Mr. Parker. The Democrats started into the campaign with the burden on them of having to win many McKinley votes; for the working of merely normal forces will leave the Republicans in power. The defeat of the Democrats would be only a failure to overcome enormous odds against them. The defeat of the Republicans would be a definite and deliberate dislodgment of the party from power. It would be a casting-out of Mr. Roosevelt and what he stands for—an emphatic rebuke, indeed.

Now, what are the influences that may weaken this initial Republican hold on popular favor? So far as doctrines go, the tariff seems to be playing a small part. The Democrats can promise to the tariff reformers no change in it during the next presidential term; and Mr. Parker's confession of this inability to bring about any definite results made his speech of acceptance somewhat discouraging to the earnest reformers of the last Cleveland campaign. It had no bugle-call in it. He showed a lack of the inspiring leadership that Mr. Cleveland displayed in staking everything on this issue. The tariff-reduction movement has not grown strong or very earnest, as the campaign has gone on; and there is no evidence of a Republican defection on this score.

Emphasis has, in fact, been laid on a wholly different doctrine—"Law and Order," or "Imperialism." The Democratic argument most vehemently made is the argument to show that Mr. Roosevelt is a dangerous executive, and that the Constitution will suffer violence at his hands. This argument commends itself to a certain class of academic minds; but there is little evidence that the masses of the people are paying much heed to it. It is difficult to translate an argument about "constitutional tendencies" into popular speech. Mr. Roosevelt has been President

MR. AUGUST BELMONT

The President of the Rapid Transit Subway Construction Company, and of the Interborough Rapid Transit Company, which will operate the New York subway



Photographed by Pach Bros., Cambridge, Mass.

ALEXANDER AGASSIZ

Curator of the Natural History Museum at Harvard University. Recently elected President of the International Zoological Congress, at Bern, Switzerland

for three years. We have had no war within that time. The "spirit of militarism" is a mere phrase to the millions. There is no visible evidence of such a spirit. Under Mr. Roosevelt, our State Department has, by the acknowledgment of the whole world, been brilliantly conducted to the constant upbuilding of American influence abroad, and our relations with all other governments are friendly. Through the trying events in the Far East, we have been steered with extraordinary skill and success.

Moreover, the especial act of the President which is singled out for the severest criticism —the Panama incident—met public approval at the time. Many Democratic members of each branch of Congress strongly favored the treaty with Panama, and Southern opinion, in particular, approved of the President's action in securing the canal. Moreover, the millions of voters throughout the West and the Middle West show no signs of indignation because of the Panama incident, nor of fear of Mr. Roosevelt as a reckless executive. This Democratic argument appeals to a small class and seems academic and somewhat forced to the multitude. Elections are won by events, not by more or less impractical disquisitions.

Most of all, they are won by personalities; and, while the impress of Mr. Roosevelt's personality on the whole nation has been definite and strong, Mr. Parker seems even yet vague to the multitude. The note of leadership sounded in his telegram to the Democratic convention has not been followed by similarly clear-cut, practical statements. There has been an argumentative tone in his subsequent deliverances. He seems to the people of the whole nation an eminently respectable and able judge—a safe man for any position; but, so far, he has not shown positive qualities that commend him strongly to a party that must be aggressive. The Democrats are making a negative plea for him—less as a man strong in himself than as a man who will save the country from Mr. Roosevelt's "recklessness." It seems a tactical mistake thus to make their campaign almost wholly a campaign of opposition to Mr. Roosevelt, rather than a positive campaign for some great principle. Great battles of this kind are seldom won by mere criticism and opposition. A constructive and positive programme is necessary.

The best judgment that can be made a month before the election is that the Republicans will win it.

THE CONDUCT OF THE CAMPAIGN

THE Democratic managers have, unfortunately for their party, permitted the campaign to turn aside from larger and important subjects in two directions.

The only really vital subject that they have for effective, vote-winning discussion is tariff-reform. It was by taking up this large principle in earnest that the Democrats won their only national victories of recent times. Whether they could win again on this issue, nobody knows. But this is the only fundamental principle involved in this campaign. Yet there is not a Cleveland-like seriousness in dealing with it. Mr. Cleveland staked his political life on it. Mr. Parker discusses it judicially, and remarks that nothing practical could be done in any event for several years—true enough, but surely not inspiring to his followers.

The emphasis of the campaign has been shifted to two minor subjects. In the northern States, it is laid on "Imperialism"—an "issue" that the Democrats tried to take up four years ago, and were obliged to abandon; for the masses of the people of both parties are "Imperialists." Every election and every important vote in Congress has made this plain. The new turn given to this "failed" subject is personal criticism of Mr. Roosevelt as a violator of the constitution. Since Mr. Roosevelt is by far personally the most popular man in the North and West that we have had in public life since General Grant died, this criticism of his energetic temperament seems, from an independent point of view, to be winning votes for him; and, since every "unconstitutional" act for which he is criticised has, in some form, received the approval of Congress and the hearty support of his party, it does not seem likely to lessen the Republican vote.

The truth is—if you go among the people in the great middle-western and western States, you will find this out—the masses of the people, whether Democrats or Republicans, do not care whether we promise now to give the Filipinos independence at some indefinite time, or whether we refuse to make such a promise. The distinction seems to them to be the difference between tweedledum and

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SENATOR GEORGE F HOAR

(See "The March of Events")

NICHOLAS II., EMPEROR OF ALL THE RUSSIAS

(See page 5414)

tweedledee. The only thing they care about is that the affairs of the islands shall be decently managed; and, since their management has been a credit to the Administration, the more the subject is discussed, the less disposed the people will be to try a policy that shall in some vague way be new. The little handful of "Anti-Imperialists," men without a party, who have kept the subject alive, seem to have captured the Democratic campaign machinery.

A similar thing has happened also with reference to another "side issue." Mr. Roosevelt is described in much Democratic campaign literature as a man who will endanger the peace of the world. Emphasis is laid on his "Big Stick." One campaign document informs us that, in his "Life of Cromwell," he declares that, in great crises, it becomes necessary to override constitutions. It would be difficult to find any "Life of Cromwell" or of any other revolutionist that did not contain a similar blood-curdling statement.

Now, there is overwhelming evidence that the majority of the people of each party believe in a strong navy and a well-organized small army—in a word, in the "Big Stick," as a measure of safety. It looks, therefore, as if the Peace Society also had captured the Democratic campaign management.

Most excellent organizations of most excellent and eminent men are the Anti-Imperialists and the Peace Society; but the plain truth is, they are regarded as idealists and academic disputants by the mass of the people; and it is surely an odd thing that they should have captured the Democratic managers. The danger to the party is that the McKinley votes which they wish to win will not be moved in response to these idealistic appeals.

Meantime, the Republican campaign is conducted rather stolidly, and without great enthusiasm; but it runs along the main highway, and not into woods-roads. They are not star-gazing, either—these staunch upholders of protection, the old flag, and an appropriation. In a word, they seem to know their job better than their opponents.

A DULL AND FREE CONTEST

LOOKED at from any point of view, the campaign is commonplace. There is nothing heroic in it. There is nothing even exciting. A great people getting ready for the solemn act of choosing a chief magistrate for four years—the truth is, the Great People regard it with indifference, if not as a bore. The candidates for the presidency are both men of character and of safety. Neither threatens disaster. Whichever be elected, the tariff will remain unchanged, the trusts will probably fare as well under one as under the other, though, in this respect, Mr. Roosevelt has the advantage of a definite record in restraining them; our colonial policy cannot now suffer material modifications under either, whatever the "promisers" might promise. The personnel of the Government would be different under each; but the chief change that Mr. Parker could bring would be a change in our foreign relations; for, whoever should be Secretary of State under him, there would be danger of a falling off from the extraordinary efficiency of Mr. Hay's administration.

Yet even this does not touch the people intimately. They seem more or less indifferent except in the two or three most doubtful States. There is nothing anywhere to stir one to the heroic mood. When an orator here and there declares that "no election since the beginning of the Government was so important to our liberties," the people smile. Even the collectors of campaign funds are reported to be less successful than usual; for they cannot this year compel large subscriptions. Men and corporations may give what they will, and may help which side they will—there is no pressure of grave fear.

It has been a long time since financial men and the great corporations were left so free. There is no danger of commercial disaster in any event. A man of affairs may vote according to his doctrinal or traditional preference without danger to his business. There will be less money used, for there can be little financial compulsion. Men may hereafter look less to Washington for the regulation of trade and industry than they have hitherto looked. Let us hope so.

The people hardly know the active managers of the campaign. Mr. Taggart, the Democratic chairman, is a new man to the eastern States. Mr. Cortelyou has not hitherto been a political manager; and he is a quieter person than Mr. Hanna was. A new crew is on deck. Even Mr. Parker remains less well-known to the millions than any preceding candidate was. Fewer voters have seen him, perhaps, than saw any other Presidential candidate in our history.

Such a campaign gives the advantage of its inertia to the party that is in. If there be no very strong reason to change, men will "let well enough alone." The natural conservatism of the people is favorable to the Republicans. And the very dullness of the campaign has its compensations. The freer men are left from excitement to vote as they please, by so much the more surely will the election be the real voice of the people.

NOTEWORTHY CAMPAIGN SPEECHES

THE two most notable speeches of the early campaign on the Republican side were made by Mr. Elihu Root at the Republican convention and by Secretary Hay at the fiftieth anniversary of the Republican party at Jackson, Mich.; and these have become an important part of their party's campaign literature. Nor is there likely to be any better presentation of the party's platform and programme.

On the Democratic side, Mr. Edward M. Shepard's speech, at Bennington, Vt., on August 30th, is as comprehensive and as clear a statement of his party's contention as is likely to be made. As a dignified (and, in some passages, eloquent) explanation of the historic doctrines of the Democratic party, it ranks with the greatest speeches of the campaign. Mr. Shepard formulated a Democratic programme with greater clearness than any other man has done. What his speech lacked in warmth it made up in definiteness. His somewhat elaborate platform, in summary, follows:

(1) A return by the executive of the country to respect for law, national and international; a refusal by executive order and without warrant of law to open the treasury for pension or other largesses whether just before an election, as President Roosevelt has done, or at any other time.

(2) A refusal to meddle with the affairs of other nations except as it is necessary to protect our own rights; a withdrawal from the programme of menace and overlordship to be exercised in behalf of European nations against the republics to the south of us.

(3) A sincere and persistent effort to reform the tariff, and especially to abolish or, to the uttermost practicable, reduce those duties the plain effect of which is to create monopolies, and is not, as pretended, to extend or diversify American industry, but rather to stifle its freedom.

(4) A return to public economy.

(5) A resolute investigation of the executive department.

(6) The grant of independence to the Philippine people.

(7) A dissolution of the partnership between the great corporations of the country and the United States Government, a partnership most unworthily illustrated by the transfer of Mr. Cortelyou from the head of the department in supervision of the corporations to the chairmanship of a national committee which is in large part dependent upon those very corporations for its pecuniary support.

(8) A refusal of a subsidy to the shipping interest or to any other interest.

(9) A refusal to reopen the Negro question, and thus to interrupt and well-nigh frustrate the high-minded and skilful work being done by educational and industrial leaders and the encouraging progress they are making toward a solution of the unique and tremendous difficulty incident to the presence together at the South of two widely differing races.

THE UNFORTUNATE SOLIDITY OF POLITICAL SECTIONS

MANY Southern campaign speakers address Northern audiences — as is proper; for it is a wholesome thing for the great sections of the country to exchange ideas, to exchange orators, to exchange points of view. But Northern orators do not go South. True, the Democrats will receive the Southern vote in any event. No Northern Democrat, then, need go there; and the Republicans have no chance, and they, too, see no need to go. Both parties thus neglect this great section of our country in the national campaign, and it is left by the political managers in its isolation and solidity. If a national campaign be an educational force, the South gets no benefit from it.

Left thus without national discussion, Southern orators and journals continue to harp on the Negro. Yet there is really no Negro question in politics there. In many of the States, the black man is practically disfranchised by law. In all, he is powerless.

This national political neglect of the South is regrettable for other and higher reasons than merely partisan political reasons. Partisan bearings wholly apart—for we are discussing the subject from a far wider point of view—it is unfortunate that any group of States should continue to be stolidly and hopelessly bound to one party. Maine, Vermont, and New Hampshire in New England are thus in the same plight as the Southern States; for they are hopelessly Republican. But the Democrats make efforts there as the Republicans do not in the South. From a com-

mercial point of view—merely as an advertisement of the community—the winning of any important Southern State by the Republicans would be a good investment, if the local officials were respectable. The intellectual result would be beneficial, too; for there would be a loosing of men's minds from the superstitions that overgrow all creeds when they are held without change generation after generation. Frank discussion is as good for the mind as a plowshare is for neglected fields. But, for such a change, we shall have to wait, apparently, many a year; and the educational value of the campaign will not be felt in the stolidly "safe" States.

THE BATTLE OF LIAOYANG

THE battle of Liaoyang will take a place in history among the greatest battles ever fought, because of the desperate bravery of the combatants, of the number of men engaged, and of its momentous consequences. We know yet very little about it, except that perhaps 400,000 men took part in it—by very much the largest number that ever went into a battle since the development of modern firearms; that the Japanese won a dearly purchased victory, which gave them practical control of southern Manchuria, and probably marks the climax of the war; and that, whatever turn the war may take, the Japanese have won what they went to war for.

The desperate nature of the long battle is shown by such incidents as these that found their way into the meagre despatches. More than once a Japanese column whose ammunition was exhausted fixed their bayonets and charged on the enemy; once, when a column of Russians were making a charge, the soldiers fell asleep, so exhausted were they; and the number of killed and wounded was so great that it seriously impeded the march of the Japanese army that followed the retreating Russians.

The feat of the Japanese armies in winning a victory over the Russians on ground of their own choosing, of flanking them, of outfighting them in every way, and especially of following them on the retreat after so many days and nights of continuous hard fighting—this is one of the most remarkable achievements in all military history.

The consequence of the battle will be—there can be little doubt about this—that Russia will have to seek access to the sea somewhere else than in Manchuria. The decisive victory of the Japanese seems to make this much certain. It was one of the great history-making battles of the world.

THE EASTERN WAR AND WORLD POLITICS

WHENEVER the war end, or however it end, Russia has so shrunk in the fear in which she was held that she is likely now to undergo diplomatic defeats almost as humiliating as her military defeats. German influence in Europe will rise, and Germany will devote her energies still more to the building up of her navy. Naturally, in the course of time, the English-Japanese alliance will be renewed in some form that shall firmly link British interests with Japanese. And the relations between England and France are now so friendly that the Franco-Russian alliance will probably play a small part in the future. Almost every international bargain henceforth will be made with less attention to Russia than she has received for a generation or two.

Yet, while the power of Russia has thus shrunk in the fears of the rest of the world, the Russian ruling class itself will hardly confess such a loss of prestige. The Russian people will probably not even know that they have been defeated. Every step in General Kuropatkin's retreat has been explained to them as a part of his original plan; the unexpected success of the Japanese is explained by the secret help of England or of the United States. This year's fighting, moreover, was merely preliminary—to wear out the Japanese before a real Russian effort should be made.

Then, too, a successor to the Tsar has been born. His prayers thus answered; he is sure of divine guidance; and he has an additional reason to hold steadfast his autocratic power as the representative of the Almighty in the guidance of orthodox Russia. Thus national pride, national ignorance, superstition, piety, and the apparently securer hold that the Tsar has on his throne, all tend to make Russia more arrogant just when all the world regards her with less fear. Add to these forces the danger of internal violence, and we begin to have some measure of the possible general effect on Europe of the rise of Japan.

And, as the London *Spectator* lately reminded its readers, the conception of Japan as a "little" empire has a strange persistence outside as well as inside Russia. Most of our

maps of Asia are drawn to a small scale, and, on such maps, the Japanese archipelago fills little space. But she is larger than England and more populous. She has 6,000,000 more people than France. She sent six armies oversea within six months, every one of which was as big as either army that met at Waterloo. She has sent to Manchuria twice as many soldiers in six months as England sent to South Africa in two years. The size of these armies and the qualities shown in the field and on the sea and in diplomacy and in finance are the same qualities that make a substantial and well-knit nation in peace. When, therefore, diplomatists succeed soldiers in the struggle, the persistent notion of the littleness of Japan will have disappeared from other minds if not from the Russian mind. Russia will be dealt with as a power that has waned—temporarily, at least—and Japan as a power that has risen to a place among the great nations of the world.

Thus, though the wider influence of the war is yet hardly visible, world politics will be a very different game from the game that European statesmen played before Japan proved her power in the present war.

PORT ARTHUR AND OTHER GREAT SIEGES

THE siege of Port Arthur will take its place as one of the great historical sieges. The attack on it began with the first Japanese naval action in the second week of February, and on May 13th it was shut off completely from the world by an army larger than any used in a siege of a similar kind since the fall of Sebastopol in 1855. This siege is noteworthy not only because of the numbers engaged in it, but because it is the first siege of a thoroughly modern fortress equipped, armed, and built by the very best modern engineering skill. It is the first time that military experts have had a chance to observe the usefulness of the more modern defences that have been built about the great capitals and harbors, under the actual conditions of a siege.

In the Boer War there were three great sieges, but they are not to be compared to the siege of Port Arthur in importance. Ladysmith, Mafeking, and Kimberley were small towns with unimportant defences, garrisoned by handfuls of troops, and besieged by correspondingly small bodies of men; and they were all relieved by bodies of troops serving under the same flag. Ladysmith, however, which had the shortest of the three sieges, was cut off for 118 days. In the Franco-Prussian War, Paris held out for 132 days, but it was starved out, and not taken by assault. In the same war, Metz held out against the Prussians for seventy days. In the war between Russia and Turkey, in 1877, Osman Pasha defended Plevna for ninety-four days. In our Civil War, Vicksburg was the most important siege, but it lasted only seventy-nine days. The greatest preceding siege of modern times was another Russian one, when the allied French, English, Italian, and Turkish troops took eleven months, in 1854 and 1855, to make Menschikof surrender at Sebastopol. The defences were so good that they bought the enduring fame of Todleben, the engineer who constructed them. In the Napoleonic wars there were few long sieges, though, in 1779, the French and Spanish troops besieged Gibraltar until they got tired and stopped, in 1783. A little before that time, England lost one of the shortest but most important sieges in her history at Yorktown, which was able to hold out only twenty days.

But in none of these did the besieged have the advantage of modern engineering skill and of modern explosives, nor the besieging army the advantage of modern long-range guns. When the whole story of the siege of Port Arthur is told, the world will hear one of the most thrilling experiences in all history—horrible, too; and military engineers will gain an enormous amount of knowledge about fortifications under modern conditions, which they have hitherto had to construct mainly by theory.

THE EMPEROR OF JAPAN

QUITE as little is known about the Emperor of Japan as about his generals. Yet he is perhaps the most fortunate and revered ruler in the world; and, in the world-history of our time, he will have a conspicuous chapter. When the central power was restored to the throne, nearly forty years ago, the Emperor, Mutsuhito, was in his minority. He had the power of an absolute monarch in theory, and he might have had it in practice. But, in the series of revolutionary changes that followed, he showed a progressive and unselfish spirit that has few parallels among kings. The feat of retaining the reverence of his people (they regard him as of divine descent, and he

is held in far greater reverence than any European monarch), and, at the same time, of changing the government from an absolute to a constitutional monarchy, was an extraordinary performance. Before the people of most other monarchical nations won any degree of free government, they were obliged to deal harshly with their kings.

The change to a constitutional government not only might have encountered the opposition of the man who represents the oldest dynasty in the world, but it did encounter at every turn the serious opposition of parties led by powerful nobles. It was a change parallel in many respects to the slow changes that required centuries of conflicts and many wars in most European countries; yet it has come in Japan within a single reign. The Emperor will be only fifty-two years old next month, and his especial contribution to freedom has been the wise use of his power as a reconciling force. The political history of modern Japan is made up in large measure of the reconciliation of different factions and parties, at every turn of events, which the Emperor has brought about. Only an unselfish monarch of great personal ability could have succeeded so well at such a task.

He is a man of industry and of method. Although accessible to all who have serious business with him, he has, since the war began, lived in semi-seclusion, having hardly left the grounds of his palace. But he is said to read every despatch from the war; he receives and decorates soldiers who have done heroic deeds; every regiment that went forth was reviewed by him, and received its colors from his hands; he receives his ministers; he presides at councils of war; he gives audience to nurses and surgeons; a large part of his personal income goes to hospitals —he is the real head of the nation in activity, in sympathy, and in patriotism. All accounts of him represent him as a gentle man, methodical and efficient, and devoted to the building up of his people. So far is he from being a figure-head that much of the success of modern Japanese political development is said to be due to his personal qualities. Yet such infrequent reference is made to him in the provincial literature of all the western world that we have hardly realized that he is among the very foremost rulers of modern times, and a man who will probably take a large place in the history of our period.

THE JAPANESE COMMANDERS

A PART of the diet of every western schoolboy has been the personal and military history of great soldiers, from Alexander to Von Moltke, and no other biographical literature has been so popular. It was a new sensation, then, to read scrappy and unsatisfying despatches about a battle in which probably more men were really engaged than ever before fought on a single field, and about a siege that was more stubbornly conducted than almost any other in all military history. These great military performances, which rank with the deeds of Alexander, Hannibal, Cæsar, Napoleon, Grant, and Von Moltke, have shown that degree of precision and skill and forehandedness on the part of the Japanese that we have been accustomed to call "genius."

Yet they have been done almost impersonally. They are the result less of brilliant individual work than of perfect coöperation and perfect preparation. Not one man in a thousand in the western world knows the records, or more than the mere names, of the great Japanese commanders. We read brief despatches about Generals Kuroki, Nodzu, and Oku, and Field Marshal Oyama, with no clear notion of their personalities. We have hardly heard even the name of the man who is said to be the real military genius of the war, if there be any one man of such preëminence. The master of strategy who mapped out the whole campaign from the beginning is said to be Baron Kodama, the chief of staff to Field Marshal Oyama. It is he who, in a plain office in Tokio, filled with maps and the reports of hundreds of engineers and spies who had charted and described every mile of territory where the Japanese armies have marched, fought the war over many times in advance. He is said to have had more accurate information of the country and of the movements and of the positions of both armies than Von Moltke himself had of the Franco-German war.

Field-Marshal Marquis Oyama and Generals Kuroki, Nodzu and Oku—all members of the Satsuma clan of the Samurai, or Japanese nobility—won their military rank for services in civil wars and in the war with China. Field-Marshal Oyama fought on the Mikado's side in the war which overthrew the Shogunate, and, in 1872, at the age of thirty, he was made a major-general. In 1881, after spend-

ing three years in military studies in Europe, he became Minister of War. In 1883, he became chief of the general staff. In these offices he succeeded in organizing the Japanese army on a modern basis. He was made a marquis for his successful campaign which resulted in the taking of Port Arthur and Wei-hai-Wei in the war with China. The remarkable efficiency of the Japanese army is due largely to his work.

General Kuroki was made a baron for his brilliant capture of Wei-hai-Wei in General Oyama's campaign against the Chinese. He, too, had risen to high command by hard fighting in the civil wars. General Nodzu succeeded Field-Marshal Yamagata in command of the first army of invasion in the Chinese-Japanese War. It was he who terminated the campaign by driving the Chinese across Manchuria and defeating them in the battle of Newchwang. Early in his career he made a visit to the United States and investigated our military system. General Oku, who distinguished himself in the war against the Shogun by defending Kumamoto Castle against its besiegers, received his title of Baron for services in the Chinese-Japanese War. General Kuropatkin, therefore, faced proved and experienced commanders.

In the course of time, we shall have accurate maps and descriptions of this war, and more intimate information about these commanders. But, however remarkable their individual qualities may be, the most striking fact of their great campaign will remain the marvelous organization whereby they worked as a unit—"as prearranged." This is the distinctly new chapter in military history that must be written about them. Their work has had something of the impersonality, as well as the precision, of science. And the armies are as remarkable as the commanders. In their marching, in their endurance, in their equipment, in their diet, they have shown new possibilities in warfare; and every man has been at any moment ready to die to carry out the planned campaign.

WHY WAR IS NOT YET OBSOLETE

WAR, which becomes more hideous as we become more civilized, but is not yet preventable, has proved itself the only method whereby the Japanese could win credit in the world for the qualities that they have. They were not regarded seriously by the great nations. Russian commercial adventurers and Russian diplomatists felt safe in insulting them or in trifling with them. In a less degree, so did the French and the Germans. Else they would never have forced on them the settlement that followed their war with China. The western world regarded their artistic work with admiration, and the trade of Japan was sought by the outside world. But in the minds of the great mass of Europeans and Americans, the Japanese were a people who made wares of bamboo and did work in lacquer and sent us pottery—a little people with a knack at doing pretty hand-work cheaply; and we regarded their government somewhat as a subject for comic operas. They seemed a toy nation.

We knew of political changes that they had made, and their diplomatic representatives inspired respect by their courtesy and dignity. But the accepted notion of them was that they were a dainty little people who would contribute non-essential things to our civilization, and we were not likely, in the course of peaceful events, soon to regard them as a strong and vigorous folk—certainly not as one of the great nations of the world.

But now, since any army or any navy would think long before encountering them in battle, the attitude of the whole world toward them has already changed. This change will show itself in many ways—in financial respect, in commercial treaties and dealings, in diplomacy, in intellectual respect. And the Japanese leaders not only know these facts—they are good practical judges of men and of nations, as well as accurate marksmen and good craftsmen—but this knowledge was the real cause of the war, the immediate provocation of which was given by Russian intrigue and duplicity. They have fought for recognition by the western world because they saw no other way so quickly or so effectively to win the recognition to which they felt that they were entitled.

It is facts like these that Peace Conferences have to consider; and they must change the very psychology of nations before they can hope to make war wholly obsolete. Arbitration and international tribunals play a useful part in preventing hostility between nations whose general standing in the world is much alike. But when recognition is to be won

from the beginning, successful fighting seems yet, unfortunately, the only method of gaining admission to a secure place in the family of nations. And ability to fight, it is to be feared, is yet necessary to hold such a secure place. The world is becoming more civilized, but no strong nation is yet willing to throw away its big stick.

"REFORMS" IN RUSSIA

THE baby Tsarewitch was christened on August 24th, and the Tsar made the occasion an excuse to grant some much-needed and some utterly useless reforms and amnesties. These were not granted as a popular necessity or right, but in the old autocratic way, as a mere personal caprice or expression of joy at the birth of the long-hoped-for son and heir. More than any other recent thing has this imperial manifesto shown the real state of civilization in Russia. For when the Tsar goes to the trouble to abolish something, it is but fair to suppose that the thing to be abolished is in existence, and, in Russia, it is not too unfair to suppose that it will probably continue to exist.

Among the things abolished was corporal punishment among the rural classes. It was curtailed in the army and navy. This means that, until two months ago, the police were accustomed to use the knout on the peasants, and that it will still be used as a persuader in the army and navy. Permission was granted to Finns who had left Finland without the permission of the authorities to return, provided they go back in the course of the year. In no other civilized or even barbarous country in the world is it considered a crime to leave home without permission from the police. The Governor-General of Finland was directed to see what could be done to alleviate the sufferings of those Finns forbidden to reside in Finland and prohibited from emigrating. What must these sufferings have been thus to have attracted the attention of the Tsar? The fines imposed on the Jewish communes where Jews have evaded military service have been remitted. A Jew is not recognized as a Russian, and has no rights, yet he must serve in the army, or his people are made to suffer.

This manifesto, though made in a conciliatory spirit, is of a piece with the orders issued to the troops to give no quarter and to take no prisoners; with the rescript issued the same day abolishing the Finnish military district and merging it with the Saint Petersburg district, thus doing away with the last remnant of recognition of Finland; and with the bitter persecution of the Armenians who preferred their own church to the Orthodox.

It is seldom that the head of a great State, even unintentionally, as in this case, has made out such a strong indictment against the system of government of which he was the head.

A SUCCESSOR TO THE MEXICAN PRESIDENCY

THE gradual way in which President Diaz has shaped the Mexican constitution to put his own benevolent absolutism under legal forms is one of the most interesting chapters in modern government. The latest act of this kind was his preparation for a successor to himself. The constitution made no provision for a vice-president. Under his direction, therefore, the constitution has been changed in due form, and a vice-president, who is meant also to be a successor to the President, elected. He is Ramon Corral, formerly Governor of Sonora, and, for the last year and a half, a member of the cabinet. He is not a soldier, but primarily an administrator. He has traveled. He speaks English. He knows the United States. He puts a proper value on the investment, in Mexico, of money and enterprise from our own country. He has proved his ability without arousing the suspicion and opposition of any strong national faction.

The expectation now is that President Diaz, whose new term of office will expire in 1910, will make trial of Corral by carrying out his old purpose of traveling abroad. In his absence, the Vice-President will have Presidential powers. If Diaz should die (he is now seventy-four), Corral would succeed him. The astute ruler of Mexico has thus provided for the succession in a safe and constitutional way. He has been as shrewd a judge of men as any ruler of our time, and his choice of a successor is regarded in Mexico as a wise choice. If he lives till 1910 (and he is robust yet), he will probably retire, and see his country, which owes its long peace and steady development to his strong guidance, go on prosperously under capable leadership. Having prevented revolutions for so long a period during his life, this remarkable old man seems likely to provide against their occurrence after his death.

THE SUBSTANTIAL PROGRESS OF ARBITRATION

AT the conclusion of the Hague Peace Conference, just before the Boer war, the outlook for international arbitration seemed to be as bad as it had been before the Tsar issued his call. Germany had refused to enter into binding agreements of any kind, and she had such a strong influence over the other delegates that the resolutions of the Conference, it will be recalled, were nothing but a loose agreement to arbitrate if the governments happened to feel like arbitrating. Almost immediately after the Conference, the war in South Africa broke out, the Filipino insurrection took on an aggravated turn, and France had her difficulty with England about the Fashoda affair. But soon before the end of the Boer war, the five-year treaty of alliance between England and Japan was signed, which bound the two countries together in war, if either should be attacked by two enemies. Then came the extension of the Franco-Russian agreement to the Far East, and a renewal of the Triple Alliance of Germany, Austria, and Italy. Yet these were all military conventions as different in their purpose and scope from what the Tsar had proposed as was possible, and on February 8th, of this year, the war between Russia and Japan began.

But, while this terrific combat has been going on in farther Asia, Europe has been kept busy making treaties of arbitration and settlement of old difficulties, and the general movement toward arbitration has had a strong impetus. Turkey came to an understanding with Bulgaria and with Greece. Italy has made a new treaty with Austria. Just recently, Germany and Russia are believed to have settled the preliminary negotiations for a new tariff treaty that will do much to lessen friction between them. But the most important series of treaties has been that which England has concluded with France, Italy, Spain, and Germany, and that France has concluded with Italy and Spain, by which these countries are bound to submit to the Hague Tribunal differences which fall into certain of the commoner classes of international disagreements. Thus the Tribunal has become something more than a fabric of the egotistical dreams of the Tsar.

An agreement has been made between Holland and Denmark which, though it can not be of great practical importance, because of the relative insignificance of the two treaty powers, is interesting because it is probably the first agreement ever reached between two independent nations by which they bind themselves to absolute and unlimited arbitration of their international misunderstandings. But the most important of all these treaties has been the Anglo-French treaty, not so much because of the settlement of many colonial and other difficulties, but because it has brought these two countries so close together and made such a good understanding between the two greatest sea and colonial powers in the world. A rearrangement of the world balance of power seems inevitable. For these treaties are less important as treaties of arbitration than as indications of new combinations of armies and fleets. But these combinations make war more frightful to contemplate and lessen the danger of precipitate action.

THE LAST FORBIDDEN CITY

ABOUT a year ago, the British Government of India came to the conclusion that Tibet could no longer go on breaking the treaties of commerce and good-will that existed between them, and determined to have a new treaty made and observed by its faithless and marauding northern neighbor. Colonel Younghusband and a little body-guard went to Sikkim, a semi-independent State on the Tibetan boundary, and made arrangements for a meeting with Tibetan envoys who should have the power to negotiate a new treaty. He then went with his guard to the appointed meeting-place, but no Tibetans turned up, and he received word that, after all, they were not going to turn up. What the Russian Lama Dorjieff, who was then resident at Lhasa, and who had carried on negotiations between the Tsar and the Grand Lama, knew about this, no one knows; but it was suspected that he might have been responsible for this lack of courtesy to the English, and that he might have promised the Tibetans both help and arms from Russia in case of an Indian invasion. Then the Viceroy of India sent a body of several thousand picked troops, under the command of General Macdonald, to the aid of Colonel Younghusband, who determined to go on into Tibet until he should find some one who could and would make a treaty with him.

The British troops and their two com-

manders at last reached Lhasa, and the Grand Lama fled to a monastery in the mountains. For a while, after they reached Lhasa, there seemed to be a real danger that the expedition would be a failure, since the only persons with whom diplomatic agreements could be made had run away. The Tibetans, moreover, showed their hostility by refusing to bring food to the troops. But satisfactory arrangements were at last concluded.

Whatever the ultimate result of the expedition may be, one thing is certain—that it will rank forever as one of the great exploits, dazzling the imagination and belonging rather to the time of Queen Elizabeth and her courtly swashbucklers than to the day of the wireless telegraph. Up through Sikkim and the valley of Chumbi, and across the Brahmaputra went the little army of Goorkhas and Englishmen, scaling the world until it came to Lhasa, the highest city on the globe. Facing an unknown enemy which was armed, so they thought, with Russian repeaters and smokeless powder, they forged their way over unexplored mountains, through passes higher than Pike's Peak, across unknown rivers, one of which, as they were without pontoons, it took six days to cross, until they came down into a green and smiling valley threaded with sweet waters, a fit setting for the golden domes and towering monasteries of the Lamas.

Only four or five white men of all who have dreamed and endeavored have ever reached Lhasa since the time the Jesuits were there in the seventeenth century; and, of these, but one, a French priest, left behind an account of what he saw. But now the Forbidden City has been entered, a city far more wonderful in the stories that had grown up than Khatmandu of Kubla Khan and its stately pleasure domes—literally a city in the skies, whose palaces and monasteries were thought to be roofed with gold, and whose cellars were supposed to be piled high with jewels and precious stones. There was a great fall to facts, for the city is undoubtedly built of mud, and its only treasures are the fables about it: Pizarro and Clive have been dead these many years. But the adventure remains as great as if it had laid bare untold wealth, for it is the last of the great adventures. There is now no forbidden city but Mecca, and no unvisited one. The white man has set his foot on the last piece of "sacred" soil.

AMERICAN AND EUROPEAN WAGES

THE comparative tables of wages recently published by the United States Bureau of Labor and Statistics show that, during the last five years, wages have risen and hours have been shortened both in our own country and abroad. Wages are much higher, and hours much shorter, in the United States than in Europe. The average work-day for eleven trades — boiler-workers, machinists, bricklayers, carpenters, compositors, painters, plumbers, iron-moulders, stone-cutters, hod-carriers, and common laborers—is nine hours in this country, eight and a half in Great Britain, ten in Germany, and between ten and eleven in France and Belgium. The average hourly wage of these trades in this country is 35.1 cents, 17.3 cents in Great Britain, 10.5 cents in Germany; 13 cents in France, and 6 cents in Belgium. In other words, wages are more than twice as big here as in England, three times as big as in Germany, and nearly six times as big as in Belgium, which, in proportion to its size and output, is probably the greatest manufacturing country in the world. The American common laborer receives higher wages than the skilled German or French workman, and almost twice as much as the skilled Belgian. It is noteworthy, too, that the greatest differences in wages between the different countries appear in the trades which have no tariff or other government protection.

The most significant fact about American wages is the purely arbitrary way in which they vary with trades which require practically the same degree of skill and ability. Bricklayers, for instance, receive twice as much an hour as machinists. Probably this difference is due to the activity of the unions in some of the trades in which there is such increase. For, in the European countries, there is very little difference between the wage-levels of the various trades, and the wages of common laborers more nearly approach the wages of skilled workmen than in the United States.

But the most important fact shown by these comparative statistics is the great superiority of the American laborer and mechanic over the English or Continental workingmen in the same trades; for, as a rule, the wages which a man receives vary almost exactly with his capacity and economic efficiency.

But an interesting question is presented whether some of our trade-unions have not pushed wages so high as greatly to lessen the

yearly income of their members. If a man receive (say) $3 a day, and have work for 300 days a year, he will make $900. But, even though he receive $5 a day, if he be idle half his time because of strikes and lockouts and the diminution of work, he will receive only $750 a year. Some of the building-trade unions have now for several years made this very great mistake. For this reason, the scales of wages as computed by the Bureau imply a greater degree of prosperity than many skilled workmen now enjoy.

HOPEFUL EXPERIMENTS WITH THE LIQUOR TRAFFIC

SOME good year, perhaps within the lifetime of men now living, we may "solve" the liquor problem. The solution in one community will, of course, be different from the solution in another; for the evil takes different forms in rural communities, in small towns, and in large cities. The saloon in New York city that is honestly and "decently" conducted, and that began operation with a great trade because Bishop Potter made an address when it was opened, is meant to take one step forward in the complex and difficult problem of managing the liquor traffic in a densely settled tenement-region of a great city. By respectable and honest ownership and management, "graft" may be eliminated from the business. Drinking will not be lessened, perhaps, but the worst vices and crimes that thrive in degraded saloons may be discouraged. It is only by taking one step forward at a time that the large problem of liquor-selling in the worst quarters of a great city may be intelligently attacked.

In smaller cities, hopeful experiments of other sorts are going on. For instance, the working of the dispensary system (which is a system of municipal or State monopoly of the liquor traffic) is illustrated by the experience of Raleigh, the capital of North Carolina. All saloons were forbidden, and the city dispensary was opened January 1, 1904. All kinds of liquors are sold, and sold at a profit, but they are sold only in sealed bottles which may not be opened on the premises. The whole of last year, when there were private licensed saloons, the city's revenue from licenses was only about $8,000; for the first half of this year, when the city has had a monopoly of the traffic, the revenue was more than $10,000. The dispensary, of course, paid besides a county and a State tax. The first half of last year there were 334 arrests for drunkenness; the first half of this year, 190; and the arrests from all causes have fallen off one-third. The commissioners under whose direction the dispensary is conducted are men of high standing, and they are more or less prominent members of the leading churches. The market-keepers say that laboring men have bought more vegetables since this law has been in effect; and the grocers also report that the wage-earners live better. In many parts of the South, under general statutes supplemented by local laws, the evil has recently been greatly checked. This is true especially in North Carolina, Tennessee, and Texas. These are hopeful experiments in dealing with the problem under wholly different conditions from the conditions in large cities.

THE BANKERS' SUCCESSFUL ASSOCIATION

THE possibility of getting important practical results as well as good social results by coöperation has been proved by the American Bankers' Association. It has succeeded in securing the passage of identical banking and commercial laws in most States —a task that would have been impossible except by well-managed, organized effort. It has had identical laws concerning negotiable paper passed in twenty-five States; it has worked out a system of insurance whereby the bankers' costs for insurance against loss by defalcation of employees have been reduced more than $200,000 a year; and it has established an institution for bank clerks where the principles of banking and allied subjects are taught; it is carrying on a campaign for uniformity of usury laws; and it has worked out a system, along with police and detective agencies, whereby it is well-nigh impossible for a bank-thief to escape capture.

All this varied activity has come naturally in the development of an organization, at first small, which was made in 1875 to bring about the resumption of specie payments. The association has been held together and developed also by the social service that it has done in making its members known to one another. In whatever city it meets, it is entertained, and friendships as well as business acquaintances are made. The meeting this year in New York city was made noteworthy because of the lavish entertainment

of the visiting members by the New York bankers. The association has brought better business methods, has done many acts of public service, has given a natural opportunity for making valuable business acquaintances, and, at the same time, it has added greatly to the pleasures of work for many of its members. It is a sort of trade-union that has many useful suggestions to men of other callings.

AUTOMOBILES FOR COMMON USES

THE development of the automobile has been deflected somewhat from a natural course because its possibilities of swiftness have caused it to become a plaything of the idle rich. But gas- and steam-engines will soon propel loads wherever there are good and reasonably level roads; and, within a few years, pleasure vehicles will be made for persons of modest means and of quiet habits. For, of course, the making of cars chiefly for speed will cease to be the main work of the builders as soon as their novelty wears off. The sensation of running along country roads at the speed of locomotives will presently become commonplace; and then the many factories will turn their attention more to simpler cars and to freight-cars.

The durability and the trustworthiness of motor-cars have now been pretty well proved. The recent trip, for instance, made by Mr. L. L. Whitman, of San Francisco, from that city to New York in a single car in thirty-three days shows the endurance of the machine. The journey was about 4,500 miles, and he travelled an average of more than 135 miles a day. Such a performance shows that the mechanism of good cars has passed the experimental stage. Every year we may expect safer, more trustworthy, simpler, and cheaper machines, until one shall cost less than a horse and wagon, and may be run with safety by any man or woman of usual care. Such machines can be made to do all that light wagons now do, and they can be run for less cost for fuel and oil than the feeding of a horse, and with less care than a horse and wagon require. The sooner the fashion for speed subsides, the sooner will the manufacturers give their attention to the building of motor-cars for these humbler and more general uses.

The time may not be far off when the mechanism will be so simplified that light machines will be more common than horses and buggies, where there are good roads.

THE SOUTHWESTWARD COURSE OF EMPIRE

IT is southwestward that the star of empire takes its way; for Texas has this year passed Missouri in population, and there are now only four States that contain more people —New York, Pennsylvania, Illinois, and Ohio. In area, Texas is nearly a third larger than all four combined. At the present rates of increase of population, Texas will pass Ohio before 1920, Illinois before 1930, Pennsylvania by 1940, and New York by 1950, and become the most populous State in the Union. If it were as densely settled as New York now is, it would contain 41,000,000 souls; and, when it becomes as densely populated as England or Germany is, it will contain 95,000,000. By the act of Congress admitting it into the Union, the State may be divided into as many as five States whenever the people desire division; but division has never been seriously proposed.

Since 1860, Illinois has had more miles of railroad than any other State till this Fall; but, on September 1st, Texas exceeded it, having now 11,517 miles of main track. The exports from Galveston are now greater than the exports from Philadelphia, Baltimore, or Boston. Only New York and New Orleans make larger outbound shipments, and Galveston will exceed New Orleans in a very short time, and become the second exporting city in America. Texas produces about one-third of our whole cotton crop. More wheat is now shipped thence than from both New York and New Orleans. Galveston is nearer the trans-Mississippi wheat-fields than any Atlantic port; and the opening of the Panama Canal will bring it very much nearer than it now is to the Pacific ports both of North and South America.

The growth of the Southwest is indicated by the steady moving of the centre of population during the last census decade fourteen miles westward and three miles southward; and the centre of cotton production is moving from western Mississippi across the river. The development of our Southwest is a fair parallel, in some respects, to the magic growth of what we once called the West; but it goes on less noisily, because transportation is cheaper and more rapid.

AMERICAN SUPREMACY IN IRON AND STEEL

THE British Board of Trade has just published figures about the world's production of iron and steel which are very

interesting and instructive, though they come down only to the end of 1902. The report shows in a striking way the great lead that this country has in the iron and steel trades, and shows that Germany has now surpassed England and taken second place. Germany and England produce about the same amount of pig-iron a year; but, since 1898, Germany has produced more steel than England, and during the last two years she has produced more steel per capita than England. The United States produces three times as much steel as England and twice as much as Germany, though Germany turns a larger per cent. of its pig-iron into steel than the other two. In 1902, our country made five-sixths of its iron into steel, Germany seven-eighths, and England little more than one-half.

The great reasons for our supremacy in this trade are the use of iron and steel in building and the enormous length and size of our railroads. This is the only country in the world where modern sky-scrapers are the fashion, and it is also the only highly civilized country where the railroads use steel and iron bridges rather than stone and concrete ones, so that there is probably much more structural iron used here than in all the rest of the world put together. As for our railroads, they are longer than those of all the European nations put together, and most of them are not only kept in good condition, but they are now putting down heavier rails of steel. The English and German industries have no such outlets for their products, and have to depend, for the greater part, on the export trade, which does not seem to admit of sufficiently rapid increase to endanger American supremacy. This seems secure.

THE SMALL NUMBER OF CONSTRUCTIVE MEN

At a hearing before the General Judiciary Committee of the Georgia House of Representatives, on the bill restricting the methods of the money-sharks, Mr. William M. Crumley, President of the Beck & Greeg Hardware Company, is reported as having said that he believed that 900 out of every 1,000 young men of Atlanta were in debt to the amount of a year's salary. He said that he had reason to know that many of them were in the clutches of money-sharks.—*Savannah* (Ga.) *News*.

THIS deplorable and really dangerous economic condition reveals one of the weaknesses of our industrial society. These young men receive their salaries in cash—as they ought to receive them. But either they have not character enough to be trusted with cash, or they are so underpaid that they cannot easily live on their incomes. Doubtless, there are cases of each kind.

Now, if a young man cannot manage his own income prudently, he is not likely to be of constructive use to his employer. And if he be of no constructive use to his employer, that fact is his employer's justification for paying him a low salary. He cannot wisely do anything else.

"The most difficult thing in my business," a man of large affairs in New York said recently, "is to get good clerks. The young men you engage seem, as a rule, to belong to the class that is left over after the trades and the professions have taken the most capable of every generation."

Yet all kinds of merchants, little and big, and business organizations, railroads, banks, factories, and all kinds of corporations must continually have new managers, as the old ones retire and die. Men for responsible and profitable positions must be found somewhere; and capable men, who grow up in any business, are more likely to manage that business well than others are. There are few establishments of any kind that must not, sooner or later, offer opportunities to the young men who began as clerks. Still, the great majority of clerks remain clerks—a fact that points to a need of more definite training and a better method of selection than our industrial society, as a rule, has yet worked out.

The explanation may be that there is only a man or two in every hundred (perhaps fewer) who has the constructive qualities required for leadership. But, if this be the true explanation, does it not still show that there is something lacking in our democracy? Ought it not to train a larger proportion of men for constructive tasks? Is there not some radical fault in the usual method of conducting office-work whereby really capable men fail to receive higher opportunities that they might be equal to?

WHETHER THE MATRONS KILL LITERATURE

AN interesting old controversy that is not likely to be settled is raised by this paragraph from the letter of a woman of keen perception. "The matrons," writes Mrs. Peattie, of Chicago, to the New York *Evening Post*, "have killed the New England

literature. They have edited the magazines, ruled the book publishers, and broken the hearts of the poets. They will have an awful reckoning some day, I hope—yes, on some separate Day of Judgment, when they shall stand and tremble before the Truth, and find all their proprieties an insufficient barrier!"

This is the same as to say that the dominant reading public in the United States is made up of commonplace good women, and that they compel writers and editors and publishers to pay more regard to the conventionalities of domestic life than to what, for convenience, we will call Literary Truth. For instance, a little while ago a novel, by a popular author, which contained one "improper" situation, was declined by the editor of one of our best magazines because it was not good "family reading." Would the author not change it? He could not, he said, without marring the story. But, in book-form, the novel had a successful career, and was read by the "matrons" and their daughters. Again, one of the best novels of recent years was excluded from some public libraries because there was a character in it who sometimes used the word "damn." The literary guardians of these libraries (women all) asked the author if she could not leave profane characters out of her future books. Hundreds of cases like these could be cited by any one who lives in the publishing world; and they seem to prove Mrs. Peattie's contention.

Now, the commonplace, unimaginative, housewifely good women of the land doubtless do have a strong influence on the literary fashions of the magazines, as they ought to have, since there are so many of them, and since the magazines that publish fiction are vehicles of entertainment. Surely, an audience is entitled to the kind of innocent entertainment that it likes. It is a high compliment to the cleanliness of American life that it demands clean amusement. Commonplace most of it is, and must be. But there is also much commonplace uncleanness; and the mere disregard of conventions does not make literature, as a certain class of very youthful critics suppose.

The discussion of literature—of current literature, in particular—is perhaps the least profitable sort of talk that is done in a world full of empty chatter. But the theory that great writers yield to the influences of matrons or maids or magazines, in shaping the real messages that they have to deliver—this is the same as to say that they are not great writers at all, but literary haberdashers and milliners and the like.

But the contention that men and women who might write Literature are held down to the commonplace by conventionalities, fortunately, cannot be proved; and it is probably untrue. For the magazines have little or nothing to do with Literature. Literature has its own orbit. Editors and publishers are its humble servants when it graciously comes their way; but they cannot go into the market-place and buy it. Indeed, they are very, very lucky if they are able to recognize it when it comes in the door; for it comes too seldom to be known at a glance. Current "reading matter" is one thing. Well-ordered industry produces that, and, thanks to the matrons, most of it is harmless, and much of it wholesome. But do not let us confuse it with Literature. We owe it to our love of Hawthorne and Thackeray (let us say) to keep our standard high and our critical vocabulary precise.

PORTRAITS OF THE MONTH

THE election of Mr. Alexander Agassiz as President of the International Zoölogical Conference at Bern, Switzerland, is a compliment to one of the most distinguished American men of science. Mr. Agassiz's studies in marine biology and his munificent endowment of this branch of research, and his gift of the Museum of Comparative Zoölogy to Harvard University in memory of his father, the great Agassiz, indicate a succession of scientific distinction to the second generation which is as rare as a succession of artistic or literary pre-ëminence.

Mr. August Belmont, who is at the head of the corporations in control of rapid transit in New York City, has just now a double claim to public attention because of his activity in connection with the Democratic National Committee.

In addition to the portraits of these gentlemen, the recent photograph of Senator Hoar, which is reproduced in this magazine, is an unusually good likeness; and the portrait of the Tsar is one that was taken more recently than the photograph with which the public is most familiar.

PUBLICITY ABOUT CORPORATIONS

[The World's Work publishes every month an article in which some timely and vital subject of the financial world is taken up]

THERE is an increasing demand for fuller knowledge of the affairs of corporations. Railroad accounting has become a science, and all railroads now publish reports of their business so full and clear that the public can learn their financial condition. The point may well be made that the time has come for other corporations to systematize their accounting—and to give such publicity to their affairs—within wise limits—as will afford investors a knowledge of them approaching in exactness the knowledge they now have of the condition of the railroads.

Railroad accounting—both in annual reports to stockholders and in statistics prepared daily, weekly, and monthly for the use of executive and managing officials—has become almost perfect.

Railroading is, in principle, the same process all the world over. The same operation takes place on every road—i. e., locomotive engines haul freight and passengers from one station to another over a specially prepared roadway. This uniformity of fundamental conditions opened the way to uniformity of accounting. All railroads had equipment to maintain—locomotives and cars; all had tracks to maintain—rails, ties, and ballast; and all used substantially the same machinery, and supplied the same thing—transportation. With a total investment represented by more than twelve and one-half billion dollars of capital, in bonds and stock, the industry naturally received continuous expert attention, with the results that we have to-day. Railroad reports come in all sizes and shapes, but the form of the report is much the same for all. The annual compilations of these reports, filed with the Interstate Commerce Commission—still faulty and incomplete as they are in many respects—show that the railroad industry and its accounting to the public have been "standardized."

Now, the principle of giving publicity to a company's financial condition may be held to apply to all corporations in which the public holds stock. The railroad industry is the largest single industry in the country, but there are a myriad of others in which the public are interested as stockholders. In all probability, within ten years we have brought into being corporations with an aggregate capital of not far short of ten billion dollars. In other words, there is nearly as much nominally invested in other industries as there is in railroading. And we have little or no organized and orderly publicity of the business supported by this mass of capital. The question is—can we have organized publicity for it, and, if so, upon what lines must we proceed?

Unlike railroad capital, this mass of capital does not represent a homogeneous business. It represents every kind of industrial and commercial activity under the sun—from plain coal-mining to selling dry-goods. One company grows or mines and sells raw materials; another manufactures raw material into products of various kinds; another buys and sells these products; yet another does all three things. All companies which own their raw material in the ground, and manufacture and sell their own finished product to the consumer, have one or two features in common. Manufacturing companies are alike in one or two fundamental features that would appear in a full account of their financial condition, no matter what the difference be in product. Certain common principles apply to all trading companies. But can there be found a set of fundamental business features common to all three classes of companies, so that we can erect a system of organized publicity that will fit them all? In treating this question, it is assumed that the purpose of publicity is primarily to enlighten stockholders.

The safety of a stockholder's money invested in any corporation depends ultimately upon the ability of the corporation to return to him a continuous and sufficient income in the form of dividends. Therefore, the first thing a stockholder has to know is how much his corporation is earning. He can discover this in the case of a railroad with a good deal of certainty, because he has definite standards

by which he can judge the items in a report covering maintenance, transportation, cost, etc. But what standards are there which will apply in this matter to both the United States Steel Company and the H. B. Claflin Company, which owns department stores and supplies others with many kinds of goods? Unless a man is an expert of high degree, he cannot pass upon the propriety of the United States Steel Company's charges for maintenance and depreciation, or of the valuation of inventories of the H. B. Claflin Company. And, unless he can do these things, he cannot be sure of the earning capacity of either company. For the Steel Company's charges of funds, in their accounts, to maintenance, depreciation, etc., make a vital element in determining profits, as do the H. B. Claflin valuations of inventory every half-year.

Yet accounts can be made up which will show the earning capacity of business corporations. Every corporation needs "working capital"—that is, cash and assets which can be quickly turned into cash, in use in the business, which are turned over and over during the year. If a corporation is reporting earnings in excess of its *true earning capacity*, it will surely, sooner or later, betray the fact by drawing upon its working capital for "permanent investments," in the shape of so-called *improvements*, which are nothing more than items of maintenance or depreciation. If a company can pay its dividends and maintain or increase its working capital, the chances are good that its earnings are what they are stated to be—true net earnings. If the working capital is not maintained, the reported earnings are not likely to be actual net earnings. It is, therefore, certain that the very minimum of publicity for all companies is a full and complete balance-sheet, or statement of assets and liabilities, from which a stockholder can note the changes in "permanent investment" items and in working capital.

Every company can issue a balance-sheet. This would be a beginning for a theme of general publicity for all. What more can be fairly demanded?

Here the paths of the different corporations begin to branch off in all directions. A mining company must provide a fund for development work, and another to provide against the extinguishment of any of its ore-bodies; a manufacturing corporation must make provisions to maintain the physical condition and the competitive efficiency of plants and machinery; a trading corporation must be sure that the goods in its inventory are convertible into cash at the valuation placed upon them. Any individual company, for the sake of its stockholders, can employ independent auditors to certify that the books correctly represent the company's actual transactions, and an independent appraiser to certify that values are what the books say they are, and that all maintenance and depreciation accounts are properly charged. But how to apply to these different companies a single general system of accounting in the absence of *standards*—each industry and almost each company being a law unto itself in these respects—is not clear.

The annual report of the General Electric Company, however, is almost a model of what a manufacturing company's report to stockholders ought to be. The United States Steel Corporation's report is an earnest and a good effort in the right direction, though not as good as that of the General Electric Company. There are few others that are more than passable. Whether the General Electric Company report could be taken as a basis for all industrial companies is, however, doubtful. The absence of common standards is the root of the difficulty. Moreover, there are many companies which could not legitimately stand as much publicity as others, owing to peculiar conditions of competition. It would not be reasonable to demand such publicity, as it would destroy proper trade secrets.

As things stand at present, not much more can wisely be demanded of industrial corporations in general under a scheme of organized publicity than (1) A statement of net profits and their disposition; and (2) A full balance-sheet in such detail as to show the nature and amount of assets and liabilities.

But passage of a law whereby 10 per cent. of a corporation's stockholders could demand an independent audit and appraisal, *and a report of the results of this audit directly to the stockholders*, would very materially aid the public whose money is invested in industrial undertakings. The need of an independent auditor of railroad accounts is much less than it was fifteen or twenty years ago: the true need for independent auditing is in the accounting of industrial and commercial corporations.

THE NEW YORK SUBWAY

A TWENTY ONE-MILE TUNNEL BUILT IN FOUR YEARS ON UNPRECEDENTEDLY ADVANTAGEOUS TERMS TO THE PUBLIC—ITS CONSTRUCTION A STORY OF NOVEL ENGINEERING AND REMARKABLE MANAGEMENT—HOW TRENCHES AND TUNNELS WERE DUG THROUGH A MAZE OF PIPES AND SEWERS AND UNDER RIVERS—HOW IT LOOKS TODAY, WITH ITS MILES OF COOL, DRY VISTAS AND ITS DECORATED STATIONS—THE OTHER TRANSIT FACILITIES THAT WILL FOLLOW IT

BY

M. G. CUNNIFF

THE completion of the New York subway opens a new era in rapid transit for crowded cities. The building of the twenty-one-mile tunnel has been a tremendous engineering achievement, involving picturesque feats never before attempted; but the deeper interest in the long tube lies in a meaning that reaches far beyond New York. For, though there are other subways, such as the short one in Boston, the builders of the New York subway boldly attacked the task of making a wholesale transfer of passenger traffic to an underground level. Definite plans have already been made to follow this subway with others, until the whole city of New York is honeycombed with subterranean passages, and the busy streets are to be much less densely crowded. Other great cities must follow. In the near future, city-dwellers will ride underground.

The subway has been building since March 24, 1900. Tunneling is still progressing on the section that runs from City Hall in Manhattan under the East River to Brooklyn. But the main section, from City Hall up through the busy sections of Manhattan to the outskirts of the city on the north, is practically completed. A recent trip in it, north from City Hall, showed what a vast stride from existing conditions had been conceived by the engineers who planned it.

DOWN IN THE TUNNEL

A short flight of steps leads down to the broad, cool platform of the underground station, the walls of which are finished in glazed white tiles, with borders and decorations in colors. The curve of the loop which springs from this station plunges off to the right in darkness. To the left, where the dimly lighted tunnel leads up-town, a gang of painters are at work, spraying the walls and roof with white paint, from pneumatic nozzles. Beyond, the long vista of box-like tube stretches off to indefinite distance—cool and silent. Countless steel pillars march away in the dim light of electric bulbs, set at intervals in such a position between the pillars that they cannot blind the eyes of the motormen who run the subway cars. The effect is like that in the snow-sheds of the Sierras, when the sun projects pencils of light through the crannies of the boards. One looks down a long, rectangular box, with transverse beams from invisible lights illuminating the tracks far ahead. In the foreground, one sees a maze of pillars; in the distance, the perspective merges the pillars into walls. The air is dry and sweet. Steady walking brings one now and then to a little group of workmen—here painters, there track-layers, again electricians. Suddenly the tunnel grows lighter ahead—a station appears.

Here are the same broad side platforms to serve the outer local tracks that appear at City Hall, and the island platform dividing the two inner tracks for express trains. Overhead bridges run from the island platform to the sides. White and colored tiles clothe and decorate the walls, as at City Hall; but here the colors and designs are different. Indeed, no two stations look alike. At Bleecker Street is a broad, dark-blue panel with the name in large letters in the centre, and every few feet, in the frieze, is an artistic B. The decoration at Astor Place is the beaver that suggests the story of the Astor family.

THE SUBWAY ADVANCING THROUGH THE SOLID ROCK OF UPTOWN NEW YORK

For once in a great practical municipal undertaking, beauty has been made an important element in the work. Each station has a distinguishing color-scheme, so that a passenger can tell at a glance from his car whether he has reached his station, even if he cannot see a sign. If he is going downtown, and the station to which he is directed is finished in white tiles with a gray frieze, in which "14" appears at intervals on shields held by eagles, he will not start to alight when he reaches the 23d Street station, with its wainscoting of pink Georgia marble and its 23s in frequent plaques. New York streets have always proved a bane to strangers —for they are hard to identify, and they frequently lack signs. The subway stations remove this difficulty: each tells, by numbers, letters, and symbols in every corner and in every detail what station it is. And the decorations which give this explanation are at many stations beautiful, and at all stations pleasing. Rookwood pottery, faience, and marble are used in many tints and in countless designs. Never before has tiling been used on so vast a scale. Indeed, the general effect of a ride through the tunnel will be that of buzzing through a broad, airy passage, and flashing now and then into commodious, well-lighted rooms, offering a kaleidoscopic variety of color. Glass roofs provide the stations with plenty of light—which is diffused from the glazed tiles—and the platforms are broad enough to accommodate great crowds.

THE THIRD-RAIL SYSTEM USED

Electric cars in trains, run by the third-rail system, are used in the tunnel—the operation resembling that now in vogue on the Third Avenue Elevated Railroad. Express trains, making thirty miles an hour, are run on the inner tracks between City Hall and 145th Street, stopping at stations about a mile and a half apart. The local trains, making fifteen miles an hour, stop every few blocks. Inconspicuous hooded entrances and exits—little kiosks of sheet-iron and glass—rising from the sidewalk, show where the subway stations are. And these are not placed on the main avenues, where the subway runs, but a few feet from the corner, down the side streets.

Two years ago, New York was torn up from end to end. A spectator, looking up Fourth Avenue from the lower end of Union Square, saw before him a deep trench, extending up the street, peopled with hundreds of busy workmen. Inter-

mittent blasts shook the air. Conveyers sailed along on cables overhead with loads of rock. Contractors' wagons jolted here and there. The rapping of pneumatic hammers sounded with insistent shrillness. Crowds of idlers leaned over temporary fences, watching the work. Today, from the same point, he sees a long stretch of clean, asphalted pavement, stretching uptown, and nothing whatever is visible to show that a great engineering

UNION SQUARE AS THE WORK WAS BEGINNING ON THE WEST SIDE OF FOURTH AVENUE
The first of five pictures taken at the same place showing the "cut-and-cover" method of building the greater part of the subway

feat has been performed there—not even a sign to say, "This way to the subway." So in other parts of the city. Yet, in a little more than four years, the city has been provided with a rapid-transit tunnel from end to end of its confines—a tunnel built with unprecedented economy, and under unprecedentedly advantageous terms to the city, with no suspicion of graft about the whole undertaking.

THE BUILDERS AND THEIR TASK

In 1894, under an act of the New York Legislature, a Rapid Transit Commission was appointed. Mr. William Barclay Parsons drew up for them plans for a series of subway routes, which should cost $55,000,000. The Appellate Court of New York decided that these plans did not meet the provisions of the Rapid Transit Act, which created the Commission. The Commission and Mr. Parsons went at the problem again—and planned out the present route. This starts at City Hall and runs north, up Elm Street and Fourth Avenue, across 42d Street, and on up Broadway. At 104th Street, the route diverges—one branch runs to the Bronx Park on the northeastern edge of the city; the other to the Harlem Ship Canal at Kingsbridge. The contract was let to John B. McDonald, who distributed sections of the work to various sub-contractors. The cost to the city will be about $40,000,000, which is covered by an issue of bonds. Mr. McDonald's company are expending about $18,000,000 more for equipment; and they

will operate the subway transit system for fifty years. During this time, the company will gradually repay the city the $40,000,000 advanced, and when the fifty years are up, the subway reverts to the city gratis, and the equipment must be turned over at a fair price. A later contract was made on similar terms for an extension of the subway south from City Hall, under the East River to Borough Hall, Brooklyn—work on which is

UNION SQUARE WHEN THE WEST HALF OF THE TRENCH HAD REACHED ITS DEPTH

now rapidly progressing. The subway, then, as an achievement, has three aspects. Mr. Abram S. Hewitt, Mr. Alexander E. Orr, and their associates on the Rapid Transit Commission, did an immense public service in formulating and vigorously pushing forward a great project on terms that are positively profitable to the city. Mr. William Barclay Parsons, the Chief Engineer, and Mr. George S. Rice, the Deputy Chief Engineer, planned and supervised the whole undertaking, so that they are the creators and fashioners of the subway; and their office, auditing all bills, has been a sure check on all attempts at graft. Mr. McDonald and the subcontractors, following the plans of the engineers, performed remarkable feats in rapidly driving the tunnel forward through a very maze of pipes and sewers, "in all manner of streets," in pushing it through underground springs and quicksands, through rocky hills and over deep-cut dales—even beneath a river—under vexatious difficulties not the least of which have been strikes. Indeed, the subway is a monument to a great public, professional, and executive accomplishment.

The illustrations tell the actual story of construction and show the conditions with which the engineers and contractors had to deal. After considering different forms of tunnel, the engineers decided that a shallow trench with a roof to support the surface of the street would be far better than a deep tunnel, such as those in London and Paris. The subway, however, had to pass through at

least one steep and rocky hill, and it had to dive beneath two rivers. Here, of course, deep tunnels were necessary. Moreover, the point where the tunnel emerged from the hill was far up its side, and here the only possible method of keeping a level track was to carry the line on an elevated structure to the opposite hill, where the tunnel began again. The trench form of construction, however, was employed to advantage throughout the greater part of the distance. There are 13½ miles of subway proper, 5½ miles of elevated viaduct, and 5 miles of deep tunnels.

street at the same time and to support the street-car lines on bridges and trestles, and to make a street of boards for wagon traffic.

THE "CUT-AND-COVER" PROCESS

A recent visit to the section of the subway now progressing on lower Broadway not only made clear this "cut-and-cover" process at its best, but gave a novel experience. The contract for this section was let after the engineers had obtained two years' experience with subway building, and had learned to avoid interference with the street traffic.

FINISHING THE WEST HALF OF THE TRENCH AT UNION SQUARE—THE METHOD OF WATERPROOFING THE BOTTOM AND SIDES SHOWN

The usual method followed was the "cut-and-cover" method. The five pictures showing the progress of the work at Union Square indicate how the work was carried on. First, one side of the street was blasted out to the depth of thirty feet or more, and one-half of the subway structure was built in this trench. The workmen had to drift under and support on beams one pair of surface tracks of the trolley line. As soon as the subway structure in this half of the roadway was completed and roofed over, the process was repeated under the other half of the street. In many places, however, it was found necessary to open both sides of the

Lower Broadway is one of the busiest streets in the world, and it could not be obstructed. I entered a tunnel at Bowling Green, and walked up Broadway underground till I reached a point where a gang of Italians were busily undermining the street, while crowds passed overhead in utter ignorance that anything was going on beneath their feet. The ground was soft here, and the workmen were digging it away, making steady progress straight up the street and putting in braces to support the surface as fast as they proceeded. How inconspicuously they worked is illustrated by an incident that recently occurred. The head contractor himself goes

to his office every morning in the Park Row Building, which is very near the lower Broadway section. One morning he stopped and said to one of the sub-contractors: "Why isn't this work pushed faster? You will have to get some men at work or your section will never be done in time. I have passed here every morning and have never seen more than a handful of men."

The sub-contractor smiled and replied, "All that time I have had 200 Italians busy day and night, and my excavation is nearly completed."

Briefly, for several blocks the earth had been hollowed out beneath Broadway, while passers-by were ignorant that any more than preliminary work was being done, and even the chief contractor had been deceived. In other places where the street was opened and blasting went on—for Manhattan Island is practically one long ledge—great canyons yawned along the avenues, but there was a minimum of disturbance, considering the method employed. And the advantages of a shallow subway will outweigh all the disadvantages which New York has experienced —which could have been avoided if a deep tunnel had been made.

THE CONSTRUCTION OF THE TUBE

After the trench was dug in the sections now completed, a form of construction was employed designed to obviate the disadvantages of the shallow subways previously built. The subway must be dry. Others have been known to leak because, although waterproofed on the bottom, they had not been waterproofed to the top of the sides or on the roof. Therefore, the New York subway was built thus: Top, sides, and bottom were constructed of concrete and waterproofing in alternate layers, incasing a framework of steel beams. The roof was supported by steel pillars not more than five feet apart and set in parallel rows in the concrete of top and bottom. The subway is, therefore, a long, rectangular box, thoroughly waterproofed. Its shallow-

THE WEST HALF OF THE SUBWAY AT UNION SQUARE FINISHED AND COVERED AND THE EAST HALF UNDER WAY

ness makes it possible to do away with artificial ventilation. Enough air enters at the stations to keep the tunnel fresh and sweet, and the rush of cars is counted upon to keep the air in motion.

TROUBLES WITH UNDERGROUND PIPES

Since the tunnel was driven forward so close to the surface, it met innumerable obstacles. All the water-pipes, gas-pipes, and sewers met had to be removed and replaced or diverted. As the pipes were encountered, they were hung up by chains to the timbers supporting the street. Engineers declared that it would be impossible to blast out rock from beneath these pipes without smashing them; and they came from far and near to see the thing done It was done. The dynamite explosions expended their force, and all danger from flying pieces of rock was prevented by the use of great thick mats woven from rope, which were laid over the sections of rock to be blasted. As the pipes, however, could not be left in their former criss-crossed maze, forty-five miles of new pipes were laid down in the orderly position shown in the last illustration. As an indirect result of the building of the subway, the city's underground pipes along its course have emerged from chaos into order.

Miles on miles of sewers, too, had to be rebuilt. In one aspect, the driving of a trench through New York's streets was a bit of exploration disclosing unexpected conditions. The city's sewers were found to be in a decidedly uneconomic tangle. Some were too large for their purposes, some too small. One sewer would be found to run above another instead of into it. In one place, the water-pipes, thickly incrusted with filth, were found running straight through a sewer. The engineers of one era of the city's development had built the sewers that contemporary conditions called for; their successors had added others quite unrelated to the earlier ones. This confusion the builders of the subway remedied as far as they could.

UNION SQUARE WITH THE SUBWAY COMPLETED—CARTS REMOVING THE DEBRIS

At first they built the new sewers of brick. Presently the bricklayers, who were receiving $5.20 a day, struck for higher wages. The work stopped. The indispensable bricklayers

left the subway. But the old adage came to Mr. Parsons's mind: "There are more ways to kill a cat than by choking him with cream." Concrete work was cheap; why not build the sewers of concrete? Experiments were unexpectedly successful. Thereafter, concrete was used almost exclusively—a new kind of sewer had been evolved, cheaper than the brick sewer, and better. This is one of the many contributions which the building of the subway has made to engineering.

DANGER FROM CAVE-INS

Other difficulties were encountered. In some places, the subway crossed under the elevated railroad, so that the elevated structure, as well as the street surface, must be shored up. Brooks were found meandering along beneath the surface, and, in one place uptown, a spring was found which, in the old days of New York, formed a pond on the surface. Successive accumulations had buried the pond far underground, but it was still there to trouble the workman. It had to be led aside until the water-tight subway could be built through it. The route shaved beneath the statue of Columbus at Columbus Circle. This, too, had to be supported until the tunnel could be finished beneath it. The new building of the New York *Times*, on Broadway, was designed to stretch out over the subway route. Naturally, it would not do to make one structure of the two under-

THE FIRST STEPS IN OPENING A TRENCH FOR THE SUBWAY

WHERE THE ELEVATED RAILWAY HAD TO BE SUPPORTED WHILE THE SUBWAY RAN BENEATH

THE DEEP HOLE DUG IN FRONT OF THE GRAND CENTRAL STATION AT 42d STREET

WHERE THE SUBWAY RAN BENEATH A PART OF THE COLUMBUS MONUMENT

THE TANGLE OF PIPES THAT THE DIGGERS HAD TO DISPOSE OF

takings. So the building and the subway were built separately. The *Times* Building can now be entirely removed without inter-

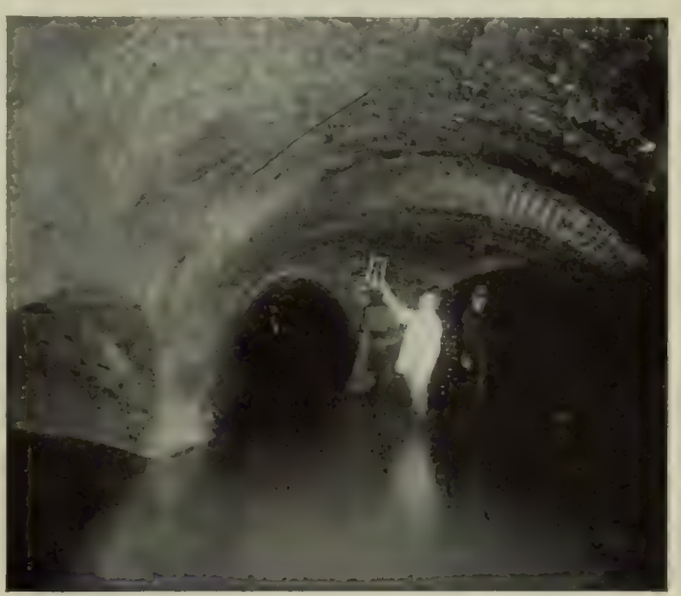
HOW THE SURFACE TRACKS WERE SUPPORTED WHEN BOTH SIDES OF THE STREET WERE UNDERMINED —THE TWO FORMS OF BRIDGE SHOWN

THE METHOD OF MAKING THE WHOLE TUNNEL WATERTIGHT—WATERPROOFING THE TOP

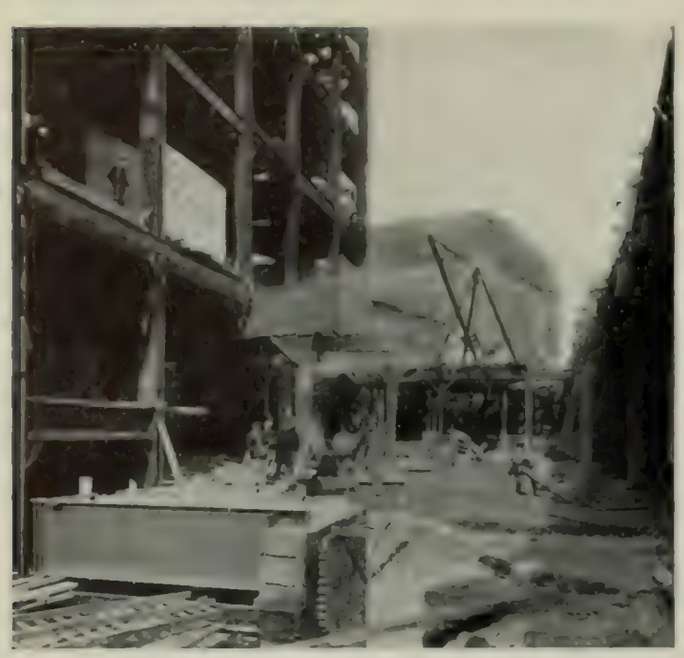
fering with the subway, and *vice versa*, though the ribs of the two structures interlap.

MINING OUT A TUNNEL

Actual mining operations had to be carried on to construct the section through the rocky hill uptown which reaches from 157th Street to Fort George; for here, at the highest parts of the hill, the tunnel is 200 feet below the surface. The hill was attacked in six places. A tunnel was driven at 157th Street and another at the Fort George end. A shaft was sunk at 167th Street and another at 181st Street, exactly like the shafts of western mines, and from the bottom of each of these shafts tunneling went on in both directions. The tunnels met within the proverbial hair's breadth. Thirty-five men worked constantly at each heading, thudding away with their compressed-air drills, and blasting the drilled rock out every morning. As soon as the headings had advanced from the shafts, mules were taken below to draw cars loaded with débris from the headings to the skips, which ran up and down the shafts. They did not see daylight



ONE OF THE SEWERS THAT HAD TO BE DIVERTED



A NOVEL FEAT—RUNNING THE SUBWAY THROUGH ONE END OF THE NEW "TIMES" BUILDING

HOW A LARGE PIPE WAS DIVIDED SO THAT ANOTHER MIGHT PASS IT

again until the tunnel had been completed from one side of the hill to the other and they were able to walk out at one end. This section of the subway was blasted out of the solid rock, so that one deep tunnel exists on the subway route as long as the whole Boston subway. A curious feature of this work was that, shortly after operations began in the

AFTER THE BRICKLAYERS STRUCK, SEWERS WERE MADE OF CONCRETE

portions that had no access to the street except by vertical shafts 100 feet deep, an army of rats made their appearance. Miners say that a mine without rats is unlucky; but here the omen was at fault, for one of the few serious accidents that occurred took place in this tunnel. One night, without warning, a section of rock fell from the roof, killing some Italians who were working below.

TUNNELING UNDER A RIVER

But by far the most interesting section was that which crosses the Harlem River. Many plans were discussed. A deep tunnel would have required a dive far down below the subway level of the river. Accordingly, the first plan considered was that of preserving the level grade by building caissons in the river and sending workmen down to construct the tunnel on piles just below the river bottom. The contractors, however, finally evolved an unprecedented engineering device, which worked out so successfully that it will doubtless be much used in the future. Sections of the subway were built in the form of tubes, which were closed at each end with water-tight covers. These were inclosed in a rectangular structure of iron and concrete, sunk to the river bottom, and bolted to the advancing tunnel. This proved to be a safe method of tunneling under rivers.

WHERE TUNNEL CHANGES TO TRENCH

The Brooklyn tunnel, on the other hand, must progress from shore to shore below the bottom of the East River. Diamond drill borings were made all the way across, so that, before the tunnel was planned, the engineers knew just what kind of material—clay, sand,

A NEW ENGINEERING FEAT — SINKING SECTIONS OF THE SUBWAY TO MAKE A TUNNEL UNDER THE HARLEM RIVER

BOLTING THE HARLEM RIVER TUNNEL SECTIONS AND COVERING THEM WITH CONCRETE

WHERE MINING WAS CARRIED ON AT 167th STREET 150 FEET UNDERGROUND

THE MULES STABLED IN THE MINE AT 167th STREET

or rock—they should have to pass through over each foot of the distance. The tunnel is now progressing in the traditional way. Shields driven by compressed air are being pushed forward, biting their way out under the river. Workmen stand in this shield, and dig out with picks the material into which the shields have bitten. This is then carried out on cars to the mouth of the tunnel. All the work must go on under air-pressure, for the great danger in under-river tunneling is that the water from above shall force its way down into the bore. Accurate knowledge of the material ahead of the shield is absolutely

BEFORE THE CONCRETE FLOOR WAS LAID

THE TRACKS EMERGE AT 122d STREET—

necessary, for, even when the air-pressure in the tunnel is enough to offset any pressure from outside, there is still danger of "blow-outs." A "blow-out" takes place when there is a layer of river bottom, thin and of unstable material, between the heading of the tunnel and the water of the river. The compressed air forces its way in bubbles up through the sludge of the river bottom faster than it can be supplied by air-compressors at the inner end of the tunnel. The water then pours in. The utmost care has been taken to make this East River tunnel so that it shall reduce the danger of "blow-outs" to a minimum.

MODERN DEVICES EMPLOYED

Every modern device has been used, not only on these more picturesque parts of the subway, but throughout the whole route, to expedite the work and make it as strong, safe, and cheap as possible. The drilling was done by automatic compressed-air drills. In many places, electric conveyers were used to carry away to waiting carts the material taken from the trench. More than three and one-quarter millions cubic yards of material was removed—a full half of it rock. Sixty-two thousand tons of steel went into beams and girders, which were riveted together with the utmost rapidity. Many a crowd stopped to watch the process. A beam was swung into place. A rivet-heater picked a red-hot rivet from his forge and tossed it to a waiting workman, fifteen feet away, who caught it deftly in a tin pail. An iron-worker picked it out with pincers, jabbed it into the hole in the adjusted beams, and jammed a dolly-bar against it. Another placed the automatic riveter on the end of the rivet and pressed the lever. There was a quick, eager rapping, and the rivet was clinched home. The iron-work went up as if by magic.

HONEST WORK DEMANDED

The elaborate precautions of the engineers have left no loopholes for dishonest work,

AND RUN UPON AN ELEVATED STRUCTURE

even if any had been attempted. A large force of inspectors, appointed under civil service rules, scrutinized all materials used in construction and audited all bills. The supervision went even further. Not even the prices for material set down in the catalogues of business houses were deemed low enough, but manufacturers were visited before an order was given, and prices were obtained as low as any sharp business-man doing business on his own account could secure. I have compared bills submitted for subway materials with the prices given in the manufacturers' trade-lists, and in all cases the prices in the bills were lower. Moreover, the inspectors, not content with examining materials as they were delivered at the subway, went into the works of manufacturers and examined materials as they were being made. The cement, for example, was examined as it was being manufactured, and each lot was tagged for its destination in some one section of the subway. Records were kept. One may select any bag of the cement used in the miles and miles of subway concrete, and the engineers, by examining their records, could tell just exactly when that cement was made and who inspected and passed it. The steel, the paint, the asphalt, indeed all the material used, was examined and tested with a thoroughness never before devoted to a great engineering work. Countless photographs were taken of the materials as they were tested, and of every detail of the work since the first shovelful of earth was upturned for the sub-

EACH UNDERGROUND STATION IS DECORATED WITH A DISTINCTIVE DESIGN—THE BEAVER DEVICE OF THE ASTORS AT ASTOR PLACE BEFORE COMPLETION

way on March 24, 1900, to provide a permanent record of what was done.

Accidents were few considering the magnitude of the work. The most serious was an explosion in the Park Avenue tunnel, which runs from 34th to 42d streets, beneath the already existing tunnel through which run the Fourth Avenue cars. This explosion broke all the windows in the Grand Central Station and those of all the buildings for a block on Park Avenue. At this same place, Major Shaler, an able engineer, was killed by a fall of rock from the roof of the tunnel. Indeed, in this short section more bad luck was concentrated than in all the rest of the subway.

From 168th Street to the City Hall are facilities for express trains running as fast as thirty miles an hour, with stations one mile and a half apart, though the main express traffic will run between 96th Street and the City Hall. There is a fifth track at 42d Street, 14th Street, and Spring Street, so that cars can be switched off at these points. There is a loop at the City Hall, and a double loop will be provided at the Battery, so that some of the cars running downtown can turn back at the City Hall and some of the Brooklyn cars can return to Brooklyn from the Battery, allowing only the required number of cars to cover the stretch of lower Broadway between the City Hall and the Battery.

Power is furnished to run the trains from the largest power-station in the country, on 59th Street, with a capacity of 132,000 horse-power. To prevent accident, the cables containing the electricity for power are in ducts built into the side-wall of the subway, as shown in the second photograph illustrating the progress of the work at Union Square. There are separate ducts for conveying the electricity for lighting, which are separated from the inside of the subway and are independent of the power cables. The third rail is to be covered. The pillars holding up the

PAINTING THE INTERIOR WITH PNEUMATIC SPRAYS

THE CONSTRUCTION OF THE SUBWAY IS OF THIS GENERAL CHARACTER

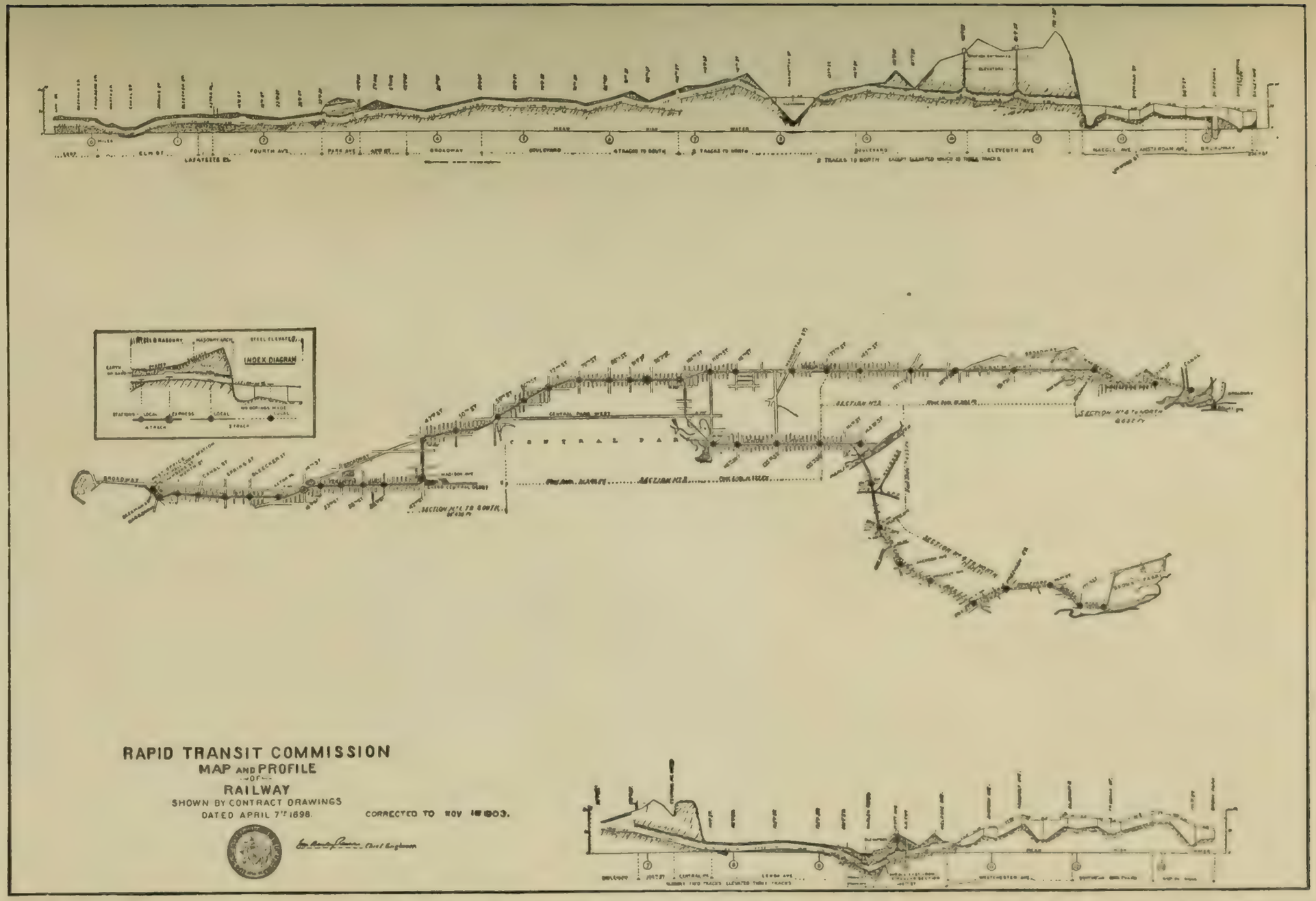
THE CARAVEL DECORATION AT THE COLUMBUS CIRCLE STATION

An example of the method of symbolizing the name of the station by an appropriate design

roof of the subway are so close together that, even if a train should run off the track, it could not project over upon the adjoining track. Accidents, therefore, are very unlikely to occur, and, even if one should occur, it could not prove such a catastrophe as happened in the underground tube in Paris. The contractors have even used 100-pound rails, though the contract called for only 80-pound rails, and are expending $18,000,000 for equipment, although the original estimate was $8,000,000.

There is no doubt that there will be a tremendous rush of people to use the subway cars. No new transit line was ever opened in New York that was not speedily utilized to the limit of its capacity. There are now more than 140,000 passengers in the rush hour alone, night and morning, riding up and down Manhattan Island in the surface cars and the elevated railroad, and nearly 35,000 crossing between Brooklyn and New York. And, of course, the traffic is heavy during the other hours of the day, for more than two and one-half million passengers ride on the cars daily in New York, and about one and a quarter million in Brooklyn. The hourly capacity of the subway between the City Hall

A DRAWING SHOWING THE PLAN OF THE SUBWAY AS COMPLETED AT TWENTY-THIRD STREET AND FOURTH AVENUE



The map in the middle is an outline of the route of the subway from the City Hall (at the left) to the north end of Manhattan (at the upper right) and to the Bronx (at the lower right). The subway is indicated by the heavy black line; stations by black dots. The fine parallel lines are streets. ¶ The drawing at the top of the page is a profile of the route which runs the length of Manhattan. The white bar between the two zones of shading indicates the level of the subway, and its grade. ¶ The drawing at the bottom of the page is a profile of the section of the subway which runs under the Harlem River to the Bronx.

and 42d Street is estimated to be in the neighborhood of 43,000 passengers.

"HARLEM IN FIFTEEN MINUTES"

If previous experience in New York is any criterion, the subway will do full duty, and yet the surface and elevated roads will all be crowded. No permanent relief from the present congestion of traffic in New York will take place until additional transit undertakings now planned or under way have been finished. But beyond doubt the subway will add to the speed and convenience of the passage up and down town. "Harlem in fifteen minutes" has long been a cry of New Yorkers. This consummation has now been reached. The tunnel is cool in summer; it will be warm in winter; on rainy days, it offers dryness, and on sunny days, shade.

A LINK IN A GREAT SYSTEM

The subway, however, is but a link in a great system which has been evolved for New York to render this most crowded of the world's areas a part of the mainland, though it is completely surrounded by water, into which and out of which can conveniently move the half-million workers who toil in the city though they sleep in the country.

Already the New York Central Railroad and the New York, New Haven & Hartford Railroad, which carry an army of "commuters" in and out of the city daily, over country within a radius of forty miles, have made arrangements to change their suburban systems from steam railroads to electric. At great expense, the terminal yards at the Grand Central Station have been largely extended. Suburban trains will be replaced by trains similar to those running in the subway, and a station will be built along the east side of the yard, just north of the Grand Central Station, where passengers will alight for a short walk which will bring them to the subway cars. A practically uniform transit system will thus extend, with one break at the Grand Central Station, from the Borough Hall in Brooklyn to Connecticut and Hudson River towns. Dwellers in the suburban districts will be provided with a swift and comfortable means of transit, unmarred by smoke and cinders, between their homes and their places of work. Possibly even closer connection may be made between the subway and these electric railways to the suburbs.

The New York and New Jersey Railroad Company are now completing their tunnel under the Hudson River from Jersey City to Christopher Street in New York, through which a trolley line will run. Work on this has been carried on simultaneously with the building of the subway.

THE PENNSYLVANIA'S TUNNEL

But the greatest project of all is the tunnel of the Pennsylvania Railroad, which will cost from sixty million to seventy million dollars. Here was a problem indeed. A tunnel has been planned to pass far under the bottom of the Hudson River, large and stable enough to bear heavy passenger trains passing in and out of the new Pennsylvania Railroad Terminal, which will be built in along 33d Street between Seventh and Ninth Avenues. Samples of the river bottom show neither rock nor sand, nor even ordinary mud or clay. There is no sharp division between the river and its bed. The water gradually thickens with silt at the bottom until the mud is able to support a sounding-lead, but even here the material is of the consistency of crude petroleum. With depth, it grows more like mud, but for many feet there is nothing firmer than mud. The Pennsylvania Tunnel accordingly will consist of two tubes of iron reinforced with concrete, resting on piles. Shields will be pushed forward as in the two tunnels already mentioned, piles will be driven down, and section after section of iron will be bolted one to another until the river is crossed. This tunnel will continue across the city, past the new terminal, under the subway at 33d Street, and beneath the East River, to the terminal of the Long Island Railroad at Long Island City. A connection will be made with the subway where it crosses, so that Long Island and New Jersey people will have as easy access to all parts of the city as those who live along the New York Central Railroad and the New York, New Haven & Hartford. Work on the Pennsylvania Railroad Tunnel has already begun.

When the projected extensions of the subway have been completed, and the two additional bridges to Long Island to follow the second Brooklyn Bridge which was opened last fall, New York will no longer be an island.

EVERY MAN'S DUTY REGARDING TUBERCULOSIS

SPECIFIC ADVICE TO THOSE WHO LIVE WITH CONSUMPTIVES, TO TEACHERS, PREACHERS, EDITORS, PHILANTHROPISTS, EMPLOYERS, AND CITY, STATE, AND NATIONAL OFFICIALS, TOWARD THE PREVENTION AND TREATMENT OF THIS DISEASE—A PROGRAMME THAT WOULD MEAN PRACTICAL ERADICATION

BY

S. A. KNOPF, M. D.

I SHALL point out what every intelligent individual and what different classes and communities may do to combat tuberculosis. Let me begin with the consumptive himself, and those who live with him.

He should know the nature of his disease; he should know that it is preventable and curable, and that he can protect himself from reinfection, and thus hasten his cure, by religiously adhering to the instructions concerning the disposition of his sputum and his mode of life. Those living or associating with him, relatives or friends, should treat the consumptive kindly and considerately; but they should be firm if he becomes negligent, and under no consideration allow careless expectorating or slackness in the other precautions. They should, however, know that the conscientious consumptive is as safe to associate with as anybody else, and never should they make him feel as if he were an outcast.

KINDLY TREATMENT OF CONSUMPTIVES

An exaggerated fear of a consumptive is unjust and cruel. We should always bear in mind that he needs our sympathy and brotherly love, and that we can never tell when this disease may come very close to us, or may even strike us ourselves. As a rule, it is not difficult to get along with a consumptive individual. In an address, which I delivered before the Society of Medical Jurisprudence, "A Plea for Justice to the Consumptive," I made public the opinions of a number of our most eminent specialists on the subject. The address was intended to counteract the rather increasing official and private fear of consumptives, and a tendency to ascribe to them unfavorable mental characteristics. The following are a few of the expressions of opinion which came to me as a result of my inquiry:

Doctor William Osler, Professor of Medicine of Johns Hopkins University and Physician-in-Chief of Johns Hopkins Hospital in Baltimore, wrote:

"I quite sympathize with you in your movement. My impression is that the unfortunate victims of tuberculosis are above the average in their mental and moral character."

Doctor Vincent Y. Bowditch, of Boston, Founder and Physician-in-Chief of the Sharon Sanatorium for Consumptives, and Visiting Physician to the Massachusetts State Sanatorium, wrote:

"I can give my testimony to innumerable cases of consumptives of patient suffering, of unselfishness and of heroic struggle against weakness and nervous irritation. . . . I have certainly seen, in consequence of this fear of the consumptive, the most brutal exhibitions of selfishness among the friends and relatives of patients suffering with pulmonary disease, and more than I have ever seen among those afflicted."

Doctor James Tyson, of Philadelphia, Professor of Medicine of the University of Pennsylvania, wrote:

"I am thoroughly in sympathy with you in the feeling that there is a ridiculous phthisiophobia [fear of consumptives] now prevalent which is far more selfish than any conduct I have observed in the average consumptive. I am totally out of sympathy with the methods which have been pursued to discriminate against the consumptive."

To me, the most beautiful tribute was paid to the character of the consumptive in a letter from the eminent Doctor E. L. Trudeau, of the Saranac Lake Sanatorium, who is

equally well known for his philanthropic and for his scientific works. Here are his words:

"I have seen all the finer traits of human nature developed to the fullest extent by the burdens which chronic and fatal illness, often slow in its progress, adds to the sum total of what men and women usually have to endure in life. I have seen certainly more patience, courage, self-denial, and unselfish devotion to others in consumptives than I have noticed in the majority of healthy human beings. Indeed, the Sanatorium work never could have been carried on were it not for the self-sacrificing devotion to the suffering of others shown by my associates, the nurses, and even the employees at the Sanatorium, most of them having come here originally because suffering from tuberculous disease. History is full of instances which prove that tuberculosis does not interfere with the development, to the highest degree, of the intellectual, the moral, or the ethical sides of man's nature."

It has been my own privilege for well-nigh twenty years, as general practitioner and consultant, to come in contact with thousands of consumptives of all classes of society, in private homes, health resorts, sanatoria, and public and private hospitals. My observations concur with what has been said by the men whom I have just quoted, to whom I look up as teachers and men of indisputable authority. I may say that among the sweetest experiences and recollections of my life, I will always count the gratitude of the consumptives, poor or rich, which they have expressed to me, either on the assurance of their recovery or for the care bestowed upon them when they were beyond human help.

Having outlined our duty in general when in contact with consumptives, let me now consider what we can do in the prevention and treatment of consumption when our position in life offers particular opportunity to be helpful in this great and good cause. I will begin with the men and women who have the noblest, highest, and most responsible calling, that of educators of our children.

THE DUTY OF SCHOOLS

The school-teacher, the school superintendent, and the school boards have a great mission in protecting children from contracting tuberculosis. Our school buildings should be models of sanitary construction and ventilation; there should be no school without a large playground, or at least a roof-garden, where the children may play at recess and, at the same time, breathe pure, fresh, and unstinted air. The teachers should teach the love of the judicious use of cold water and the love of fresh air so that the little ones, particularly when they are the children of poor and ignorant parents, may serve as missionaries at home. The school superintendents should study the curriculum, and arrange it to the best advantage for the children's health, considering carefully the division of physical and mental development. There is too great a tendency to develop the intellect of our children to the detriment of their physical welfare. School-teachers should study the children's physical as well as intellectual needs; they should know the symptoms of the general appearance of a tuberculous or scrofulous child. Scrofulosis, which is only a milder type of tuberculosis, manifests itself in children usually by extreme paleness, constant running of the nose or ears, skin eruptions, or flabby skin or muscles. Sometimes these little sufferers are phlegmatic and sometimes very irritable. When the bones or joints become affected a lameness can usually be observed.

The duty of the school-teacher, when she discovers such a child, is evident. She should hand it over to the school physician, who in turn should give the parents advice for future procedure, and she should insist on cleanly habits among her pupils.

HOW PREACHERS MAY HELP

The duties of the clergyman in the combat of tuberculosis are akin to those of the teacher. He should encourage healthful, moral, outdoor amusements among old and young. He should see that his church is well ventilated and hygienically constructed and managed. The use of individual communion-cups should be encouraged. Fixed carpets should not be used in places of worship where so many people congregate. Catholic priests, in charge of large congregations, may do well to follow the example of the great Roman divine, the Bishop of Fano in Italy. In a circular recently issued by him, he asks the priests of his diocese to comply with the following rules:

1. In every church, the floor must be regularly cleaned with sawdust saturated with a strong sublimate solution. This thorough cleaning should

take place particularly after holidays, when great masses of people have visited the church.

2. Every week all ordinary chairs and confessional chairs must be thoroughly cleaned with moist rags.

3. The grate of the confessional chairs must be washed every week with lye and then polished.

THE AID OF THE NEWSPAPERS

The public press is doing admirable service in the dissemination of knowledge regarding the prevention of consumption. Unfortunately, many of our otherwise most respectable newspapers still lend their columns to the most unscrupulous and dangerous quack advertisements. "Absolutely sure consumption cures" are advertised daily, and many consumptives, particularly among the poorer classes, fall victims to charlatans. It cannot be proclaimed too loud, nor said too often, that consumption is not cured by quacks, patent medicines, or other secret remedies, but solely and exclusively by the scientific and judicious use of fresh air, sunshine, water, abundant and good food (milk, meat, eggs, vegetables, fruit, etc.), and the help of certain medicinal substances when these hygienic and dietetic means do not suffice in themselves to combat the disease.

The thorough and constant supervision of the pulmonary invalid, the immediate intervention when new symptoms manifest themselves or old ones become aggravated, or do not disappear rapidly enough, the prescribing of proper food and drink, can be done only by the thoroughly trained physician. A climatic change is not always necessary, and we have evidence enough that, even in our home climates, such as New York, Boston, Philadelphia, Baltimore, consumptives have been cured, either under the judicious management of their family physicians or in special institutions.

To break the nefarious trade of the man who deals in "sure and infallible" consumption remedies, to stop the practice of the men and women who claim to be able to diagnose and treat consumption by letter, the Christian Scientists, the faith curist, who ridicule preventive measures and the laws of cleanliness and hygiene—which are the laws of God—but who, as a token of faith, demand their fees in advance—we have but one weapon, and that is education—education by a conscientious press, the physician, the clergyman, and the teacher.

If the individual citizen is in the presence of a consumptive who is not yet under medical care, he should teach the invalid all he can of the prevention of consumption and advise him to seek the counsel of a competent physician. If the patient is too poor to pay for a consultation, refer him to one of the dispensaries or special hospitals, for no consumptive patient, no matter in what stage of the disease, should be without medical attendance.

THE SAFETY OF SANATORIA

If at all possible, the patient should be treated in a sanatorium—that is, an institution designed especially for consumptives, usually situated in a healthful locality, somewhat elevated, relatively free from dust and traffic, where only patients suffering from tuberculosis are received. In these institutions, the greatest care is exercised everywhere, in buildings and surroundings, to avoid the possible transmission of the disease to employees, visitors, or the neighborhood of the institution, and equally great care is exercised to prevent a reinfection of the patients themselves. All the precautions which provide for the destruction of the infectious expectoration are carried out with the utmost rigor in the sanatorium. A voluntary violation of rules relating to the disposal of the expectoration is followed by immediate dismissal of the offender.

The hygienic and preventive measures in these modern sanatoria are so thorough that one is in less danger of becoming infected with the germs of consumption there than anywhere else. It is of the rarest occurrence that any of the physicians, nurses, or employees in such an institution contracts tuberculosis. This is a very good proof of how easily infection can be avoided when physician and patient work together to combat this great foe of mankind.

In localities where sanatoria for consumptives exist the mortality from consumption among the inhabitants of the villages in which they are situated has greatly decreased since the establishment of the institutions. The good hygienic and preventive measures instituted in the sanatoria have been voluntarily imitated by the villagers, and, as a result, the mortality from pulmonary tuberculosis among the inhabitants has gradually decreased.

The sanatoria, better than anything else, have demonstrated the absolute curability of tuberculosis, particularly when treated in the early stages. Some of them report as many as 75 per cent. of cures, the great majority of which are lasting, as careful inquiry among the discharged patients constantly proves. Even more remarkable results are obtained in the treatment of scrofulous and tuberculous children in special sanatoria located along the seacoast. In Europe, particularly in France, Holland, and Germany, there are along the seacoasts numerous splendidly equipped sanatoria for that purpose. In the United States, we have thus far virtually none of this class of institutions; I am, however, pleased to state that the New York Society for the Improvement of the Condition of the Poor has established this season such a one at Seabreeze, Coney Island.

There are in the United States a number of institutions for paying, as well as for poor, consumptive adult patients, but far too few of either class. There is not a single State in the Union that has adequate facilities for the treatment of its consumptive poor, and equally great need exists everywhere for sanatoria for the consumptive poor and the well-to-do. New York has at least from 30,000 to 35,000 consumptive poor, needing sanatorium or hospital treatment. Counting all institutions, sanatoria, special and general hospitals (the latter take the consumptives only in a few instances), there are hardly 2,000 beds at the disposal of patients afflicted with chronic pulmonary tuberculosis. There is an urgent and crying need for sanatoria to treat the curable cases of consumption, and for special hospitals to remove the hopeless ones from the crowded centres of population, where they constitute a permanent source of infection.

ANTITUBERCULOSIS ASSOCIATIONS

In our own country, there are up to this date, antituberculosis associations or committees in the States of California, Colorado, Connecticut, the District of Columbia, Illinois, Maryland, Massachusetts, Minnesota, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Vermont, and Wisconsin.

Every layman interested in the tuberculosis problem should strive to become a member of one, and, if there is not yet such an organization in existence in his locality, he should unite with the medical men in creating one. Philanthropists and men of leisure who wish to be helpful to their fellowmen have a splendid opportunity to do so, and, by embracing it, will raise the sanitary condition of their own environments and of the community.

Baltimore had, during the month of January, a most interesting Tuberculosis Exposition, the first of its kind in the United States. The Exposition was held under the auspices of the Tuberculosis Commission of Maryland conjointly with the Board of Health of the same State and the Maryland Public Health Association. There were exhibits from all parts of the United States, from Canada, and from foreign countries. As a result of a meeting held on the same occasion, there is now in course of formation a United States Society for the Study of Tuberculosis, under the leadership of Professor Osler, of Baltimore. This association is composed mainly of physicians interested in the tuberculosis problem.

There remains only to say a few more words on the duties of our great industrial employers, the philanthropists, the statesmen, and our federal, State and municipal governments. Factories, workshops, stores, and offices should be sanitarily constructed and well ventilated; but, besides this, there are other things which the employer can do to combat tuberculosis.

THE DUTY OF EMPLOYERS

In much-frequented places, there should always be a sufficient number of spittoons, preferably elevated and of unbreakable material. Wherever such precautions are taken, and conspicuous signs put up forbidding expectorating on the floor, making it punishable by law, promiscuous spitting will soon cease, and an important point in combatting tuberculosis will be gained.

All employees, men and women, of whatever class, should be allowed ample and regular times for their meals, which should never be taken in the workshops. Lastly, employees should not be overworked; there should be reasonable hours for all, so that the laborer may enjoy the bodily and mental rest which is essential to the preservation of health. The germs of any disease, but particularly those of tuberculosis, will always find a more

congenial soil for their development in an overworked and enfeebled system. The employment of children under fourteen years of age in factories, workshops, and mines should be prohibited by law. The child is more susceptible to tuberculosis than the adult, especially when its delicate growing organism is subject to continued physical strain. That there are still sections in our country where child labor is permitted is one of the saddest and most disgraceful blots upon the good name of our nation.

AN OPPORTUNITY FOR PHILANTHROPY

It is hardly fair to speak of the duty of the rich as philanthropists, for philanthropy is a voluntary act, and the rich man cannot be compelled to give some of his wealth to his less fortunate fellowmen. Still less have we a right to dictate to a millionaire how to dispose of his wealth when he is philanthropically inclined. This country has a right to be proud of many of its rich men and women, and I am the last to underestimate the fortunes which have been given to the various educational and religious institutions; but it is natural that those of us familiar with the needs of the consumptive poor should look for help, in solving this difficult tuberculosis problem, to the large-hearted American men and women who make such noble use of their wealth.

I wish that I could take some of our philanthropic friends to our densely crowded tenement districts, and show them there the sufferings of mind and body of the poor consumptive who has to die, not because his disease is incurable, but because there is no place to cure it.

Our country has recently been blessed by some particularly large gifts for research in scientific medicine. I am the last to underestimate scientific research, but I should like to see a few of the millions now put aside for that purpose utilized to demonstrate practically and on a large scale what laboratory and clinical research work concerning the prevention and cure of tuberculosis has already taught us. Experiments by that careful observer, who is as great a scientist and physician as he is a humanitarian, our esteemed colleague, Doctor Trudeau, and the experiments by many others, have demonstrated that animals deprived of light and good air succumb to an inoculation of tuberculosis much more rapidly than animals injected with the same amount of tuberculous matter, but which are left to roam about in the sunshine and fresh air.

Why do our philanthropists not utilize the results of these experiments and build model tenement houses where air and light is plentiful for all who live in them? Why don't our municipalities benefit by these laboratory experiments, which are corroborated by clinical work in all our hospitals, and see to it that overcrowding, the existence of dark bedrooms and dark hallways, the accumulation of filth and odor, are made impossible by the greedy landlords of our tenements?

I think the time has come when all municipalities should build, own, and manage model tenement houses for their honest laboring population. That this can be done with great sanitary, moral, and even financial gain, has been amply demonstrated by the experiments of the city of Glasgow. Let some of the millions set aside for laboratory research work be now consecrated to research in the direction of prevention and cure.

A PROGRAMME OF PRACTICAL ERADICATION

I will summarize what, to my mind, should be the duty of municipal, State, and federal governments. Each community should have an efficient committee on tuberculosis, composed of a number of general practitioners, health officers and trained charity workers. This commission should have its offices in a building connected with a special dispensary for tuberculous patients, if the size of the community demands such a provision. Each case applying should be carefully examined for the following purposes:

1. To determine the applicant's condition by medical examination.

2. To visit his home if he has been found tuberculous, and to institute such hygienic measures as seem necessary (distribution of pocket spittoons, disinfectants, etc., gratuitously if the patient is poor).

3. To examine the other members of the family in order to find out if any of them have also contracted the disease, and, if so, to counsel proper treatment.

4. To report in full to the sanitary authorities concerning the condition of the patient's dwelling. Its renovation, or even destruction, may be imperative when it is evident that tuberculosis has

become "endemic" there, owing to the condition of the soil or other sanitary defects.

5. To determine the financial condition, whether the patient is or is not able to pay, and whether or not, by his being taken to an institution, the family will become destitute. If the latter should be the case, it would be necessary for the municipality to provide for the family. In many cases, a letter of inquiry sent to the former medical attendant of the patient would materially aid in the work of the investigating committee.

Any individual should have the right to present himself for examination, and every physician should be at liberty to recommend any person for examination to the board of his precinct or district.

What can be accomplished by an efficient city health board in combatting tuberculosis has been clearly shown by the Health Department of the City of New York, under the admirable leadership of Professor Hermann M. Biggs. In 1886, previous to any organized efforts on the part of the Health Department, the mortality from tuberculosis in the City was 4.2 per cent. In 1902, it had gradually come down to 2.89 per cent. The methods of the health department during these sixteen years in dealing with the tuberculosis problem in New York were in substance the following:

1. It was made obligatory that all cases of tuberculosis should be reported.

2. Inspectors and instructors were sent to as many houses of tuberculous patients as possible.

3. Leaflets of instruction in English, German, Italian, Hebrew and Chinese were distributed.

4. All apartments where deaths from tuberculosis had occurred were disinfected.

5. As many patients were taken care of in special hospitals, sanatoria, and dispensaries as the often too meagre appropriation would permit.

Our State legislators should do their utmost to enact such laws as will secure always proper ventilation and light in public and private buildings.

Another feature in combatting tuberculosis, which, to my mind, has been somewhat neglected, is the prevention of tuberculosis among animals; for, notwithstanding Professor Koch's recent declaration at the Tuberculosis Congress in London, there is still too much evidence of the possibility of the transmission of tuberculosis from the bovine to the human race.

State and city boards of health should receive ample appropriations to combat tuberculosis among men and animals, and they should be helpful in creating State and city sanatoria and agricultural colonies for consumptive adults, and seaside sanatoria for scrofulous and tuberculous children; also special hospitals and tuberculosis dispensaries, and, lastly, the United States Government should, after the example of Great Britain, France, and Germany, not only have a ministry of public health, but also a special commission, appointed by the President of the United States, composed of expert sanitarians, physicians, and veterinarians, who should unite with the State and municipal authorities of the country in combatting tuberculosis.

Some may think some of my suggestions too radical or too difficult to be realized. Yet, I venture to say that if only one-tenth of the 150,000 American citizens who now annually die of this preventable and very largely curable disease were in danger of succumbing to an acute contagious disease, like small-pox, yellow-fever, or plague, the whole nation would be up in arms, and federal, State, and municipal legislative bodies would vie with the philanthropist to stamp it out. Yet the mortality from tuberculosis is so great only because the disease is not sufficiently prevented and there are not enough places to cure it; and it could be reduced to a minimum by proper methods of prevention and cure.

Again, the economic loss of 15,000 American citizens from small-pox, yellow-fever, or plague, all of which are acute infectious diseases, does not compare with the economic loss caused by the death of 150,000 of citizens, mostly between the ages of fifteen and thirty-five, who must now annually die from tuberculosis, which is only a chronic infectious disease. Add to this great economic loss from tuberculosis the tears and sorrows of millions, why shall I not hope that the American conscience will at last awaken in statesman, city father, and philanthropist, and in all loyal citizens, in a desire to help toward the eradication of a disease so eminently preventable and so often curable.

ELEVATING THE TRACKS AT HALSTED STREET, CHICAGO

The four temporary tracks carry the regular traffic during the change to the new level

REBUILDING A GREAT RAILROAD

HOW A NEW MANAGEMENT MADE OVER A WHOLE LINE AND INTRODUCED NOVEL METHODS AND EQUIPMENT, MAKING A NEW ERA OF PROFIT—HOW TRACKS WERE STRAIGHTENED, BRIDGES REBUILT, AND LOCOMOTIVES AND CARS REPLACED BY BETTER ONES — NEW DEVICES ADOPTED

BY

FRANK H. SPEARMAN

AN Eastern proverb tells us that many pass; one sees. The man, if he be a railroad man, knows the possibilities of a railroad better than his fellows. Finding an opportunity, he enlists capital, buys a road at what may seem to others a very high price; and then he proves that the price he paid is really a low one; for he makes the road earn two dollars for every one that it earned before. The task is like the task of a man who buys an armory built for the manufacture of the Springfield musket, and undertakes to transform it into a plant capable of turning out a modern rapid-fire gun.

As an example of what may be done in rebuilding an American railroad, I have chosen the story of a line with its terminals in three great inland American cities that show every characteristic of the national activity. The achievement affords sharp contrast between the old condition and the new. Moreover, as the railroad is a fast passenger line, the reconstruction has called for the very highest refinements in track excellence and equipment; and, as it is a competitor for a heavy freight traffic in a territory where the railroads have long been striving to do business cheaply, this road required resourceful management to put it ahead of its neighbors.

For many years, the road had enjoyed the reputation of being a first-class line. The railroad world believed in it, and so did the traveling public. But a new president came in, who informed the astonished operating department that they had, in point of fact, no road at all; that their track was an excuse, their motive-power a reminiscence, their equipment a curiosity, and their reputation a fiction.

The road was one of the first built out of

STRAIGHTENING THE TRACK AND IMPROVING THE GRADE

The new straightaway track, before ballasting, beside the abandoned, heavy-grade track, with its speed-breaking curves and old-fashioned bridge

Chicago; it had run the first sleeping-car ever offered to the public in the world; it had run the first chair-car ever built, and the first dining-car. But the tracks, built in an early day, followed closely the configuration of the country; the grades reflected very faithfully the hills and the hollows of the prairie. The bridges and the culverts were chiefly of wood, and such ballast as had been used was the spoil of convenient gravel-banks: a little stone, some slag—all worn in the service. One pet the good road had; a graceful steel bridge of enormous proportions—which had cost half a million dollars—spanning the Missouri River. It was the first steel bridge built in the world. In the rebuilding of the system, even so unique a claim to distinction could not save it. To the horror of the operating department, the five-hundred-thousand-dollar bridge went to the scrap-heap. The picturesque features of the pioneer line had had their day.

THROWING THE TRACK BODILY FROM A TEMPORARY TO A PERMANENT BED

The first new order to the engineering department on the division where the traffic converges toward Chicago called for grades no greater than three-tenths of one per cent. Seventy-pound rails were ordered for branches and passing tracks, and, on the main line, eighty-pound rails were called for from end to end of the system. While steam-shovels were tearing down the Illinois hills, bridge engineers were ripping out trestles and culverts, and the false-work was going in at

MODEL TRACK WORK AND STEEL BRIDGE

The bridge has a steel floor, covered with ballast, which almost entirely deadens the usual roar of bridge-crossing

the Missouri River for the new bridge—a million-dollar steel bridge, capable of carrying the huge locomotives and the cars of fifty-five tons capacity that were being built for the new owners. To eliminate curves and reduce grades, the original right-of-way was in places wholly abandoned.

All this work was done, necessarily, without a suspension of the regular traffic. While the bridges were being rebuilt, the new motive power and car equipment were under way. The heaviest freight-engines previously owned had been of fifty-five tons and were capable, in condition, of hauling thirty cars of twenty-five tons each; but the engines had been allowed to deteriorate until they could do only four-fifths of their former work.

The new "Consolidation" engines, for freight traffic, weigh 165 tons, and haul 100 cars. The old passenger-engines, of forty or fifty tons, capable of hauling five to seven coaches of their day at high speed, have been replaced by modern engines, of 135 tons, while, for especially heavy passenger service, of which the road has more than any line in this territory, exceptionally large engines have been provided, recent additions including the two most powerful express passenger-engines in the world. The illustration, which shows the largest passenger-engine in use on the road during the World's

A COALING AND WATERING STATION

The engine is taking coal, water, and sand at the same time

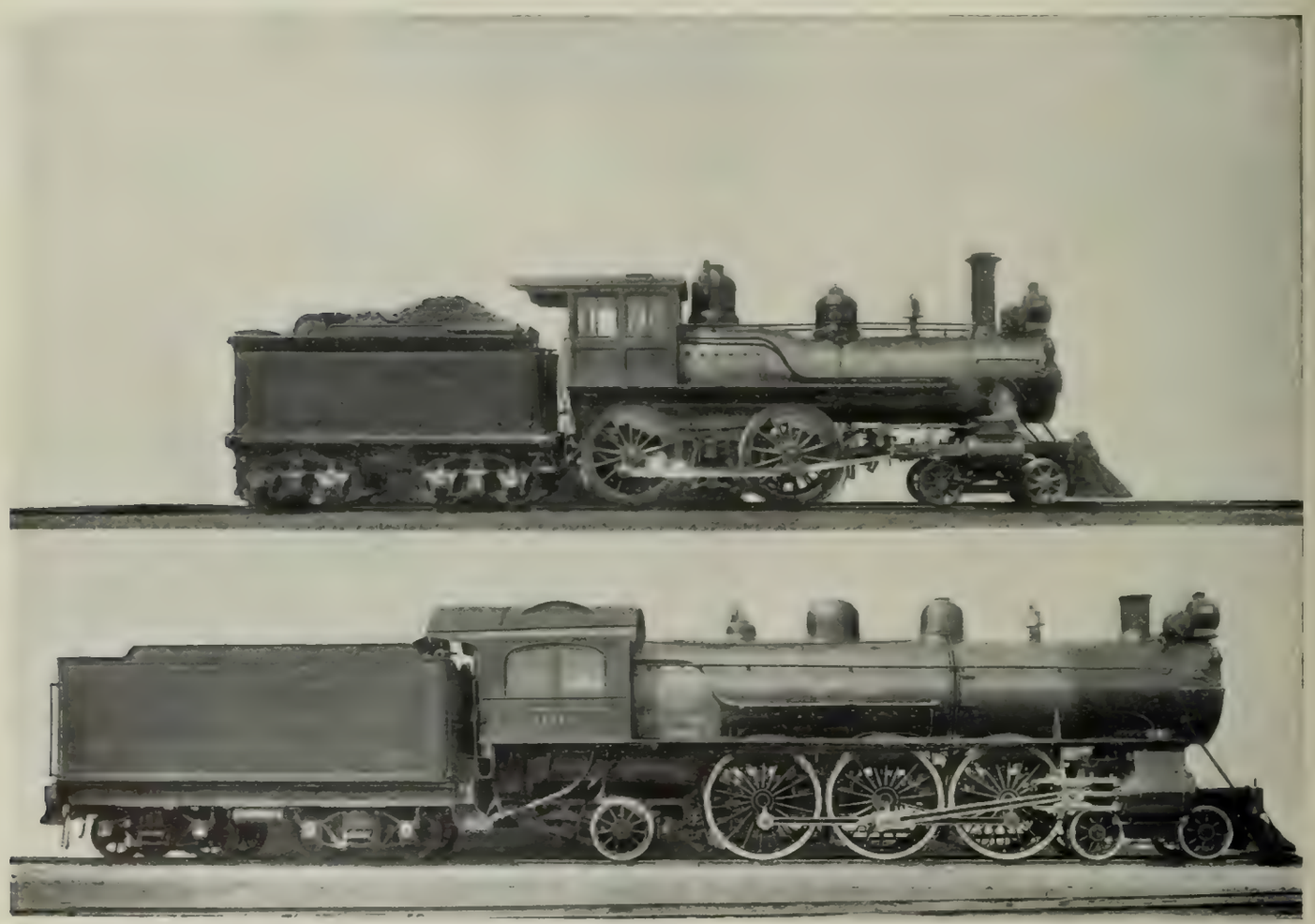
A MILLION-DOLLAR STEEL BRIDGE SPANNING THE MISSOURI RIVER

Built to replace a bridge that was deemed fit for many years' service

Fair in Chicago, caught by the photographer beside one of the engines built for use during the St. Louis World's Fair, shows strikingly the advance in motive power in ten years.

In freight-car equipment, wooden gondola-cars of twenty and twenty-five tons' capacity were replaced by steel gondolas of fifty-five tons' capacity, and the proportion of the weight of car to load was reduced one-third at a stroke. Moreover, the use of cars of so great capacity has reduced train friction. The road acquired a line that had always enjoyed a heavy passenger traffic, and where the new owners had found fifty-foot coaches, they built coaches seventy feet long, with modern seats, which would accommodate twice the number of passengers provided for in the old cars. Even local travel is tempted by every comfort that can be offered to invite a day's shopping in the city. Wide vestibules have been provided for even the least ostentatious of the daily trains, and the operating department will receive no passenger car without vestibules from another railroad. Moreover, the company has recently evolved a grill-room car, to add to its dining- and café-cars.

Of the important problems, however, that confront a traffic manager, the most serious are those concerned with terminal facilities; for the railroads that are first to secure



A GRAPHIC ILLUSTRATION OF THE DIFFERENCE IN MOTIVE POWER BETWEEN THE LOCOMOTIVES AT THE TIME OF THE WORLD'S FAIR AT CHICAGO IN 1893 AND AT ST. LOUIS IN 1904

The engines are photographed to scale: the lower one being the largest passenger-locomotive in the world

terminals in a great city are the envy and despair of all new comers. With every year, the position of the roads having the oldest, which are usually the best, terminals becomes more nearly impregnable. In many instances, one road holds in a powerful grip the traffic of a given district in a large city—at times of an entire city, as has happened in Pittsburg, for example, or in San Francisco. If its siding-tracks are in, its yards established, and if streets afterward cut off all possibility of the entering of new roads, the older road has the most complete of monopolies. So the rebuilders of the road under discussion, when asked what their most serious problem was, replied, "An absolute lack of terminal facilities." The old management had been a capable and a brainy one, noted in the whole railway world for its conservatism and its money-making ability. Yet the first owners of this road, twenty-five years ago, had sold a one-half interest in their Chicago terminals to a powerful Eastern connection, and, more incredible still, surrendered in the transfer their own control of them. In the next most important city on the system, St. Louis, the road had never taken title to a foot of terminals, its facilities being wholly rented; worse still, it acquired no interest in the company controlling them. In the third great commercial centre entered, Kansas City, terminals, ordinarily good when acquired, were found to be for today not only insufficient, but not owned with the main line. What such mistakes on the system have since cost, the financial interests now in control do not state; it is enough that they have been corrected. The truth is, the buyers in such a case have no ground to complain. But there is a third great and undefined party to all questions of railroad management; namely, the public, or that portion of the public which is dependent on a particular road for its transportation facilities.

This road being once acquired, it became the policy of the new people to increase the facilities along their line. A single instance of what has been accomplished will serve to illustrate the point. Five years ago, this road had no coal traffic. Its tracks have always covered the richest coal-fields in the West; yet it hauled no coal. Today one passes, on sidings, hundreds and hundreds of huge, steel gondola-cars, loaded with newly mined coal, and sees other hundreds of such cars lying about division and terminal-yards. This enormous development of freight traffic, in so few years, has been the result of merely providing the road with adequate cars, engines, and yards to care for the traffic, and the reducing of grades and curvature sufficiently to enable the road to make a rate on the business that would protect local shippers of coal in competitive markets. Today, on this road, two of the largest mines in Illinois are being opened—mines equipped with modern washeries, and with a producing capacity each of 2,000 tons a day. In five years, this railroad has come to take second place in tonnage records from western coal-fields, and during the great hard-coal strike its daily contribution of 200 cars of soft coal to Chicago helped to avert an actual famine. The road has made it a policy to open no mines of its own, and when there is a shortage of cars the suspicious shipper knows at least that the railroad is not providing its own mines with cars to his detriment.

The construction department, working out of Chicago, pushed track elevation until every grade-crossing was eliminated. The grades receiving the heaviest of the traffic, as it approached Chicago, were reduced until they gave the rebuilt road the lowest maximum grade of all roads entering Chicago from the western coal-fields. At the very outset, the work of double-tracking was begun; to provide for heavy cars and engines, heavier rails have been spread south and west until today over one-half the total mileage of the entire system shows new steel. The work falling on the bridge department was continuous and exacting. While shops were being enlarged, engine-houses rebuilt, and turn-tables lengthened, the track elevation at Chicago called unceasingly for viaducts, and the traffic conditions everywhere on the system demanded new bridges. Yet a heavy traffic was maintained without serious interruption while practically all the bridges were rebuilt—318 bridges in less than a thousand miles of trackage. One hundred and fourteen bridges were replaced by cast-iron pipes and concrete arches. But besides the great bridge across the Missouri, and four solid-floor creosoted trestles, 122 steel bridges were installed.

The elimination of curves, pushed till the maximum had been reduced to four degrees,

is still in progress. So far has it advanced, that an engineman familiar with a division five years ago would hardly recognize it now. Long restful stretches of straight track have been developed until there are now on the system many of from fifteen to twenty miles; there is at least one straight stretch of twenty-nine miles, and one extraordinary stretch of forty-five miles. Even when the curve is reached, a traveler is deceived. Ingenious easement curves have been introduced which heel a fast train so gradually to the slant required to round the necessary curve that the lurching is wholly avoided, and the traveler can be sent around a curve without knowing it. Such devices for the making of passenger travel safe and easy are within the reach of any railroad; it is their expense that keeps them from being generally adopted. Unless a road serves a large passenger traffic, the management will not stand the necessary expense.

In doing away with curves altogether, a more notable instance of what is possible than that shown in the illustration on page 5372 would be hard to find. Here, directly beside the new stretch of straight track, the old roundabout track, the long fill, and a spindling steel bridge, such as many roads would be proud of, lie wholly abandoned. Within half a mile a number of reverse curves have been eliminated. The new line is a long, straight stretch with a curve at each end.

Hardly had the change been made before negotiations were under way to sell the abandoned right-of-way, the big fill, and the long bridge to a trolley line. The buying and selling of second-hand locomotives, second-hand cars, and second-hand rails is a profitable business among jobbers in railroad junk; worn-out rock-ballast, even, is purchased by street-car companies. The sale of second-hand curves is a novelty.

Mention has been made of ballast-floor bridges. These carry trains noiselessly over long, heavy, plate-girder structures. It is a mystery why they should not have been used long ago. Yet, the railroad whose rebuilding we have followed was the first steam railroad to apply a ballast-floor to steel bridges and regular track-work. This form of construction has two great merits. It secures safety; for, if a train leaves the track, the bridge ties, bedded in standard rock-ballast, cannot be bunched. Bunching the ties under the wheels of a derailed engine means the weakening of the bridge structure—indeed, its possible collapse under a wreck. And it does entirely away with the booming vibration under the cars. A creosoted pine floor of timbers is laid on the steel girders of the bridge structure, and, on this, rock-ballast is dumped. The ties are laid in the ballast in the usual way. Neither above nor below the bridge is there any material vibration. Indeed, applied to the systems of elevated roads in city streets, the ballast floor would solve the terrible noise problem.

A system of regular inspection, supplemented by annual competitive prizes for excellence in maintenance, keeps alive at all times a keen interest in the condition of the ballast-floor bridges of the railroad under discussion and, indeed, of all its ballasting.

With the engineering department busy with rebuilding, the operating department found itself overwhelmed with problems of transportation. The change of trains from the left-hand track to the right-hand track meant the changing of every switch and the rebuilding of all interlocking plants. Long stretches of track, in one instance covering a distance of sixty-five miles, are provided with continuous electric signals, which protect moving trains, stations, grades, and curves. Previous to the rebuilding there were comparatively few interlocking signals on the whole line to protect railroad grade-crossings.

The greatest obstacle found by the rebuilders in the economical operating of the motive power was a uniformly bad water-supply. Hard water continually ruined the boilers. With the determination to check this enormous waste, pumping-stations were installed, reservoirs impounded, and soft water secured for the boilers. A large reservoir impounded for water-supply near a prosperous Illinois town incidentally transformed a series of gullies and hollows into a beautiful lake. The townspeople were quick to note the change in the landscape. They asked permission to stock the new sheet of water with black-bass, and when fish were in plenty they wanted a country club. The railroad people gave them a lease of the lands surrounding the lake, and today the entire tract has been made into a park, with the lake for its centre; from a knoll, a shady clubhouse overlooks the water.

Photography has become so important an adjunct in the work that an official photographer is maintained. His photographs supply newspaper editors with timely illustrations and afford material for newspaper articles. As a means of adjustment, in cases of accident and personal injury, they are of great value.

These features of modern railroading are not entirely novel; but, together, they represent all that is good in the best railroad management in the world today.

VIVID PICTURES OF GREAT WAR SCENES

DESCRIPTIONS OF BRAVE DEEDS AND DARING EXPLOITS IN THE FAR EAST WHICH GIVE AN INSIGHT INTO JAPANESE CHARACTER AND SHOW NEW KINDS OF ACHIEVEMENTS IN MILITARY HISTORY

BY

O.

[NOTE.—These descriptions, written from the scenes of the events described, or from places as near these scenes as correspondents were permitted, appear in THE WORLD'S WORK and *Blackwood's Magazine*.]

THE FORLORN HOPE AT KINCHAU

CHEFOO.

THREE Japanese infantrymen leaned with their backs against a greasy sea-rock, which raised its slimy crest four feet above the level of the water. The three little men were fortunate, since they were able to rest their rifles on the rock, while the less fortunate of their companions, waist-deep in the water, were wearied to death in keeping the breeches of their pieces out of the brine. The three seemed entirely indifferent to the discomfort of their surroundings, though the whole company had been wading in the mud-flats for the last three hours, and had now halted in a deep pool formed in a sand depression. They were engaged in a comparison of their experiences during the last twelve hours. To the western soldier, the experiences of a lifetime would have been covered in the short space of time taken by the Fourth Division of the Imperial Japanese army to carry at the point of the bayonet the walled town of Kinchau. To the Japanese soldiers, it was but a delightful incident in the service which their country required of them. Their theme at the moment was the bloody grips they had been engaged in during the morning's street-fighting in Kinchau. Nor was it idle boasting, since the stains on the bayonet-catches of their rifles, blackening in the sun, gave sickening evidence of the carnage at which they had assisted. But the carnage behind them was nothing to that which they were to engage in before the sun set. At the moment the three little blue-coated soldiers appeared to take no interest in the lesser holocaust which was even yet taking place in the vicinity. They were discussing the past, which had been washed more vividly scarlet than the present, between the mouthfuls of sodden boiled rice which they scooped in handfuls out of the wicker satchels suspended to their belts. Such is the character of the Japanese soldier.

There was a terrifying rush of a great projectile above their heads. A hissing plunge, a half-subdued report, lashings of blinding sea-spray. The thick ranks of the company fell aside like driven skittles, and five helpless masses of human flesh bobbed convulsively in the water, which in patches showed yellow, brown, and red. A shriek of derisive laughter from the spectators who picked themselves whole from the *melee* was all the dirge vouchsafed to the victims—more, it was all they would have desired. Mahtsomahto, the Nagasaki recruit, leaned forward from his rock and picked up the cap of one of his fallen comrades. He fitted it upon his own head to replace that lost in the early morning struggle. His action appealed to the simple humor of those round him; they clapped him on the back, and bubbled with mirth in the ecstasy of

their congratulations. The mutilated remains floated clear, and the ranks closed up.

Then an officer came wading through the sea. He shouted an order to the colonel of the battalion. Another order passed from mouth to mouth down the line of company officers, and then the three little infantrymen had to stow their rice-baskets away quickly and take their rifles from the rest which the slimy rock gave them. The battalion was to move. Where and how the men in the ranks did not know; but, as the water descended first to their knees, and then to their ankles, they realized that they were moving off to the left, and, to their great joy, the direction was taking them nearer to the Russian position. As their feet made the dry shore, that position became defined to them. There was no mistaking it, for the gunboats, having spent the whole morning dragging for blockade-mines in the bay, had now found a channel by which they could safely take advantage of their light draught, and, having anchored, their shells were bursting all along the summit of the slope which frowned in front of the advancing infantry; also, far away to the left, the dark shadow of Mount Sampson's slopes was emitting countless little jets of flame. They came and went almost with mathematical precision. These jets were the burning charges of the massed Japanese field-batteries. They were adding to the Inferno which crowned the ridges where the Siberian Rifles, grim, dogged, and hungry, lay prostrate behind the filled gabions waiting for the climax which they knew this fierce cannonade but prefaced. The advancing infantry could trace the enemy's position from the bursting of the Japanese shells as minutely as if they were reading a chart. They could see the great column of lurid smoke and flame shoot upward as some 6-inch projectile struck the tip of the parapets, and, as the smoke from these explosions mushroomed out, and hung as a murky pall above the works, the darker patches were mottled with the white smoke-discs of bursting shrapnel. The din was deafening, for underlying the deeper detonations was a ceaseless crash of small-arms, punctuated with the grinding rattle of automatic weapons.

The infantry battalion began to crawl upward as its direction brought it under the cover of the ridge. It was now crossing ground recently held by the leading battalion of the Fourth Division. The ranks frequently opened to avoid trampling upon the trail of human suffering which marked the accuracy of Russian shooting. The head of the Fourth Division had been massed so thickly behind the ridge that, at a glance, it was possible to tell the nature of each projectile that has caused the ruin. Here an 8-inch Obuchoff had swept a dozen valiant little blue-coats from their feet, and they lay a mutilated mass; here automatic and mitrailleuse had mown down a file of men, and they lay prostrate or sat self-dressing their wounds, much as they had fallen; and here solitary yellow faces, turning tawny gray in death-tint, told of the Berdan pellet through the brain. Some few with lesser hurts than the majority raised their weakening limbs to cheer their comrades on, and there seemed to be no tongue, excepting those forever still, too parched to articulate "*Banzai!*"

"*Banzai! Banzai! Banzai!*" shouted Mahtsomahto, and his comrades with him, as they leaped from side to side to avoid a prostrate form, or, little recking of the pain they caused, in passing seized and shook some outstretched hand. Who shall stop such soldiers! What force under heaven can stay men who go forth to battle in like spirit! Look at the battalion as it passes beneath you. Look at the midday sun glinting on the points of the fixed bayonets; look at the dull-black stains at the root of those same bayonets—who shall stop them! Wait—in war there is time for all things!

The companies deploy and lie down on the unexposed slope of the knoll—it is nothing more than a knoll—and its summit is swept with a race of nickel, steel, and lead. As the men look back they see, after the last company has deployed and is flat behind them, that they themselves have doubled the human wreckage on the plain. Like the desperate players that they are, they have doubled the stakes. The play is high; but they will have to play higher yet before the game is won—or lost. The colonel is kneeling at the head of his prostrate battalion, a dark little staff-officer kneels at his side. The whistle summons the company commanders. Upright they stride over the reclining men. What the colonel says the men do not yet know: the majority do not care; they are lying on their backs taking in the wonderful scene behind them. In front of them are only Russian field-works, which are contemptible, and

glorious death. Behind them unfolds the panorama of their beloved country's strength, power, and—what perhaps does not appeal so much to them—devotion. To the left is the great blue shallow bay in which until recently they were standing. The middle distance is broken by five gun-boats, whose war-dulled hulls sparkle with the constant flashes from the guns. The dirty smoke from their funnels, driven southward, mingles with the great sombre pall above the Russian works, so that the bright sunlight is scarred with a band of sullen black. Half a dozen torpedo-boats are circling in the roadstead, worrying spitefully, like terriers at a wolf at bay, willing to strike, yet conscious of the power of this particular enemy. Well may they be cautious, for the surface of the water is torn into spits of foam, as projectiles fall without intermission in and amongst the ships. But it is on land that the panorama is more impressive. Behind the prostrate troops, from their very feet almost as far as eye can reach, the narrow tongue of land is packed with the masses of infantry. The sun runs riot upon acres of bared and flashing bayonets, right away as far as the mud-walls of Kinchau, which those very bayonets had won that morning. Men and horse, fifty thousand men, massed for the fleshing, suffering death at random—a target impossible to miss—until the moment shall arrive for them to put their crude patriotism to the final test.

The company officers return to their commands, and the word passes down the line that the battalion, together with the sister battalion lying parallel with them on the left, is to assault the nearest of the Russian works. "Open up the Russian forts" is the expression used, and a suppressed murmur of "*Banzai!*" flickers down the ranks as the men raise themselves onto their knees.

"Right shoulder!" and the easier path over the saddle of the peak will be found. One minute, and the men can almost feel the rush of air from the race of projectiles passing immediately above them; the next, and, through the gaps torn in the ranks of the company in front of them, they see their goal, and intuitively make mental measure of the distance to be crossed. Two hundred yards to the bottom of the dip—here the scattered buildings of a fishing village—and then four hundred yards of gentle climb to that sky-line, with its demarcation of unceasing flashes and its dull yellow-gray curtain of clinging picric cloud. Above the thunder of battle—the crash and rattle of the guns—the grinding of the automatic death-machines—and the sickening swish of metal sweeping poor human frames by scores before it—rises the full-throated war-cry of Japan—*Banzai!*—"Live a thousand years!" and almost before the men have realized that they are facing a tornado, those that have not been stricken down have reached the cover of the village. But what a trail they have left behind them!—the rearmost companies have to open out and direct to right and left, for the slope is a mosaic of prostrate uniforms. The crash and racket on their front intensifies, and, beneath the rain of projectiles, the meagre walls of the village crumble and subside. A haze of sun-baked mud-dust rises from the subsiding pile, and, clinging in the dead air, covers somewhat the carnage in its midst. A pent-house falls and crushes half a platoon beneath it. A bevy of terror-stricken women and children, bolted by flame, shell, and sights of death from their hiding-places, dash blindly for the open—a moment, and they, too, swell the tale of massacre. The full-throated war-cry of Japan is dead. A thin wail of *Banzai!* goes up, an officer seizes the emblem of the rising sun, and, bending low to meet the leaden blizzard, dashes for the slope. Where ten minutes ago he had had a company to follow him, he now finds ten or fifteen men. To right and left little knots of desperate infantrymen dash out into the fury of the blast—only to wither before it. For perhaps ten seconds the color is erect and falters onward. Then it is down, Mahtsomahto is at his captain's heel: he seizes the loved emblem and raises it again. He turns back to wave it, and is swept from his legs; he struggles to his knees; the flag is upright again, for one second only, and then as if by magic the firing stops, and for one second the Russians jump up upon their works and wave their caps and shout the shout of victory. The two Japanese battalions which furnished the forlorn hope had ceased to exist. The Russians cheered, and then the Japanese supporting artillery reopened and the struggle returned to its normal state. The forlorn hope had failed—but what did that matter: were there not forty thousand as good infantry massed behind the ridge, prepared to carry on the desperate work which the two lost battalions had begun?

GREAT QUESTIONS IN LIFE INSURANCE

HAVE THE MAMMOTH COMPANIES, WHICH HAVE MORE MONEY THAN ANY OTHER INSTITUTIONS, REACHED THEIR LIMIT?—DO THEY ENDANGER THEIR SOUNDNESS BY NEW BUSINESS?—WILL "GOOD RISKS" DEMAND LOWER RATES?—GRAVE QUESTIONS BROUGHT BY ENORMOUS SUCCESS

BY

HENRY WYSHAM LANIER

(THE FIRST OF A SERIES OF ARTICLES ABOUT MODERN LIFE INSURANCE AND ITS PROBLEMS)

IF a man from Mars were to descend upon New York City, he could not fail to be impressed by several buildings in particular, even in the aggregation of sky-scraping monstrosities. For instance, he could hardly miss the white marble structure at Madison Avenue and 23d Street, which is still in the act of swallowing up what remains of a whole block of houses, including in its colossal gulp an old and prosperous church—as in the nursery rhyme, where

> He ate a church, he ate a steeple,
> He ate the priest and all the people.

This, he would learn, is the outward expression of the growth of a life insurance company. The towering columns of another company's home would stare at him on his way downtown. In the heart of the financial district he would find a third controlling an entire block worth between six million and seven million dollars; and, on lower Broadway, a fourth, occupying one of the most impressively substantial business structures in the city.

The three greatest mutual companies have become the most powerful financial organizations in the world, having a joint income of some $250,000,000 a year. The "straight" life insurance companies of the United States are pledged to pay about $12,000,000,000 to several million policy-holders during the next half-century or so, and they are increasing this vast liability at the rate of $2,500,000,000 a year; and, in addition, there are more than eight hundred fraternal orders, business associations, and the like, insuring the lives of their members and guaranteeing to pay out another six billions. All the rest of the civilized world shows an aggregate less than half as large. All these organizations collect every year some $500,000,000 from their policy-holders, besides another $100,000,000 of interest and the like. *In a word, their total income is a little larger than the income of all the railroads of this country, and their receipts for eighteen months would pay the United States national debt.*

This vast stream of money was barely a trickle sixty years ago, and it has increased nearly a hundredfold since the beginning of the Civil War.

Although the proportion of those who die "with a competence" has doubled in the last quarter-century, it is still true that ninety-five out of every hundred people who die fail to leave their families enough to live on; and, for this vast body of husbands and fathers, life insurance is the one partial solution of their problem of responsibility. Drawing in, from millions of citizens, hundreds of millions of dollars each year, it is still the most successful device known for distributing money among those who need it (unlike the banks, which, Simeon Ford declares, are "institutions for lending money to those who don't need it"). The fundamental principle is, as Mr. Gage E. Tarbell has put it, that there is nothing so uncertain as the life of an individual—and nothing so certain as the lives of 100,000 individuals.

The first American company dates back well before the Revolution, but it was not until the New York Mutual Life started business, in 1843, that the idea really took root in American soil; and, while the existing companies, like everything else, developed wildly after the Civil War, there was a series of failures in the early '70's which made those years the darkest in the history of

insurance; so it may almost be said that the whole gigantic structure is a growth of the last thirty years. Yet today one of the enormous American companies does more business in Great Britain than any of the English companies.

The prevalent belief that the ministry, as a class, were opposed to life insurance a couple of generations back, seems to be erroneous. There is a story, good enough to stand some wear, of an agent who expended himself upon an old Pennsylvania Quaker. The grim-lipped Friend heard him out.

"Friend," said he, "thee has made a mistake. I am insured with the Lord."

The agent was taken aback for an instant. "That beats my company," he admitted. "But, say," he continued presently, in a final effort, "you must have misunderstood me: I was talking about life insurance, not fire insurance."

There was undoubtedly more of this opposition among "old women in the rural districts" than among the clergy, as a body; and far more serious than either, thirty or forty years ago, was the intense prejudice which was encountered from the wives of the insured. They did not want to "have any interest in the death" of their husbands, and it took years to eradicate this queerly morbid point of view—which is still occasionally encountered. As a very successful life insurance man said, "Twenty-five years ago, there wasn't a week that I didn't fail with somebody because of one of these ignorant prejudices." The fact is, that comparatively few people, a quarter-century ago, knew what life insurance was.

POLICIES FOR MILLIONS

But it would be difficult today to find any respectable citizen who has not been "tackled." There is a woman in a Carolina town who recently added three children at once to her family: she is selling photographs of these triple blessings and using the proceeds to insure the youngsters' lives! The rich man takes out policies for great sums (Mr. John Wanamaker carries more than a million and a half, a dozen or more men are insured for a million, hundreds carry half a million, and the hundred-thousand-dollar policy—which created a sensation twenty years back—is now issued in thousands), finding it possible in this way to bequeath ready money with more certainty and quickness than by will. The other day, a show-manager insured the life of a trained baboon for $25,000.

"INVESTMENT" INSURANCE

All the experts agree that the shibboleth of this tremendous movement has been "investment." So long as it provided solely for those who came after, the field of life insurance was limited. Apparently, that oft-quoted Irishman spoke for a great proportion of his fellows when he remarked, upon being urged to do something for posterity: "Posterity, is it? An' what has posterity iver done f'r me?" But when the investment feature was emphasized; when thousands of smooth-tongued agents set about showing people how it really was the best sort of an investment, since it made one save what would otherwise be spent, and that, by endowments and loans on policies, and "surrender values," the insured man was working for posterity *and* himself—the ground was cleared for a triumphal progress which has made life insurance a social factor of the most profound and widespread significance.

WILL EVERYBODY BE INSURED?

An expert statistician figures that there are today some 5,000,000 of adult males (that is, one out of every three) in this country who carry life insurance, outside of the fraternal orders and the like. There were, at the end of last year, nearly 19,000,000 policies in force. There are only a little more than twice as many adult males today as there were forty years ago, yet in the same period the number of policies has increased nearly one hundredfold. I asked the president of one of the largest companies if this did not mean that the great companies must soon reach their highest point: will they not presently catch up with the supply of available "risks," so that their new business must decrease to practically the new crop of adults each year?

"The figures certainly are suggestive," he said. "But there must be a fallacy somewhere. We haven't observed any signs of slackening; on the contrary, the pace gets faster and faster."

It is hard to see, however, how something of the sort can fail to happen. With a certain proportion of people who can't be

insured, because of ill health or poverty, with a very large percentage of our million immigrants a year unavailable, and with a so much swifter increase in the number of insured than in the number of people, the number of risks will inevitably lessen, unless the tendency of already insured men to take out additional policies is growing sufficiently to counteract it. A good authority declares that a man today is as apt to carry ten policies as he was to have one when he started in the business. The number of new risks *will* probably decrease; but the new insurance will keep on growing faster and faster.

THE RACE FOR NEW BUSINESS

If the pace were to slacken, it would be far from an unmixed evil. The competition today between the greatest companies is tremendously keen, and the result of the struggle for supremacy has been that the new business now costs more than it should to maintain the strength of the fund from which dividends must be paid. (The difference between the maximum paid by the great companies and the minimum that would be possible under ideal circumstances is a difference in the "profits" to be returned, and does not touch the question of safety.) Not only are the agents' commissions larger than might otherwise be the case, because of the keen competition (in some cases, a heavy percentage of the first year's premium, and in others a graduated percentage of the premiums of several years), but the policies have been made more "liberal" in every way. The suicide clause is frequently omitted, no restrictions are placed upon travel in dangerous localities, loans are made freely on policies, and, as a final measure of self-stultification, the highest "cash surrender" values offer a continual inducement to the healthy and desirable policy-holder to annul his contract. As Mr. James W. Alexander, the president of the Equitable Company, has forcibly put it:

"We take great pains to obtain a new policy-holder, and spend much money to that end. One of the inducements we offer him is an easy and profitable means of exit. We move heaven and earth to get him in, and then offer tempting rewards if he will get out! We preach the duty of providing a portion for the widow and the orphan, and then turn round and tempt him to mortgage the policy, and to that extent blot out the good we have done."

THE COMPANY AND THE POLICY-HOLDER

Now, John Smith, of Kalamazoo, may ask: "What business of mine is it if the companies are led into excessive privileges? Indeed, it's a good thing, this competition. They need to be kept liberal; look at the millions of surplus they carry."

My dear sir, *you* are paying for this misjudged "liberality." Every time the company takes a "bad risk," or lets a good one go, after protecting him for some years, pays too much to agents for new business, or makes any other mistakes, you and all the other policy-holders suffer. In theory, the policy-holders of a mutual company own the concern; and, in the coldest, hardest fact, every member is directly affected in the ultimate cost of his insurance by the company's actions, and their welfare and interests are identical.

Note how these "liberalities" work. The amount of each annual premium is composed of three parts: the yearly sum which will, in a given number of years, produce the amount for which the policy-holder is insured; a sum to cover that particular individual's chances of dying before the end of this period; and an additional amount (generally about a third of the whole), called the "loading," to cover expenses of management. Of course, everybody has to pay a little more than is estimated to be enough, since the only way to be safe in financial matters is to have a margin; and, after it has been proved that there is a margin, this is returned (either annually, or at the end of the period by the "deferred dividend" plan) to the policy-holders in the shape of "dividends."

The cost of commissions to agents is probably more than half of the total annual expenses (exclusive of payments to policy-holders). If this is too high—and, while it is impossible to draw an exact line, the great majority of expert opinion agrees that it is—the companies' ability to pay dividends is lessened just so much. Again, if a man insures today and commits suicide tomorrow, or next year, or at any time, the same result is caused. If a healthy policy-holder stops his premium, and is allowed to receive the amount of "reserve" which the company is holding against his future claim (the sum,

that is, which will produce, by the time he dies, the amount for which he is insured), every other policy-holder suffers by the disintegrating tendency. "One man cannot be a company all by himself; it requires great numbers to secure the averages" on which the whole thing is based. Life insurance is a mutual contract extending over a term of years. Instead of encouraging a violation of this contract, such a withdrawal should be penalized in the interest of every other member.

"I have no sympathy for the man who retires," declared Mr. J. W. Alexander, "even when he does so because he is hard pressed. Or, rather, no matter how much I may sympathize with him as an individual, that counts for nothing against the fact that he jeopardizes, so far as one man can, the whole institution upon which rests the mainstay of thousands of widows and orphans. I do not believe in such cash surrender values as we are now forced to give; the man who withdraws should be heavily penalized for the sake of those who keep their contracts."

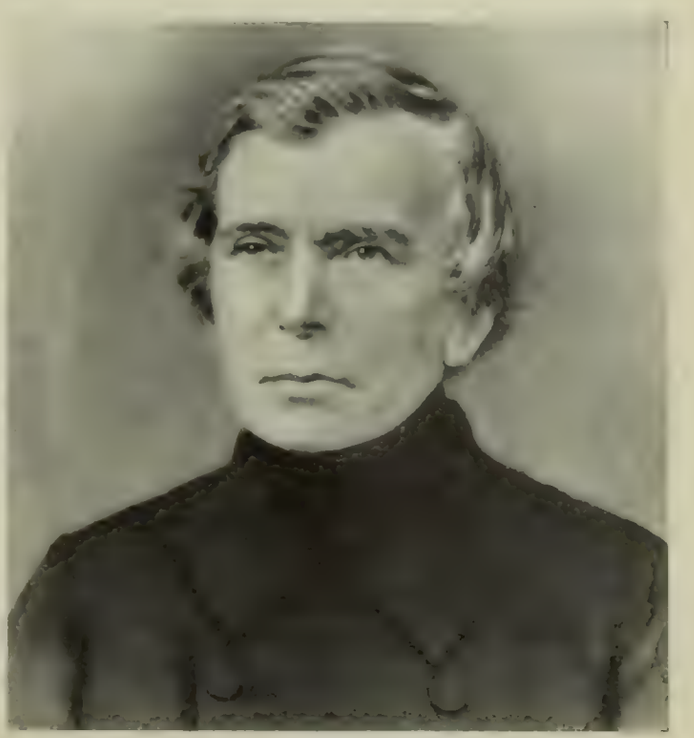
WILL "GOOD RISKS" DEMAND LOWER RATES?

The same authority put the thing very strikingly in an address some years ago:

"As the public grow more and more familiar with the business of life insurance, it will not be surprising if the time shall come when men of substance, who are businesslike and exact in their transactions with other people, and who exact similar accuracy and promptness on the part of those with whom they deal, will refuse to submit to the pecuniary losses which fall directly upon them through the many favors now granted by life companies to the improvident, the careless, the trifling, and the slipshod, who are ready to accept all kinds of favors without making any return for them—it would not be surprising to me (I say) if men of this kind, who are engaged in wholesome pursuits, lead healthy lives, reside in safe places, ask for no indulgence, make their payments promptly, need and desire no expensive privileges (and the vast majority of those who assure in the best companies belong to this category), should come to the companies and should say: 'Place us in a class by ourselves, and give us the benefit of the profit which will result from the improved mortality which will certainly ensue, and the saving which will result from the reduced risk assumed in our behalf; then we shall be willing to agree that, if at any time we desire any special privileges, or are forced to incur any unusual risks, we shall be charged and pay the proper cost therefor.'"

THE FETICH OF NEW BUSINESS

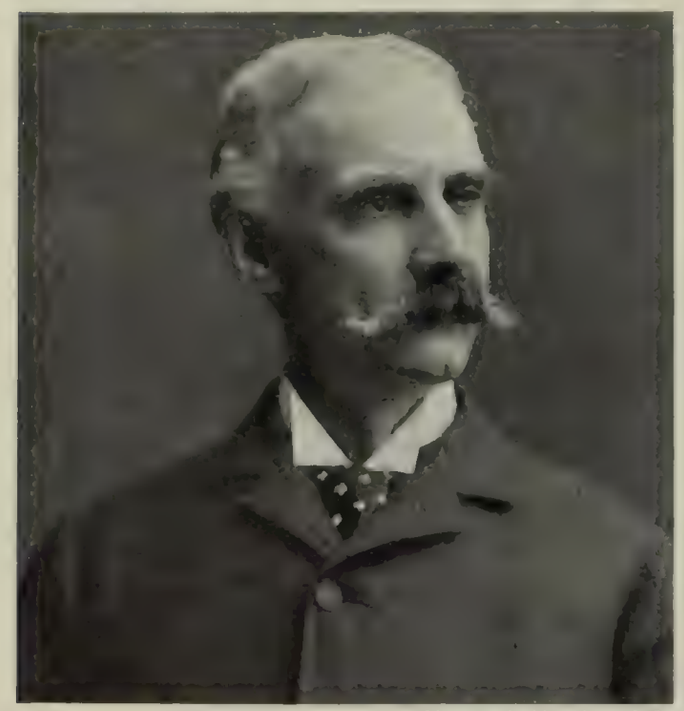
This is clear and convincing. Is it not equally clear that, if a mutual company should overstep the lines under the influence of competition to get new business, it is doing an injustice to its existing policy-holders? Of course, the question is a most delicate and complicated one: for instance, an increased death-rate does seem to follow from a cessation of new business; and a company which isn't extending the benefits of life insurance to a great many new people is to a degree failing in its mission. But many of the most expert and thoughtful insurance men believe that this matter of "new business" has become a sort of fetich. It is obvious that a company, to be successful, must be large; only by having a very extended list of policy-holders can it avoid danger in the case of local epidemics, and secure the average mortality it counts on; by becoming an enormous financial reservoir, it is enabled to invest its receipts to far better advantage. But, surely, the great "mutual" companies have reached a point where excessive volume, with corresponding exhaustion and expenditure to produce it, need not be considered. And, if keen competition is ever out of place, it is surely in an institution like life insurance, where the men in charge can have no thought of personal aggrandizement, but are chiefly



MORRIS ROBINSON

Founder of the Mutual Life Insurance Company, the oldest of the great American companies

concerned in using the funds put into their hands, so that they shall make as much for the members as is consistent with absolute safety. The Equitable of London is an example of an absolutely safe company, which makes no attempt to get new business, and which is enabled to pay very much larger dividends than are paid here. It would not be necessary to go to this extreme, however. If a company which had reached a sufficient magnitude were to take only the pick of the new business, so that it would, perhaps, merely get enough to repair its yearly losses (which in the case of one of the great companies would alone be one hundred millions a year), it might be wise from the standpoint of existing policy-holders. At least, some experts declare that a few of the smaller companies give better service nowadays (that is, pay larger dividends, while offering entire safety) than the great ones, hampered as these are by this influence.



Photographed by Alman & Co.

HENRY B. HYDE

Who resigned from the Mutual Life Insurance Company to found the Equitable Life Assurance Society

The president of a great company wrote as follows on this point:

"As to the limitation of new business, in order to curb expensive competition, the most conservative of the experienced managers of large companies have misgivings. They admit that the limitation would modify or destroy many evils, but would it give birth to others? How about mortality rate? How about the necessary *fixed* expenses (exclusive of commissions), becoming, even if reduced, a larger percentage of the reduced premium income than before? For a great business organized on a grand scale cannot always be switched to a small scale, without damage.

"If what is known as 'rebating' could be stopped—namely, the dividing of commissions between agent and assured—the agent would not need such high commissions. But how to stop it is a question which still baffles those directors who most condemn it. Laws against it have not proved effective. Rules of the companies, no matter how rigidly enforced, have not eradicated it. The two parties to such a contract can easily conceal it.

"If the 'twisting' of business could be stopped—namely, the luring of policy-holders from one company to another—always to the damage of the assured—much waste of expense could be saved. But how stop it? If all would agree to pay less surrender values, and to charge full extra premiums for costly privileges, money could be saved for the deserving and the persistent policy-holders, but how bring this about? One company cannot do any of these things alone. The result would be that it would be left high and dry while the others sailed along successfully. Who, then, is to make the companies agree on what is best in these matters not of fundamental importance, and induce them to act accordingly?

"A genuine effort was made a few years ago to secure united action in obtaining legislation limiting the amount of outstanding business, but it failed on account of lack of unanimity."

Of course, too, it must be remembered that the chief cause for the great shrinkage in dividends during late years is the lowering interest rate. Twenty years ago, the companies estimated their premiums on a basis of ten per cent. They actually got seven, so that they could return three per cent. of all their premium receipts to their members. Now they estimate on three per cent., and get about four—so that this main source of dividends is cut to a third. Obviously, though, this should lead to greater care for expenses, not to letting down the bars in order to expand.

"Well," said an insurance man, "if life insurance is a good thing, we feel it's our duty to extend its benefits to as many people as possible." Which comes near to meaning that the existing members contribute involuntarily toward such missionary work!

SHOULD INSURANCE IN FORCE BE LIMITED?

A most acute and well-informed official of one of the great companies told me

Photographed by Alman & Co.

JAMES W. ALEXANDER

President of the Equitable Life Assurance Society

that, in his opinion, the best thing that might happen for the business would be a law which would limit the amount has been sometimes proposed. For a company's assets must grow, and to put a check on these would seriously disrupt

JOHN A. McCALL

President of the New York Life Insurance Company since 1892 and a prominent figure in insurance for a quarter of a century

of insurance any one company could have in force to, say, two billions. Note—the insurance in force, not the assets, as its organization; while a limitation of the total amount in force would have no such objection.

THE HOME BUILDING OF THE NEW YORK LIFE INSURANCE COMPANY

"Is there any valid reason," said this gentleman, "why you should insure in a company because it did the most new business last year, or because its assets are a few millions more than those of another company's?

"Indeed, these huge concerns do some actual harm, for they inflame the minds of the unthinking socialists, and so few people seem to comprehend the real nature of mutual life insurance that the absurd diatribes against the great insurance companies have so much more color given them.

"Just see how such a law would work. Instead of breaking down the safeguards, which experience shows to be wise, in order to increase their new business, the companies which were nearing the limit would be sitting up nights trying to keep down the business; consequently, they would pick and choose so that they could hold up the quality of their risks."

I put this suggestion before one of the most influential men in the insurance world.

"I would welcome such a law," said he promptly. "I have been studying for years how to accomplish that result, but, of course, our company can't do it alone. At one time, we almost succeeded in getting an agreement between the largest companies to limit the business, but it fell through, because the sentiment in favor of it was not quite unanimous."

"What would be the result of your shutting down now?"

"It would affect our prestige, I think. The best agents naturally go to the largest and most prosperous companies, because they find they can most easily place insurance there."

"And it would be too much of an experiment to let your agents go and take only what business came?"

"Yes; I would hardly dare to do that. Besides, the business which came naturally would be the poorest class—the people who had been refused elsewhere or who wanted to beat the company."

"But it is a fact, in the light of experience, that such a drastic measure would probably benefit the existing policy-holders."

"Yes, it looks that way. Our problem, nowadays, is to extend what we believe to be the most beneficial institution known to mankind, without

CHARLES H. BOOTH
The oldest policy-holder in the world: 100 years old, September 13, 1903

doing injustice to those who have already taken advantage of it."

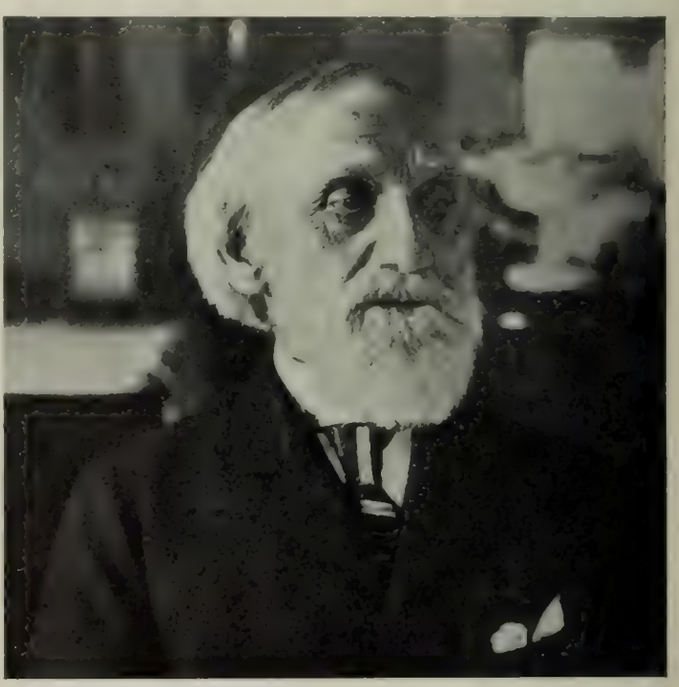
This is surely a remarkable and anomalous state of affairs, which calls for those rarest kinds of ability—moderation, and common-sense in the face of a great movement on the part of those who control the management of these monster organizations.

Particularly is this to be considered nowadays, with the interest rate down to 3 per cent (and experts at least differing in their judgment whether the bottom has yet been reached or not), and with the death-rate showing none of the decrease popularly believed to exist. We read numberless accounts of the progress of science in making people healthier and longer-lived; statistics by the bushel are printed, exhibiting lowered mortality in many classes and sections; yet the actual experience of the great insurance companies leads some of the managers to predict a higher, rather than a lower, death-rate.

It is only fair to say that there is some divergence of opinion on this subject; but the fact seems to be that, in half a century, the average length of life has increased only part of a year. There has been a great improvement as regards the mortality among infants and children; but, among adults, this, if it exists at all, is very slight, indeed. Clearly, the faster rate of living, or something, operates to counteract the notable advance in medicine, surgery, sanitation, and the like.

It is noteworthy that there has been no organized effort on the part of the companies to disseminate health literature. The fire insurance interests have spent much money in tests of fire-proof materials, have influenced legislation very largely in matters of safe building construction, and one company distributed 50,000 copies of a popular book on house construction, written mainly from the standpoint of guarding against fire. It has been proposed, as a joke, that the life insurance organizations should provide free doctors! But, so far, they have done little or nothing to help teach an ignorant public how to live in order to live long. There seems to be a field of effort here which might well repay them for some careful study and some expenditure. Some of those in authority say that people resent having reference made to the diseases from which they themselves are suffering, or which run in their families; but this need not prevent the companies from helping to tell people the fundamental facts of sensible living.

It should be said, finally, that the apparent criticisms in the foregoing are advanced simply as the interesting ideas being discussed nowadays by the most far-seeing insurance men. After all, the business, as done now, is a splendid success.



WILLIAM E. SHEPARD
Who holds the oldest existing policy, dated 1843

The camp street between the rows of students' tents

THE YALE SUMMER SCHOOL OF FORESTRY

BY

JAMES W. PINCHOT

IN the northeastern corner of Pennsylvania, facing the Delaware and the distant mountains of New Jersey, there is a recess in the hills where French emigrants settled in the early years of the last century. The great forests were yet standing almost untouched, although a thriving lumber trade had already begun. Fur-bearing animals were plentiful, and there was all the richness, and much of the roughness, of the frontier. Here came Jean Tounelle, the Loreauxs, the Minots, the Marquis de Trazegnies, the Perozs, and other Frenchmen with their families; and among the earliest of them, my father, Cyril C. D. Pinchot, settled in Milford in 1816.

A soldier of Napoleon, my father was forced to leave France soon after the Restoration, and his parents came with him to Milford. Here he married, and here his children were born. In their early lives, his sons were constantly in the lumber woods, and they made occasional voyages to Philadelphia in charge of the great rafts of logs or sawed lumber which descended the Delaware in fleets in those palmy days of the lumber trade. Now the forests are gone. Their disappearance forced us to think of its preservation. We thought, like so many others since, that "something ought to be done," but what, we did not know.

It was from seeing forestry practised in France that a solution came to my mind, and, accordingly, I advised my son, Mr. Gifford Pinchot, to make forestry his profession, and he has done so. Since he did so, forestry has become a recognized profession in the United States. The first two professional schools

THE BUILDING OF THE YALE SUMMER SCHOOL OF FORESTRY AT GREY TOWERS, PA.

A PARTY OF STUDENTS OFF FOR A FIELD EXCURSION IN FOREST BOTANY AT THE SUMMER SCHOOL OF FORESTRY

were established in 1898, but one has been discontinued. In 1900, the Yale Forest School, in whose establishment my family and I were concerned, began its career. It did, and is still doing, the work for which it was founded. The degree of Master of Forestry was conferred by Yale University upon twenty-three of its graduates in June of this year.

But it soon became evident that the professional schools could not cover the whole ground. They were available for the men only who intended to devote themselves wholly to forestry. The Yale Forest School's post-graduate course of two years was producing trained foresters of high attainments and practical capacity to deal with forest conditions in America, and other forest schools were at work; but the whole field of forest education was far from being covered.

DINNER IN THE MESS SHACK

If, as a people, we plowed and sowed no meadows, but depended wholly on what wild hay was pleased to spring up, then we should be acting toward our domestic animals precisely as in the main we are still acting toward the forests and the consumers of wood. We have treated our forests as we do our mines —on the baseless assumption that they are a source of wealth to be consumed once and for all. Fortunately, that false idea is on the wane. But, if our forests are to be used on and on, and not used up, then we must have not only men professionally interested in forestry, which is indispensable, but also a broad, general interest in forest preservation among the farmers, in our schools, among the sons of lumbermen, among small owners of forest land—in a word, among the rank and file of all those who live and work outdoors, and all those who, working and living indoors away from the forest, yet help to make public sentiment about it.

The Yale Summer School of Forestry was founded chiefly to help spread a knowledge of forestry among the people. It is intended to make young men familiar with the woods, both as to the trees themselves, and as to their habits and the methods of handling them.

The courses, both in the field and in the

school building, are directly in charge of professors and instructors from the Yale Forest School

The sessions of the Summer School are held at Grey Towers, which lies on rising ground above the village of Milford. Here, in a stone building provided for their use, the summer students attend lectures and carry on their laboratory exercises. Field work is plentiful. The work begins each day with a lecture or two, and is continued in the field for the remainder of the school hours. By the end of the course, the average student has come to know all the local species of trees and nearly all the other woody plants. He has gathered an idea, also, of the laws which govern the development of forests, how forests reproduce themselves from their own seed, how they are established by planting, and how they should be tended and managed. He has learned how to scale logs, and to measure the volume of standing trees. Nearly everything that he has heard of in the lecture room he has done or seen in the forest; and whenever that was impracticable, lantern slides have done what was possible to replace the thing itself.

Among its other uses, the Summer School gives the young man who is thinking of forestry as his profession a chance to learn, in a single session, something of what forestry is, and something of his adaptability for it.

The camp itself consists of two parts; the tents of the students—one tent to a man—with board floors, cots, and the other things that some of us remember to have gone without, and the permanent buildings constructed for their use. The latter include a mess-house, a lecture hall, and a reading- and club-room, with great stone fireplaces for cold or rainy weather. Here the students eat and work, or read and loaf in such of their spare time as can be taken from baseball, swimming in the Sawkill, and similar amusements. The vigor, heartiness, and evident satisfaction of the lads in the life they lead has been one of my principal sources of pleasure in the school.

STUDENTS MAKING AND RECORDING TREE MEASUREMENTS IN THE WOODS

In addition to the Summer School, there are two other uses which attach Grey Towers to the forest work: the yearly sojourn of the seniors of the Yale Forest School for a couple of months each spring, and of the Juniors each summer; and the Forest Experiment Station, at Milford.

The Milford Forest Experiment Station is the first of its kind in the United States. It was established for research in forestry, and

especially to make continuous observations for a long series of years. Much can be learned about the forest from studying it as it exists at the moment, but there are numbers of most important facts that can be learned only by observing the same tract of forest for many successive years. Forest experiment stations have long been established in Germany, France, Switzerland, and Austria, to make such observations; and the need for similar work has come to be felt more and more strongly with the progress of forestry in the United States. Only continued observations can answer such questions as these: What is the best distance apart to plant trees of a particular species in a particular kind of soil and exposure? How severely should a given kind of forest be thinned at a given age in order to produce the largest amount of board feet? How thickly together should certain kinds of trees stand at maturity in order to yield the most and best seed for natural reproduction, and how much light or shade is best for the young trees? Do the offspring of trees inherit the peculiarities of their parents as the human children do? Questions of this nature are among the most important in forestry. The solution of them will require many years of consecutive study of a single forest.

The Experiment Station has for its uses about two hundred acres of forest and open land. It is managed by the director of the Yale Forest School, with whose students it has much to do, as well as with those of the Summer School, and it is in close touch with the Bureau of Forestry.

In the forest work at Grey Towers, the Experiment Station represents advanced study and research, while the students of the Summer School and of the Yale Forest School stand for the beginning and the middle of a forester's training. It is to be hoped that Grey Towers may have in the future, through instruction and original investigation in the lines I have attempted to describe, a wide and continuing influence in all matters relating to forestry.

THE VALLEY OF THE DELAWARE, AT MILFORD, PA., WHERE THE WORK OF THE YALE SUMMER SCHOOL OF FORESTRY IS CARRIED ON

ITALIAN IMMIGRANTS LEAVING THE OFFICE OF THE SOCIETY FOR THE PROTECTION OF ITALIAN IMMIGRANTS

Photographed by Rockwood

THE ITALIAN IN THE UNITED STATES

A PEASANT IN ITALY DEEMS HIMSELF A GENTLEMAN HERE—A SUDDEN CHANGE IN GARB AND CUSTOMS—PUBLIC SCHOOL CHILDREN AMERICANIZING THEIR IMMIGRANT PARENTS—ITALIANS IN MANY OCCUPATIONS AND ACHIEVING SUCCESS—A STORY OF PROGRESS

BY

JOHN FOSTER CARR

PREJUDICE declares that Italians always resist Americanizing influences and remain aliens to the end. But more than two-thirds of the Italians in the United States have been here less than five years, and these new-comers, with their strange, foreign air, strike the eye, and make our Italian population seem unchanging. But those who have been here longer—an inconspicuous minority—have been affected more or less by the surrounding American life. They are becoming like us, and easily escape notice. The simple facts of their coming and of their life here tell a story of unexpected progress.

The steamship companies are forbidden, by law, in Italy to advertise more than the bare details of sailings, but every Italian in this country continually preaches the advantages of American life to his friends and relatives at home. He also finds jobs for those who are willing to emigrate; he arranges for the journey; and, in a majority of cases, pays the passage money. When the immigrant lands at New York, if he is young, strong, and ignorant, the promised work is waiting for him, and he joins a gang of laborers. If he is a skilled mechanic, less definite arrangements have generally been made, yet he rarely has difficulty in getting a job. But, in any case, he usually becomes a member of a city colony of Italians.

These large Italian colonies in our great cities have their own theatres, churches, banks, hotels, clubs, newspapers, and chambers of commerce. They have their own lawyers and notaries, doctors and apothecaries; their own dentists, expressmen, and coachmen. They make every necessity and luxury of life, from Italian bread, cheese, and macaroni, funeral trappings, and embroidered swaddling-bands for babies, to

soda-water and cigars flavored and shaped like those at home. The people try their best to reproduce Italian life, for they will confess freely to you that America is not wholly to their liking. They are always treated as inferiors, and their lives are made up of hard work. They find, they say, "great consolation" in Italian surroundings. They succeed so far in creating "Little Italies" that the American who takes a Sunday walk down Elizabeth Street, in the largest New York colony, not only feels that he is in a strange land, but he will be noted as a stranger.

The standard of living is higher than in Italy; former luxuries become necessities. The laborer who never tasted meat at home, except on a high festal day, will rarely do without it here; and he always demands "the white bread that gentlemen eat." He often rides to his work when it is only a short distance away; in Italy, he thinks nothing of walking from three to five miles twice a day. He generally carries an umbrella when it rains; in Italy, an umbrella is used only by the well-to-do. In Naples, beggars swarm; in New York, an Italian beggar is almost unknown. The Italian priest in America is of an altogether higher class of man than the priest at home.

The dress and habits of an immigrant begin to change. He always leaves his wooden shoes at home. But before he has ended his first day in America, Italy is far behind. Within a week, he has probably shaved his beard; he stuffs his green-and-blue-striped scarlet sash in his bag, and buys a belt or a pair of suspenders; he wears a collar every day, if he is anything more than a laborer; and his ordinary dress is the garb that was his holiday dress at home. New York winters are bitterly cold to the sensitive southerner, but the earthenware hand-stove is unknown, and the immigrant does not dare to introduce it. The Italian cloak is never seen in Bleecker Street, although thousands of them are ignorantly brought by immigrants. "Why don't you wear the *mantello* here?" I asked an Italian. "Because the boys of the quarter would stone us if we did," he replied.

Everywhere in Italy, babies are kept tightly wrapped in a swaddling-band, and they are often not given the free use of their legs until long after weaning. In most country places, a child's arms are also bound

MAKING HAY IN CALIFORNIA

The immigrants and their wine are inseparable, but intoxication is very rare

to its body. In New York, very many Italian mothers have entirely given up the swaddling-band. The arms are never bound.

For the rough mountaineer, a short experience of American life amounts to actual civilization. He may be so ignorant that he thinks us English on account of our language, as many of them do; but he always loses something of his native humility, and gains independence and self-assertion. In Italy, it is no more improper to call a peasant a peasant (*contadino*) to his face than it is for us to call a man who shoes horses a blacksmith. In America, "*contadino*" is a deadly insult. As soon as the peasant sets foot on Ellis Island he becomes a *Signore* (gentleman).

The women immigrants, unlike those of other nationalities, have little influence in turning their men into Americans. Among the immigrants, women are fewer than in any other immigrating army. All who do come belong to an immigrating family or are on their way to join some one. They never come to find work independently, and they never enter domestic service. Mr. Phipard, the manager of the Society for the Protection of Italian Immigrants in New York, was asked to find a place for only one Italian female servant in fifteen months.

Courtesy of the Society for the Protection of Italian Immigrants — Photographed by Rockwood

ITALIAN IMMIGRANTS ON THE ROOF OF ELLIS ISLAND BUILDING

The boy in the foreground, when asked to take the loaf of bread out of his pocket, exclaimed, " No, I came to this country for bread "

Their life here rarely brings them in contact with American women. They live apart, and marry and delve just as they do in Italy. An Irish or a Scandinavian woman, at the end of a year, may have changed so far in dress and gait that it is difficult to distinguish her from a native; an Italian woman will dress for years exactly as she did at home, and does not hesitate to carry huge bundles of wood on her head. They do not

THE ITALIAN IN LOUISIANA
Getting in the sugar-cane

PICKING GRAPES IN A VINEYARD OF THE ITALIAN-SWISS COLONY
Asti, Sonoma County, California

imitate new fashions, and are slow in laying aside bright colors. After they have been

AN ITALIAN VEGETABLE GARDENER'S SUNDAY AMUSEMENTS WITH HIS FAMILY—ITALIAN COLONY, CALIFORNIA

here a dozen years, most of the old women are satisfied to wear a shawl or a handkerchief for their only head-dress. Even the younger ones do not care for hats and bonnets. But the men do care. Whenever a ship comes in, there is always a crowd of waiting men who have made money and sent for their wives. Among them, there are usually twenty or thirty carrying hat-boxes. The boat arrives; each couple meets; the rapturous greeting is interrupted for a moment as the Signora, assisted by her husband, puts on her wonderful new head-gear. The boxes are kicked away; bystanders laugh, and kisses and embraces are renewed.

The Russian Jews ambitiously spur on their children. The poorer Italian parents have no such aspirations. They are themselves more affected by the prejudices and ambitions of their children. The children have heard a great deal of the poverty and wretchedness in Italy. At school, they are taunted with "Dago" and "Ginney," and they soon come to hate the name of Italy. It is almost impossible to find an Italian brought up here who has any desire to visit it. During a long stay in this country,

THE HOME OF AN IMMIGRANT FAMILY AT LANDIS, NEW JERSEY

Photographed by Joseph H. Adams

ITALIAN WORKMEN IN A MACARONI FACTORY

Photographed by Publishers' Photograph Company

ITALIAN WOMEN MAKING CIGARS IN A NEW YORK FACTORY

By courtesy of A. Alpi Photographed by I. Guthorn

ITALIAN WOMEN MANUFACTURING ARTIFICIAL FLOWERS

Prince Ruspoli, recently Mayor of Rome, visited many schools attended by Italian children. He admits that he never discovered the slightest trace of affection for Italy. "Ask them what is their fatherland, and they will proudly reply in chorus, 'The United States of America.'"

Indeed, the public schools of New York have made their 50,000 little Italians teachers of English and missionaries of the American spirit in the heart of the colony. These children play American, and not Italian, games. Ask one a question in Italian, and he will reply in English. In one of the colonies, I saw a small boy trying to roast a couple of potatoes by building a small fire around them in the gutter. "What are you doing?" I asked in Italian. "Cookin' murphies," he replied, with the accent of Chimmie Fadden. I watched him for a minute or two, and there came a warning cry from a small, olive-skinned friend: "Hi! Frank, cheese it, the cop!" and they both scampered away. Frank had been in this country a little less than two years. They seem

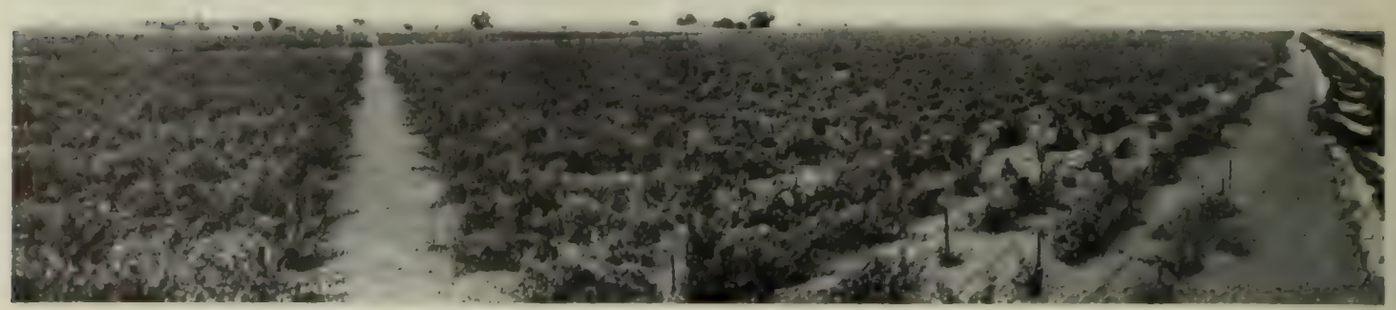
Photographed by Joseph H. Adams

ROLLING AND DRYING THE SHEETS OF DOUGH FROM WHICH NOODLES ARE MADE

Photographed by Joseph H. Adams

THESE MEN "WORK" THE MACARONI DOUGH IN THE TROUGH BEHIND THEM BY ROLLING THE CORRUGATED WHEEL OVER IT

AN ITALIAN CELEBRATION IN ARKANSAS — THE TWENTIETH OF SEPTEMBER, WHICH CORRESPONDS TO THE AMERICAN FOURTH OF JULY



MILES OF STAKED VINEYARD CULTIVATED IN MADERA COUNTY, CALIFORNIA, BY A BRANCH OF THE ITALIAN-SWISS COLONY

ashamed to speak Italian. I have even seen a boy punished because he would not answer his mother in the only language she understood.

It has been estimated that not one-fifth of the children of immigrants take as low a place in the social and industrial scale as their parents. So with the Italians. The son of the hod-carrier becomes a clerk, a mechanic, or a doctor, and he does his best to raise his father to his own level. He rarely succeeds, but he himself often becomes so like other Americans that he needs only a change of name to destroy all trace of his ancestry. Some do change their names. The new name is generally pure English, and very

THE ITALIAN PUBLIC SCHOOL AT TONTITOWN, ARKANSAS

The teacher an enthusiastic Italian; the Italian pupils enthusiastic Americans

often somewhat similar in sound to the old. Boldini becomes Baldwin, and Maggio, March. A kind of translation is sometimes attempted, turning Sartori into Taylor and Rotino (a little wheel) into Rollins. But other actual instances of change are radical. A Signor Masucci has chosen to be called Palmer; and the New York Legislature has permitted Giovanni Rappacioli to transform himself into Ernest Loring.

But the English language is the Italian's greatest stumbling-block. Educated Italians complain that it is more difficult to learn than German. It was recently discovered that nearly 27 per cent. of the Italians in Chicago who had been in this country ten years or more were unable to speak English. But they soon learn to count, and a few words are quickly picked up by all. *Yes* and *all right* are usually learned on the ship. *Hurry up*, *sure*, *boy*, *cheese*, and *policeman* are acquired soon after landing, and, by a strange chance, retain their English form. Nearly every other word undergoes a change more or less fundamental. *Bum* has an Italian plural, *bummi*. *Rag*, *bar*, *car* become *raggo*, *barro*, *carro*. *Job*, *basket*, *shop*, and *mortar* are changed to *jobba*, *basketta*, *shoppa*, and *mata; grocery* to *grosseria*, and *customer* to *cos-tu-me*. *Business* is hardly recognizable as *bi-zi-ne;* and no one could guess that *Bokeen*, *stracinosa*, *sediolo*, *rai-ro-de*, and *elettricosa* stand for *Hoboken*, *station house*, *City Hall*, *railroad*, and *electric cars*. *Puss* is an accepted word, and *pussino* does duty for *kitten*. *Lofatino*, a young street Arab, is the diminutive of *loafer*. *Bosso* is a term of great respect, and implies a certain amount of wealth. The lady of the house, or the proprietress of a store, is addressed as *Bossa*. These are the words that all Italians know. For a very large number, they are almost the limit of their English.

New York City contains about 400,000 Italians, or nearly two-fifths of all those in the country. If its Italian population continues to grow at the present rate, in two years it will contain more Italians than there are in Rome; in three years, Milan will be outstripped; and, in four years, it will have more Italian inhabitants than Naples, or any city of Italy. Each year about one-third of the Italian immigrants invade the tenements almost unnoticed. To the newly arrived Italian, the colony seems almost as American as the rest of the city. To the American, the stones of the street, the lamp-posts and the shape of the houses are the only things that are not Italian.

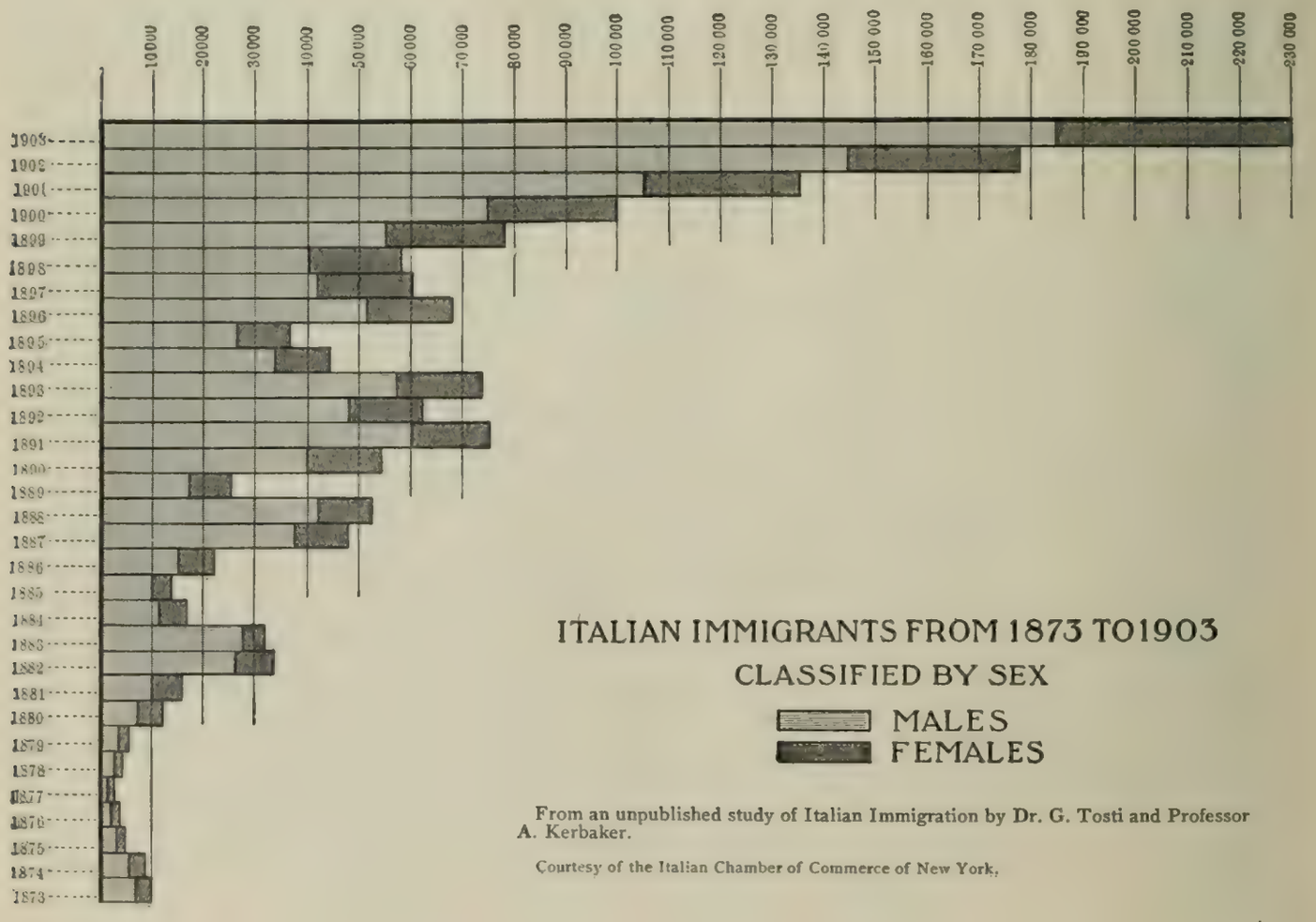
By visiting the different restaurants of the tenements, you can make a tour of the provinces and chief towns of Italy, and become acquainted with the people. One of the better class will illustrate all. Nothing costs more than five cents, except chicken and beefsteak; yet laborers form only a bare majority of its customers.

The proprietor comes from Camogli, a small coast town near Genoa, and his place is chiefly patronized by men from his native place, who make the restaurant their club. A small inner room, underground, is jealously reserved for fellow townsmen. It is a place for cronies; a refuge for the homesick. The outer room, some eight steps down from the walk, is crowded at noon and between six and seven in the evening. A couple of musicians, a singer and a fiddler, make frequent visits. Their taste is catholic. I have heard them give in succession "Santa Lucia," "Bedelia," a selection from "Rigoletto," and "In the Good Old Summer Time." At the end of the performance, they collect a penny from every man in the room.

Most of the men at the tables are from Camogli. Besides the laborers, you will find sailors, from common seamen to captains—Camogli's chief industry is fishing—masons, barbers, professors, musicians, seminarists, doctors. A very large number have more or less education, but are without either trade or profession. Except the skilled laborers, nearly all of them have had to begin life over at the bottom of the ladder.

Some of the men of education have had to start as rag-sorters; a surprising number have begun with dishwashing. Among them, I have known a musician and two seminarists who have become waiters; a bricklayer, who now owns a hotel, and is worth $100,000; a civil engineer, who threw aside the dish-rag for a porter's job, and, after seven years' hard work and saving, has just become a partner in a prosperous expressing and shipping business.

A typical case is that of a young doctor, who came to America to make his fortune with a hundred spare dollars in his pocket. He tramped about New York for weeks, to find work to suit him. He was starving



From an unpublished study of Italian Immigration by Dr. G. Tosti and Professor A. Kerbaker.

Courtesy of the Italian Chamber of Commerce of New York.

before a friendly Comasco cook got him a chance to wash dishes. He lost his self-respect, he said, and seemed to fall lower and lower, until he resolved to learn English and a trade. He is now a skilled ladies' tailor, and earns $35 a week in the busy season.

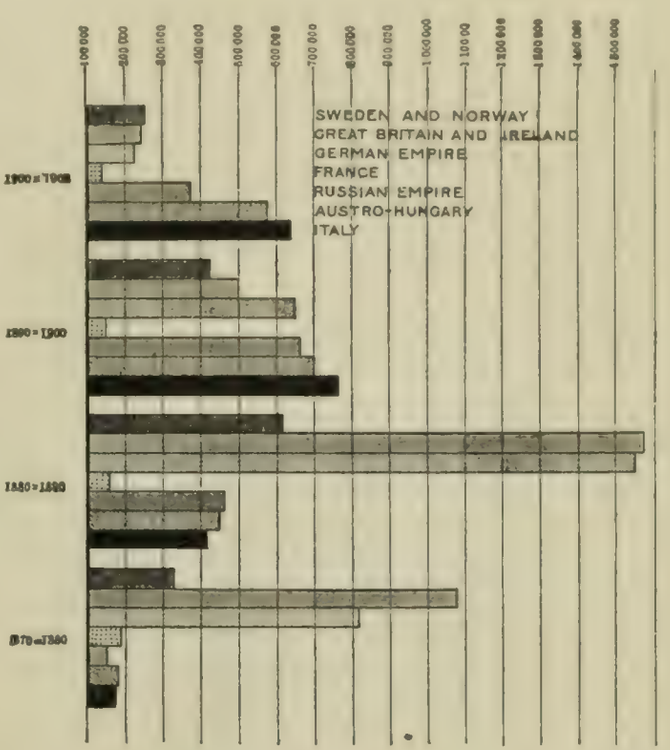
"What can I do?" said a young and accomplished professor. "English is necessary for every kind of work for which I am fitted, but I shall starve before I can learn your language. I am as democratic as you please, but I cannot descend to the life of the common laborer." Many an educated Italian feels just that way about it at the beginning. Later, he gains a truer view.

THE INTELLIGENCE OF ALL CLASSES

With the exception of the silent Sicilians' these Italians are generally fluent talkers and extremely intelligent. I have known a Neopolitan, who could neither read nor write, quote from Dante, Petrarch, and Tasso. It surprises you to hear a group, made up of an asphalt-mixer, a sailor turned waiter, and a barber and a baker, who had stuck to their trades, discuss the sculpture on a new court building; or when, upon another night, the same men wrangle over the merits of Verdi and Mascagni, and end by humming and singing in chorus "Parigi O Cara." But the talk of the tables has a deeper interest.

"Learn English!" exclaimed a sailor, and thousands of Italians would agree with every word he said. "Why should I, any more than is necessary for my work in a South Street restaurant? I am not a student, nor a gentleman visiting America for my pleasure. I came here to earn a better living than I could at home. It is not my fault if I take no interest in the country. We are decent-enough Christians, but every foreigner is a 'Dutchman' or a 'Dago', and the policeman's club is always ready to break an Italian's head, as if we were all assassins. 'Become a citizen,' the American says. Why should I? I should still be a 'Dago,' and gain nothing but the privilege of selling my vote once a year for $2. Honest men leave politics alone, for the politicians here are rascals, just as they are in Italy. The people are better than the politicians, but they don't care what the politicians do. Their national motto is stamped on the dollar: 'In God We Trust.'"

"Perhaps you believe what you say!" thundered the barber, pounding the table like a madman, "but that does not prevent your saying what is not true. People are welcomed here for the work they do. Americans are not a race. They are a society of men of different races; and I have a right to come here, even if I am an Italian, and my father made me a barber. The land that gives us our bread is our fatherland, and we ought to take an interest in it. I'm going



ITALIAN IMMIGRATION 1870-1903

COMPARED WITH THAT OF OTHER NATIONALITIES

to vote as soon as I get my papers, and I won't sell my vote, either."

The sailor and I sat alone at the table on the following night. "Can you truly expect me to like America enough to become a citizen?" he asked. The question cannot be answered with an emphatic "Yes," as long as an Italian is able to quote you official phrases applied to him and his kind, such as: "Undesirable and dangerous aliens," "pauper hordes," and "obviously unfitted for American citizenship." He knows that he is a man much like other men. He knows that the colony is not "a breeding-ground of moral depravity." The injustice rankles, and he is more than ever resolved to live by himself.

Italians are very social and gregarious,

but, even in the most densely populated cities of Italy, they never flock together as they do in our tenements. Partly because they flock together here, and partly because they have a reputation for promptness and faithfulness in paying rent, the increase in value for the last ten years in the real estate which they occupy in New York City amounts to $75,000,000. This means that they use every foot of room, but it does not necessarily mean unhealthy living. Overcrowding is sometimes a serious evil, but it is not a general condition. A complete canvas was made, by the Federation of Churches, of a typical New York colony which consisted almost entirely of the cheapest tenements. The inspectors visited 1,075 families, and the average allotment of space was found to be one room to 1.7 persons.

Neatness is quite as common as disorder, and clean curtains are at most of the windows.

THE ITALIAN'S LOVE OF HOME LIFE

As the women come to New York in greater numbers, the home is becoming more and more the centre of Italian life. The arrangement by which six or eight men will hire two rooms, sleeping, eating, and sometimes working in them, and caring for themselves, is becoming rarer. "Taking boarders" is a custom that is spreading; but the home preserves its integrity and, in certain respects, its Italian character. The children are idolized and spoiled. The poorest families take the most jealous care of their daughters. They are often exceedingly particular about the choice of their associates, and they almost never allow them to go out alone after dark.

The Italian's industry often becomes a vice. He is apt to think that only a clever man who is half a scoundrel can make money quickly. He prefers the slow way, which he knows is sure. All his economical wisdom is summed up in two proverbs, which he has forever on the tip of his tongue: "Thrift is the best harvest," and "God is the treasurer for the man who knows how to spend wisely." He applies his proverbs by toiling as no other immigrant has ever toiled, and by making his wife and children turn to in the same spirit and help him. His entire family will often work all day long, and far into the night. He can live on what any other man, except a Chinaman, would starve on; and his success is so general that there are few Italians who do not have a bank account, and send money regularly to Italy.

Italians come to America, not from a migratory instinct, but either to make a better living or to keep from starving, and they bring nothing with them but a strong body and the will to work. Their honest work is slowly destroying unfair prejudices. They are thought least of in New York. The vast stream of new arrivals pours through that city, and, to a certain extent, dominates its colony life. And these colonies seem to contain, as a permanent population, a considerable proportion of all the Italians in the country who cannot learn the language nor fall into step with the march of American life. They are the failures, who seek the shelter of the colony, and are satisfied with a pittance of a living. Then, too, New York employs a great army of rough laborers in the most important and numerous works of construction ever undertaken in its history. They are all Italians, poor and very ignorant, and they are much in evidence.

But, the further west you go, and the smaller the colonies become, the better for the reputation of Italians. Pittsburg has more respect for them than New York. In Louisville and Memphis, where the colonies are very small and prosperous, there have been intermarriages with natives of good standing, and "Ginney," the New York insult to the Italian, is entirely unknown. In San Francisco, the Italians have appreciated the advantages of education; they have made money; they have been public-spirited and progressive; and, until the recent great inroad of immigrant laborers, there has been no prejudice whatever against them.

Forty or fifty years ago, when only a few hundred came to us each year, they were of two classes: men of character, education, and refinement, who were often political refugees; and beggars and mountebanks. Today, with an annual Italian immigration of about 165,000, two-thirds of them are unskilled laborers, and about one-half of them are illiterate and extremely poor. The majority find picks and shovels waiting. They begin work at once digging cellars and subways, blasting and grading for railroads, cutting stone in the quarries, getting out the coal and iron of our mines, and doing the rough work of mills. The rest can get a start and earn their living in only a few

ways; but their occupation is almost sure to be different from what it was at home. They can live well on what others throw away, and so they become collectors and sorters of rags and junk. They can take work which is largely menial, and which others are more or less willing to give up. Thousands of them thus become hod-carriers, bar- and window-cleaners, dishwashers, bootblacks, and, when they can command a little political influence, lamp-lighters and street-sweepers. More than 1,200 of them are now sweeping the streets of New York.

One steamship line already employs none but Italian stevedores, because, in an emergency, they will work harder and for longer hours than men of any other nationality; they never get drunk, and so are more trustworthy than other labor.

GETTING INTO BUSINESS

Once the beginning is made, money is earned and banked. Some take a step up the ladder. The dishwasher becomes a waiter or a cook; the bootblack buys a stand of his own; the handy-man builds a push-cart with an emery wheel and becomes a scissors-grinder and umbrella-mender. Others soon start in a business which requires only a very small capital. Peddlers and "Coal, Wood & Ice" men multiply. The caretaker and gardener of the suburbs takes a truck-farm. The fruit-stand sometimes turns into a fruit-store, and the proprietor of the fruit-store so often becomes a prosperous wholesaler that the wholesale fruit trade of the country is very largely in the hands of the Italians.

Italians have almost a monopoly in the manufacture of macaroni and artificial flowers. They make all our plaster images, from the ten-cent bronzed "Fisherman's Daughter" to the beautiful casts in our museums. All our mosaic floors are laid by them. Italian confectioners are rapidly outstripping their rivals in the East. Italian grocers and wine-dealers are now common, though twenty years ago they were unknown.

Last year we received 31,661 Italians with trades. More than half of the barbers, bricklayers, and masons, shoemakers, and stone-cutters who came to this country during the year were Italians. So were more than one-fourth of the miners and plasterers; and more than one-fifth of the tailors, millers, bakers, gardeners, carpenters, and blacksmiths. Most of these men easily find work at their trades. Italian barbers, cobblers, and shoemakers have set up their shops everywhere in the cities and towns of the East. Restaurants, with American cooking, kept by Italians, are found all over the country. Italian tailors are almost as common as Italian cobblers, and the success of Italians in the clothing trade has been remarkable. Two years ago the Industrial Commission reported that the future clothing workers in this country are not likely to be Jews, but Italians. I asked the manager of a concern employing 250 Italian tailors in the manufacture of expensive cloaks, how it was that within four years he had come to make a complete change in the nationality of his employees. He said that the Italians work harder and better for the same wages; they make fewer mistakes; and they have no "blue Mondays," due to Sunday intoxication.

They are making their way up by other means. New York has Italian policemen and postmen. A police captain in Brooklyn is an Italian; so is a police commissioner in Hoboken. Numbers of them have become doctors, lawyers, dentists, architects, engineers, and school-teachers. We have a fruit-packing industry that is the largest in the world. The head of it was a barefoot Italian boy about thirty years ago. They have seats in our legislatures, and on the bench. One Italian judge spent his early years driving a fruit-wagon and peddling oranges and bananas. A distinguished justice of the Supreme Court in one of our largest States is the son of an Italian who could not write his name.

Italian lumbermen are felling trees in the forests of Maine. Italian laborers are working in the granite quarries of Vermont, New Hampshire, and Rhode Island. They have taken up deserted farms in Connecticut and Massachusetts. They are crowding into the grape-growing belt of New York, Pennsylvania, and Ohio. Three small towns in southern New Jersey count more than 3,000 of them—all farmers, raising chiefly sweet potatoes, berries, and grapes. They are growing peaches in Delaware, tobacco in Virginia, and cotton in North Carolina. They do truck-farming not only about Boston, New York, Philadelphia, and Baltimore, but in the suburbs of Memphis, Dallas, San Antonio, Denver, Cheyenne, Salt Lake City,

and San Francisco. They have successful agricultural colonies at Daphne and Lamberth, Alabama; at Sunnyside and Tontitown, Arkansas; at Montebello and Verdella, Missouri; and numerous smaller colonies at various places in Texas. Since 1900, many have gone to settle on the plantations of Mississippi. In Louisiana, they have found climate and work perfectly suited to them, and they are gradually dislodging the negro on the sugar- and cotton-plantations. They have done so well that their success has attracted others, and their numbers are constantly growing. There are now more than 60,000 of them employed at some form of agriculture within the State.

HIS GREATEST SUCCESS IN CALIFORNIA

But California has seen their greatest successes. The larger part of its population of 45,000 Italians is engaged in farming and vine-growing. Their fruits and vegetables are shipped by the train-load to every part of the United States. They have some of the largest vineyards and wine-vats in the world. Their Genoese and Sicilian fishermen supply the Pacific Coast with most of its sea-food. They own 2,726 farms, and their total capital invested in farms, ranches, and business enterprises is estimated at $114,325,000.

In spite of its backwardness, the New York colony has made progress that is well worthy of note. Less than twenty years ago, there was not a single Italian owner of real estate in sections of the city where they now hold nearly 700 houses, valued at $20,000,000. They have about $15,000,000 invested in business; and Cav. Francolini, the president of the Italian Savings Bank, tells me that they have on deposit in the savings banks of the city between $15,000,000 and $25,000,000.

Their general prosperity throughout the country can be gauged only by the vast sums they send to Italy every year. Signor Conti, the American agent of the Bank of Naples, estimates that these remittances reach an annual total of between $50,000,000 and $60,000,000. Our Italian population is still small. Including all natives born of Italian parents, it probably amounted to no more than 1,100,000 at the end of the last fiscal year. This means a yearly gift, chiefly to the parents at home, of about $50 from every Italian man, woman, and child in the United States.

Much of their success is due to leaders of their own race. Every colony has such men. One among them has become famous for his fortune and for his services to his countrymen in California.

Andrea Sbarboro's parents seem to have been peasant farmers, making none too good a living in their mountain home of Acero. They came to America with their nine children, when Andrea was four years old. When Andrea was thirteen, a boy's dream of gold-digging started him out alone on the long journey from New York to San Francisco. Clerking, adventure, and work at the mines filled the years that followed. His thrift and industry made him a partner in a commission business before he was twenty-one. From that time forward he rapidly became rich.

He was still a boy when he began his work of helping others, by opening an Italian-American night-school. When he could not find a text-book to suit him, he compiled one. His teaching was continued for many years; but he soon made it his special mission to encourage immigrants, and particularly Italians, to settle in this country, and acquire, by industry, the ownership of their homes. He has carried out his purpose by organizing six mutual loan associations, and all of them have been successful from the very first. He is best known, however, as the organizer of the purely Italian coöperative undertaking known as the Italian-Swiss Agricultural Colony. It owns some of the largest vineyards in California, and gives employment to over 1,000 people. He is honored as a business man and as a citizen. He is president of the Manufacturers and Producers' Association of California, and president of the Italian-American Bank. He was a member of the committee appointed to frame the new charter for the city of San Francisco, and he is the chairman of the California Promotion Committee.

The progress that Italians have made in this country is the work of little more than fifteen years. The majority of the Italians do not assimilate as readily as some other immigrants, but they are honest workers. The minority, who remain here of their own free will, gradually become Americans. The figure of the Italian bugler who sounded the reveille on board the *Olympia*, before Manila, is a symbol of Italian loyalty to the new land.

THE SPREAD OF VACATION SCHOOLS

THE GREAT SUCCESS THAT THE MOVEMENT HAS HAD IN LARGE CITIES—PRACTICAL TEACHING AND HELPFUL PLAY —LARGE SOCIAL AS WELL AS EDUCATIONAL EFFECTS

BY

ADÈLE MARIE SHAW

(THE NINTH OF A SERIES OF FIRST-HAND INVESTIGATIONS OF AMERICAN SCHOOLS)

"VACATION schools" have become an important part of our public-school system.

School Building No. 188, in New York City, is said to be the largest in the world, sheltering, in the winter, under one roof, 5,000 pupils. From basement auditorium to the roof playground it is a model school building. Here I began a study of these schools which take the children off the streets of crowded districts in summer.

I approached it on a hot July day when, near the building, from wall to wall, streets were packed with the people of the tenements. On the steps, in the doorways, along the walks, beneath the pushcarts, and in the streets themselves were children—thousands of children. Inside the great school building, twelve hundred of them had escaped from the stifling atmosphere of the streets and were breathing the better air of the class-rooms. Miss Hatch, the principal, guided me through the brilliantly lighted, finely fitted shops, and as I stopped to take pictures of boys who were planing, joining, sawing, and hammering beside the benches of a spacious carpentry-room, the sunshine, the clean, light-colored wood of the fittings, and the good distances, produced upon me a stronger effect of refinement and beauty for their contrast with the grime and smother of the streets below.

The same effect was produced by the large, sunny kitchen, high above the roofs, where the breezes brought less dust and the sky was plainly in view. The surroundings had affected the behavior of the class. Great numbers of little girls were busy at the range, at the spotless sink, scrubbing a table, slicing a lemon, or bent over a yellow bowl, whirring an egg-beater with keen delight. There was no confusion, no "shoving."

At School Number 20, in Rivington Street, still on the East Side, the principal showed me what could be done with an over-crowded school when devoted teachers grapple with the situation. In every room energy and good humor had been inspired. Neither weather nor crowding prevailed against it. Little girls, with their pasteboard boxes of material, were taking their places with an air of childish importance, big boys were attacking lustily yesterday's unfinished carpentry problems, and kindergarten children were singing heartily their opening songs. Many sombre little faces wore a look of deep content. Nobody makes a vacation-school child go to school. He goes because he wants to go, and chooses what he wants to do.

Brooklyn schools were vigorous with the same interest. At No. 135, in Butler Street, another crowded neighborhood, I saw lines of children patiently holding their places in order to be recorded on the waiting-list. One barefooted boy, who looked not more than the kindergarten age, stopped me in the street to ask eagerly, "Is there any room in the carpenter class?" Within the building, the classes were full to the brim and over. The things I saw at this school are taught everywhere in the vacation schools of the New York boroughs. The city offers, in these schools, chiefly manual training and nature study. The manual-training studies show an interesting variety, especially in the choice offered to the boys, whose classes in whittling, fret-sawing, Venetian iron, leather, and burnt-wood are filled almost before the summer-school doors open.

In the girls' classes at No. 135, I found the same pressure on an already over-taxed space. In a sewing-room, a number of little girls were preparing clothing for a toy bed,

Sheets and pillow-cases, either plain or hemstitched, had been neatly made by each child. A mattress and a gaily tufted quilt, as well as a counterpane, had completed the individual set. The "knitting-room" was much absorbed in bed-slippers. "For Christmas presents," explained the teacher. "Tam-o'-Shanters, hoods, mittens, all pale in interest before the bed-slippers!" As the children showed me their work, with pretty pride in its completion, I noticed the clean faces and hands that had been demanded before materials may be touched. In this class, and in the millinery-room beyond, a garden of colors in wool and hat-trimmings made the place attractive. Girls were bringing their own trimmings and making coarse raffia do for the straw, which is unobtainable this year because of reduced appropriations. The model bows, constructed by their small fingers, flared in an approved fashion from knots that few grown women can achieve.

From this room I went to the "model bedroom," that will be fitted up by the children themselves. This is a distinctive feature of the New York schools. Furniture is made in the shops by the vacation-school boys; bedding, bureau-covers, pin-cushions, waste-baskets, brackets, match-boxes, wall decorations, are prepared in the classrooms. Even the knitting- and crochetting-rooms outdo themselves in woolly ornaments constructed to harmonize with the color scheme. Plain lessons are given in the use of each toilet article that is added. The tooth-brush, the bath appliances, even the card-board "hair-receiver" are made to help in teaching the children how to be clean.

The cooking-schools do not simply teach the making of a palatable omelet without milk, the dainty handling of materials, and the care of food and dishes; they teach how to set a table, how to serve a meal, how to receive one's friends at a little tea-party. The girls see the charm of a green fern on a white table-cloth; they absorb the idea that modulated laughter is better than shrieks—above all, they learn that considering others is the first law of "good form."

Instruction is given in simple nursing—in the arrangement and care of the sick-room, the making of a "hospital bed," the use of antiseptics, and the adjustment of bandages to different parts of the body.

Both boys and girls engage in nature study. The teachers try to bring the children into personal relations with flowers, trees, animals. Excursions are part of the work. The real country is reached by those to whom it has been previously unknown. "Why are we goin' to the country?" asked one child. "We ain't sick." Up to that time, the work of the Fresh-Air Fund for the invalids had been her one idea of country. What the children learn they apply to a "model farm"—a box of earth, furnished with a miniature house and barn. About the buildings, children rake paths and construct roads, plant miniature fields of grain, and cultivate tiny flower-beds. The seeds, carefully watered, do their best, and the result is a continual pride and wonder to the gardeners. "I hate dead things," said one boy, contemplating the growing plants. "These things are alive."

Some of the children, however, show a deep interest in the "dead things" in collections. The pupils of No. 20 were much interested in the arrival at the principal's office of cases of mounted butterflies and birds, from the Natural History Museum, and they told me eagerly of collections that they had already seen.

The day of my visit at No. 135 was the day for the City History teacher. As she went from room to room, the children dropped their tools and crowded around her to hear stories of early New York patriots and tell to her the stories heard the week before. Every New York vacation school has a City History teacher one day in each week. During the term, the classes, guided by the teacher, visit the historic places in or near New York about which they have been hearing.

Perhaps no expedition interests these children more than the periodic visits to the public baths, where they receive lessons in swimming.

Boston children are as eager to attend these summer schools as the New York children. I sympathize with the small Boston girl, who, beholding through an open door the chair-caning of a class, rushed home and clasping the baby's high-chair in her arms, toiled back to present herself a breathless candidate for instruction. It was to a Boston chair-caning class that one boy brought a whole set of dining-room chairs, meaning to reseat the six in the hour a day allotted for that instruction. In a room at

the Hancock School, at the North End, was a collection of chairs, suggestive of the entire domestic history of the neighborhood. The grandmother's rocker, and the father's "big chair," doll chairs, parlor chairs, kitchen chairs, chairs that a touch sent tumbling in three sections, and chairs whose solidity made their transportation difficult, all brought by the children, stood in groups, while their proprietors wove the stiff cane back and forth. When the caning is finished, joints of the weak chairs are mended, and each is cleaned and varnished before it is sent home.

The manufacturers had contributed a quantity of good crêpe paper, which wears better than cheap silk, to a class in the Hancock School. The colors were refined and beautiful. In the class-room, scrap-baskets, neatly covered, were appearing in sections under fingers that gained in skill with each suggestion. On the window-ledges were jardiniere-covers, shaped like flowers, flower-like in color. These and a mass of poppies, that might have come from a Paris shop, had been made by the children. It was here that I saw for the first time in weeks the sudden light of overwhelming childish happiness shine in a child's eyes. The teacher had uncovered a mysterious barrel, that stood in a corner, showing a mass of wire hat-frames (also contributed by the makers). "Every child," she explained to me, "is going to make herself a hat"—and the child overheard.

LITTLE GIRLS AT INDIAN-CLUB DRILL IN A CITY VACATION PLAYGROUND

In many studies, boys and girls were working naturally together. In one school, in connection with the cooking-classes, boys, as well as girls, learned the easiest way of washing dishes, and keeping shelves, tables, and sinks neat and tidy. In the carpentry-room, at the Hancock School, the girls seemed to show as much interest as

GETTING READY FOR A RING GAME ON THE GRAVEL PLAYGROUND OF A BROOKLYN SCHOOL

the boys. Instructors reported "nice work," "good work," "superior work" done by the girls, not only in carpentry, but in manual training generally, and good results from some of the larger boys, who had asked for some of the construction work in cardboard, ordinarily given only to the girls.

The schools had good reading-rooms, and the Public Library was supplying what were practically branch libraries. A book to read and a place to read it in were gifts many children were seizing gladly.

All places where vacation schools exist report the same eager appreciation that is shown by the pupils in New York City and Boston.

VACATION SCHOOLS OUT-OF-DOORS

If the summer class-room work is popular, the playground work is doubly so. On the ground floor of the big school (No. 188) on Houston Street, New York, is a huge basement, whose cement floor is trampled daily by thousands of eager feet. The school closes at twelve. The playground opens at half-past one. Long before that time, crowds of children are waiting in lines that stretch to the corner of the next street. The number usually admitted is 3,500. (On Friday, when many children are at home getting ready for the Jewish Sabbath, attendance falls to 3,000.) One teacher and seven helpers take care of this horde of boys and girls. I saw 2,000 of the children seated upon the floor "keeping quiet" while 1,000 had their calisthenic drill. In the row were wandering infants from the street,

Courtesy of Mr. Charles G. Stone

CHILDREN OF THE BROWN VACATION SCHOOL LOOKING FOR WATER SPECIMENS FOR NATURE STUDY AT KENEY PARK, HARTFORD, CONNECTICUT

A CRAMPED PLAYGROUND IN NEW YORK CITY WHERE TEACHERS KEEP THE SPACE CLEAN AND MAKE HUNDREDS OF LITTLE CHILDREN HAPPY WITH RECESS GAMES

bare-armed, bare-legged (save for the coat of street dirt), clad in a single garment, moving obediently when the janitor waved his stick at them, and regarding with curiosity, or listless indifference, the proceedings in the far centre of the floor. It was an orderly assemblage, earning the bliss of a basement game by good behavior. Some of the boys, given the privilege of a basket-ball game on the roof playground, had scurried past me on the stairs as I descended.

I saw a weekly report from eighty-five playgrounds, organized and conducted in the summer of 1904 by the New York Board of Education. Each playground is in charge of an instructor, or matron, and of "helpers." The most cheerful of these are, of course, out-of-doors. One of the smallest, and best, at Amity and Emmett Streets, in Brooklyn, is a vacant lot, in charge of Miss Dunne, who is also a winter teacher. Early this spring, she began, with the help of her winter pupils, to make the place attractive. Now vines cover the surrounding walls and sweet peas and other blossoming things crowd the narrow flower-beds at their base. A big tent shades the rectangle of the centre, and the sun, striking down between walls and canvas, makes a grateful picture of the green background.

"MAY I BRING MY LITTLE BROTHER? HE CRIES IF I LEAVE HIM"

Miss Dunne introduced me to some of the children who had helped take care of her garden. Tony Semachio, an Italian boy, a French lad, a German Swiss, and an Irish boy were among them. Once, some boys had mischievously jumped in a half-barrel planted with nasturtiums. The teacher had summoned

THE CHILDREN OF THE HANCOCK SCHOOL IN BOSTON PLAYING IN THE SAND-BOXES

A CLASS RECEIVING AN OBJECT LESSON IN NURSING

A COOKING-CLASS AND TEACHERS AT SCHOOL NO. 188, IN NEW YORK CITY, WHICH IS THE LARGEST PUBLIC SCHOOL BUILDING IN THE WORLD

AN ADJUNCT TO THE COOKING-SCHOOL—A LESSON IN SERVING GIVEN AS PART OF A COURSE IN HOUSEKEEPING

them and talked with them. "What will you do if you see any one hurting my garden?" she asked at the end of the conference. "Chuck him out," said the three, and since then they have patrolled the premises in "off" hours to good effect, and have worked in the garden.

The city has hauled the clean gravel of this playground floor, and mothers, bringing their children, linger gladly in the pleasant shade, watching their children at play. Blocks, jumping-ropes, reins, balls, checkers, parlor-quoits, ring-toss, paper-folding, logomachy, picture books, as well as the inevitable raffia work and sewing, were providing occupation the afternoon I spent under the big tent. The American flag was a centre of interest. The manner of saluting the flag, of waving it in flag songs, of watching it to see that it always occupies a place of honor, no matter how small or cheap it may be, shows in all the playgrounds the feeling it inspires. At this school, as everywhere, the personality of the teacher was the principal element in success.

The Hancock School playground, in Boston —in a crowded quarter of the North End—

SINGING AND MARCHING TO "THE FLAG OF OUR COUNTRY"

AT THE HANCOCK VACATION SCHOOL IN BOSTON
Big brothers, sisters and mothers amuse the young children

has for years had in the winter school a "steamer class"; children straight from the docks, speaking no English and still bundled in the costumes of other lands. Yet it is a quarter more Americanized than any other "foreign quarter" that I have seen. Miss Sawtelle, the present principal of the winter school, has for many years made the Hancock School a centre of neighborhood life. The children in the summer classes, and especially the families in the playground, showed a propriety of behavior uncommon in crowds.

SEE-SAWS, SWINGS, AND SAND-BOXES

See-saws, swings, and sand-boxes were practically the whole equipment of the yard, but the entire neighborhood was making the most of these. The playground is open all day. Mr. Thomas, the kindly principal in charge, was hoping to secure hammocks to relieve mothers and children of the weight of sleepy babies. Appropriations in Boston, as in New York, are not lavish, and the vacation-school workers must do what they can.

In the sand-boxes were packed so many babies that little sand was visible. Some were unkempt and some were tidy, but all were busy. Wails rose every now and then from beneath a tangled mass of hair. One spotless baby stood for an hour in the corner of a box (too crowded to let her sit down), gaily shoveling spoonfuls of sand into a tiny striped pail. Her father had placed her there and gone away, knowing the matron would look after her. By a corner of the next sand-box, under a green tree, a mother and a grandmother were feeding babies with bread and milk.

Good order, fair play, and a recognition of others' rights are maintained. Neighborhood boys, high-school graduates, help the regular instructor at the Hancock School in giving a military drill to companies of boys. "I don't believe in knocking them about—they get enough of that—but they've got to learn promptness, and they've got to mind, and not interfere with the others. If you can make a boy see he's got to grin and bear it, when another fellow's put where *he* wants to stand, you've done the whole job," said one.

"I think we'll have to try the drill on some of the big girls; it would straighten them up," he added, as we looked over the crowd. Everyone feels a responsibility for everyone else.

THE SPREAD OF THE VACATION-SCHOOL IDEA

The object of vacation work and play is to teach, but to teach chiefly that which gives the most active enjoyment in the learning. The scope of this work has changed every year since its inception. When the city of Newark, N. J., led the way, in 1885, by establishing public vacation schools, the summer work was simply a continuation of winter work. The backward "caught up," the ambitious forged ahead, many preferred continued school to "nothing to do" in the same old scenes, but the majority were not attracted. In the last few years, Newark has added to the older courses manual training and out-of-door playgrounds. In two years, attendance has increased more than 60 per cent., nearly 40 per cent. in one year, so that now the city has, in proportion to its population, the largest vacation-school attendance in the world.

At least thirteen of the forty-six largest cities in the United States have recently started these schools, or adopted them. Eight cities have well-established schools and playgrounds maintained by women's clubs, city improvement clubs, or private subscription. In the greater number of cases, the schools started by private and philanthropic labor have become part of the regular city work. In two or three cities, the work has dropped or flagged, because a new administration has a political axe to grind by "retrenchment." Its cost is nowhere prohibitory. The schools of Hartford, Conn., with clay-modeling, painting, and outside lectures on nature, added to the other studies, cost eleven cents a day for each pupil in 1897, and in 1902, with eighteen times as many pupils, cost five cents a day per pupil.

Excursions with teachers and supervisors are features of all the vacation-school and playground systems.

Here is a newspaper report of a Buffalo vacation-school trip:

"WATER-FRONT VISITS

"No. 3's groups 3 and 4 went to the water-front yesterday, and all went all over the fire tug *Grattan*. Captain McCarthy gave the children full swing on the boat, and when they had 'seen everything to be saw,' as one boy expressed it, took them to the crew's quarters, to show them how the firemen do their own housework.

"This surprised the youngsters exceedingly, for firemen were heroes to them, and 'heroes don't work,' observed one boy.

"He was corrected in this impression.

"A lesson was given on transportation with the iron and wooden freight- and passenger-boats, tugs and canal-boats, as objects moving in the harbor. A fine view of the harbor, with the elevators and freight-houses on both sides of the river, was had. Unfortunately, on account of the dull times, no elevator was moving, and the children were greatly disappointed. The immense Michigan Street "jack-knife" bridge was opened, to allow two large steamers to pass through. This was a revelation.

"The pupils were also informed that the elevators and railroads paid large sums of money to the city every year as taxes. These taxes go toward educating the children in our public schools and maintaining other necessary departments."

A wonderful evidence of self-control, gained from a previous year's experience, on the occasion of a trip to Atlantic City, was seen in Philadelphia playgrounds, where children, who had once scrambled and pushed for materials and places, lined up at the beginning of a second summer without any suggestion from the teacher, and, marching past, took, each in turn, the pail and shovel given out, those who secured no pail waiting without any complaint till games could be started for them.

Buffalo, N. Y., owes its vacation schools primarily to a devoted body of teachers who, in 1898, organized one in a Polish and one in an Italian district. A little appropriation from the city encouraged the work, the superintendent of schools secured an annual increase in the appropriation, and, this summer (1904), after six years of labor on the part of teachers and principals, Buffalo is spending more than $3,000 for five schools in separate buildings, maintained four weeks, with an initial attendance of about as many pupils as there are dollars. The money, of course, is chiefly used for equipment. Anything that can be called a salary for the teachers is unknown. There are in these schools little crippled children who are having the advantage of school association for the first time in their lives. Bookbinding is one of the very popular studies. A period of English "conversation" is one of many strong features of the schools.

In St. Paul, Minn., and in St. Louis, Mo., children are enjoying summer sports that are made a means of training. Some of the most interesting playgrounds in the country are at Louisville, Ky. Here the playgrounds are organized into regular city departments, and each morning, while a juvenile "board of health" sees that the hands and faces of all untidy playground applicants are made clean at the basins provided, "park commissioners" go about with little red wagons, and pick up all papers or other litter left the day before upon the ground. The "aldermen" are girls, the "council" boys. Every department has active work. The "board of trade," for instance, conducts visitors about, explaining to outside children the advantages of belonging to the association. The "board of public works" has in charge the materials given out for games. In one playground, a young "city librarian" has the care of books lent the children by the city library. Two playgrounds for colored children are organized and conducted by southern white people.

In the change from cut-and-dried subjects to hand-work and play, as a means of training, another change has been set in motion. Work in many cities has been extended to satisfy the older children and the children who do not live in crowded quarters. Cleveland offers in its eight-weeks' vacation schools high-school work. Minneapolis gives summer training to larger and larger numbers of the well-to-do.

Like the Louisville playgrounds, the Minneapolis vacation schools are founded to train for citizenship. The Civic League includes boys' clubs and girls' clubs that meet separately or together, and follow the orderly procedure of the "manual." Athletics, as well as indoor work, are conducted in accordance with club rules. By this means the children are taught to control their own actions.

THE POPULARITY OF THESE SCHOOLS

Common helpfulness is the law of the vacation-school work. Badly dressed little boys in a sewing-class make themselves trousers, and little girls make themselves shirt-waists; specialists employed to teach one branch of a subject give a free lesson, after hours, in another branch, and some quick child practices it at home; in a Boston typewriting-class, an older girl is given the use of a machine on which to regain speed lost by illness; in another class, a blind boy is taught simple basketry; in one city, every child in a cooking-class receives a book

containing the thirty-six "recipes" she has used; on a school sewing-machine are stitched many garments basted by mothers in machineless homes.

Every kind of help received by the children is passed on. The teacher helps them collect seaweed at a shore outing. Pressed, mounted and made into books, the seaweed first teaches the school children, then goes, with their good wishes, to the children in hospitals. The boys teach their little brothers the exercises they learn. The cooking-class sets a table, and little Marietta, bringing a half-dozen white scraps to the sewing-class, neatly patches together a table-cloth for a home where a table-cloth is a novelty. At No.188 (New York), it is a common sight to see an older girl standing patiently in line for the free shower- or spray-baths with a toddler clasped to her side. She has come to give the baby his bath. One mother came in late, one evening, to a New York recreation centre, bringing a baby. "He cried and wouldn't go to bed till I had given him his bath," she explained.

Life grows more comfortable through the work of these schools. Sheets and pillow-cases appear in families where they are novelties; tasteful hats, of softened colors, change for the better the fashions of a block as populous as a small city; designs for fret-saw work, conveniences for the kitchen, occupy the fingers of children for whom no one ever before suggested interesting work. On the recreation piers of New York City, mothers may learn to interest, train, and make happy the children in their care, for, while these mothers rest, two vacation-school kindergarten teachers, at each pier, keep the little ones busy with safe games, and provide the older ones with vacation-school library books, toys, puzzles, and the quiet games like authors and back-gammon.

Many of the children are paid for their school labors. One little Boston girl earned a new dress by caning the neighbors' chairs, and with it replaced the winter's woolen one, so uncomfortable in summer. Boys do the same thing, and take pride in turning out good work. One little boy earned $20 last winter from the manual training learned in summer. Many of the children fill orders for straw and raffia hats, for iron, wood, and leather work. Fathers and mothers learn from the children, not only English, but handicrafts that they can understand.

In New York City, gangs of boys from "de Ate" and Avenue A, learning and teaching cruelty, robbery, and sometimes even murder, in the streets, come into the schools and "centres," into athletic and debating clubs, and spend their activity in law-abiding sports and civilized discussions—lively contests of muscle and logic. Little girls wearing out their days baby-tending, or growing up to acquire a taste for the romp of the dance-halls, become, in the schools and "centres," clever-fingered creators of dainty things, mannerly and graceful dancers of a stately minuet. To be taught play that is not fighting, sports governed by fairness, quiet games where gambling is not allowed, is a gain to many. To be taught to play at all is a boon to many others.

Out of twenty-seven kindergarten children, in one class, twenty-four remained seated one day at dismissal, begging for more time. Some refuse a country week, many a picnic or a visit, rather than miss a single session. Every disappointed child put on the waiting-list tells his neighbors of his fate and "heads them off." So lists tell only part of the story, yet, at least half as many children have been turned away this summer (1904) as could be received in the schools of New York City. The supervisor of the New York vacation schools says that, if three times as many schools were opened, they would all be filled.

In the New York vacation schools, playgrounds, and recreation centres, for the week ending July 16th, the actual attendance was 571,257. New York City has more public-school children than that whole number. Counting out grown people at recreation centres, and those children who registered twice (in the morning for school, in the afternoon for a playground), as well as all the residents of the districts without summer schools, there would be left several hundred thousand children unprovided with proper work or play. Moreover, from the evening centres on the tops of school buildings, where the band plays high above the city roofs and where even on hot nights there is a breeze, the younger children are excluded, so that not only by day, but also by night, an enormous army of children under fourteen are left in the streets.

The men who inveigh against the expense,

curtail the appropriations, and refuse their countenance to such work, are "saving at the spigot to waste at the bung-hole." It is the life of the city they are wasting.

Against the reactionary spirit that fears what is new, the vacation school has proved itself. "It is necessary," says Miss Whitney, "for the preserving and upbuilding of civic life." "I believe in it heartily," said nearly every superintendent from whom I heard. That the superintendent of the New York schools, Mr. William H. Maxwell, approves the vacation school is sufficiently shown by the splendid system already grown up under his jurisdiction. In the hot summer weather, he is remaining in town to give to these schools his personal encouragement and assistance.

In Boston, Mr. Fitzgerald, supervisor of the vacation schools, was, at the time of my visit, conducting a party of several hundred Porto Rican teachers to see the vacation-school work, indoors and out. The group of these teachers that I saw at the North End school showed the greatest interest and pleasure in each phase of the work presented to them. Not only from every quarter of our own country, but from England and Germany, France and Italy, visitors come to these schools. Newspapers spread a knowledge of them. Librarians, park commissioners, clubs, private individuals, also rally to their support. They grow, for they are part of the answer to a question to which an answer must be had: Is there not an unbusinesslike waste in the disuse of the public-school plant of most places in this country for a hundred and seventy-five days—fifteen days less than half—of every year?

THE PERSONALITY OF THE TSAR

AN EXPLANATION, BY A RUSSIAN OFFICIAL OF HIGH AUTHORITY, OF THE CHARACTER AND TRAINING AND POINT OF VIEW OF THE RUSSIAN EMPEROR—A SUPERSTITIOUS AUTOCRAT OF NARROW VISION—AN INSIDE VIEW OF THE COURT—WHO THE REAL RULERS OF RUSSIA ARE — THE POSSIBLE IMPENDING CRISIS

THE Emperor Nicholas II. has already reigned for nearly ten years, and ruled for fully eight; yet the concrete man, his individual character, and the order of motives to which it is sensible, are nearly all as legendary as those of Numa Pompilius. Clouds of journalistic myths, mainly of German origin, enwrap his figure, hiding it from the vulgar gaze as thoroughly as though he were the Dalai Lama; and the fanciful portrait which we are asked to accept is as abstract and as colorless as that of our legendary Russian princes. Beyond the precincts of the palace, his person is transfigured, his most trivial deeds are glorified, and his least disinterested motives are twisted and pulled into line with the fundamental principles of ethics. The result is a caricature closely bordering on the grotesque. Nikolai Alexandrovitch is depicted as a prince of peace, a Slav Messiah sent for the salvation, not of his own people only, but of all the world. The most precious porcelain of human clay was lavished in the making of this unique ruler, who stands upon a much higher level than that of the common run of mortals or of kings, in virtue not only of the dread responsibilities laid upon him by the Most High, but also by reason of his own passionate love of humanity and his selfless devotion to the true and the good. In short, he is an "Übermensch," whose innate goodness of heart exceeds even his irresponsible power.

But no newspaper hero is a prophet in his own country for long; and Nicholas II. did not play the part in Russia for more than a twelvemonth. His father's reign had ended in utter moral exhaustion, in the blasting of hopes, the killing of enthusiasm, the blackness

* This remarkable article was published anonymously in the latest number of the *Quarterly Review* (London), with the simple explanation that the author is "a Russian official of high rank." It instantly attracted world-wide attention. By arrangement with the publishers of the *Quarterly*, it is published here in full, as the most interesting recent contribution to literature about the most critical political situation in the world.

of despair. Better things were confidently expected of the son, because worse were rashly held to be impossible. But the credulous masses were again mistaken, and soon became conscious of their error. All Europe will know it soon.

Nicholas II. began his reign in 1894 as a highly sensitive, retiring young man, who shrank instinctively from the fierce light that beats upon the throne. In spite of his camp experience, he was still his mother's child; passivity, his predominant trait; and diffidence, one of its temporary symptoms. But that phase of his existence was short, and the change from the chrysalis to the butterfly very rapid.

HIS INTRODUCTION TO THE NATION

Men still call vividly to mind the Emperor's first meeting with one of the historic institutions of the empire. It was a raw November day in 1894. The members of the State Council, many of them veteran officials, who had served the Tsar's great-grandfather, were convened to do homage to the new monarch, and, long before the time fixed, were gathered together at the appointed place, their bodies covered with gorgeous costumes and their faces hidden with courtly masks, expressive of awe and admiration. But he came and went like a whiff of wind in a sandy waste, leaving them rubbing their eyes. They had expected imperial majesty, but were confronted with childish constraint, a shambling gait, a furtive glance, and spasmodic movements. An undersized, pithless lad sidled into the apartment in which these hoary dignitaries were respectfully awaiting him. With downcast eyes, and in a shrill falsetto voice, he hastily spoke a single sentence: "Gentlemen, in the name of my father, I thank you for your services," hesitated for a second, and then, turning on his heels, he was gone. They looked at each other, some in amazement, others in pain, many uttering a mental prayer for the weal of the nation; and, after an awkward pause, they dispersed to their homes.

THE SECOND MEETING

The nation's next meeting with his Majesty took place a few days later, upon an occasion as solemn as the first; but, in the interval, he had been hypnotized by M. Pobedonostseff,* the lay-bishop of autocracy, who has the secret of spiritually anointing and intellectually equipping the chosen of the Lord. The key-note of the Emperor's second appearance was dignity—inaccessible, almost superhuman dignity. All Russia had then gathered together in the persons of the representatives of the Zemstvos or local boards—we may call them embryonic county councils—to do homage to his Majesty on his accession to the throne. Loyal addresses without number, drawn up in the flowery language of oriental servility, had been presented from all those institutions. One of these documents—and only one—had seemed to M. Pobedonostseff to smack of Liberalism. No less loyal in form or spirit than those of the other boards, the address drawn up by the council of Tver vaguely expressed the modest hope that his Majesty's confidence might not be wholly restricted to the bureaucracy, but would, likewise, be shared by the Russian people and by the Zemstvos, whose devotion to the throne was proverbial. This was a reasonable wish; it could not seriously be dubbed a crime; and, even if it bespoke a certain spirit of mild independence, it was, after all, the act of a single Zemstvo, whereas the men who had come to do homage to the Emperor were the spokesmen, not of one Zemstvo, but of all Russia. Yet the autocrat strode majestically into the brilliantly lighted hall, and, with knitted brows and tightly drawn lips, turned wrathfully upon the chosen men of the nation, and, stamping his little foot, ordered them to put away such chimerical notions, which he would never entertain. Such was the Tsar's first imperious assertion of his divine viceroyalty; and even staunch partisans of the autocracy blamed it as harsh and ill-advised.

"GOD'S LIEUTENANT"

Between those two public appearances of Nicholas II. lay that short period of suggestion during which the impressionable youth had been made not so much to believe as to feel that he was God's lieutenant, the earthly counterpart of his divine Master. From that time forward his Majesty has been filled with a spirit of self-exaltation, which has gone on gaining strength, in accordance with the psychological law that pride usurps as much space as servility is ready to yield. Nikolai Alexandrovitch soon began to look

* The Procurator of the Holy Synod, the lay administrator of the Russian Church, who at one time or another has been tutor to many of the Grand Dukes.

upon himself as the centre of the world, the peacemaker of mankind, the torch-bearer of civilization among the "yellow" and other "barbarous" races, and the dispenser of almost every blessing to his own happy people. Taking seriously this, his imaginary mission, he has meddled continuously and directly in every affair of State, domestic and foreign, thwarting the course of justice, undermining legality, impoverishing his subjects, boasting his fervent love of peace, and yet plunging his tax-burdened people into the horrors of a sanguinary and needless war.

RUSSIA NECESSARILY A MONARCHY

Before setting forth a few of the many facts known personally to most of those who live in the shadow of the throne—facts which justify the foregoing estimate of his Majesty's mental state and character—it should be clearly understood that we are supporters of monarchy, and opposed to nihilism, to socialism, and to every kind of revolutionary agitation. We do not wish even for a paper constitution, which, conditions being what they now are, would but serve as a trap for liberal-minded men, gathering them together for imprisonment or exile. Our sole desire, as it is that of most broad-minded men in Russia, is to see the spirit of administration made to harmonize with the needs of the time and of the people, and the institution known as the Council of Ministers—created by a ukase of Alexander II., which has remained a dead letter—summoned and set to work; for, the people having outgrown the ancient form of government, the fact should be openly admitted and the practical conclusions drawn.

AN ORIENTAL DESPOTISM

The only government suited to Russia is a strong monarchy; but between this and a wild oriental despotism there is a difference. Nicholas II., although not guided by his official advisers, has never been a free and independent ruler. During the first part of his reign he was kept in leading-strings by his mother, who, as soon as he ascended the throne, impressed upon him the necessity of imitating in all things his "never-to-be-forgotten father." That phrase was engraven upon the tablets of his memory, and is ever at the tip of his tongue and the point of his pen. For long it was the "open sesame" to his heart and mind, because he strives conscientiously to be a perfected copy of Alexander III., and believes that he has already attained the end. In reality, the two men are as far asunder as the positive and negative poles. The father, sincere, gloomy, and narrow-minded, at least instinctively felt his limitations, and steadily kept within them. He strove with indomitable perseverance and occasional success to secure within the narrow circle of his acquaintances the best men, and, having once chosen an adviser, always asked his counsel, and usually followed it. Again, breach of faith was an abomination to him, and his word was regarded as better than any bond, in spite of his mistaken attitude toward the Finns and his broken promise in regard to Batoum. But, in all these characteristics, the son is the very opposite to his father. Unsteady, half-hearted, self-complacent, and fickle, he changes his favorites with his fitful moods, allowing a band of casual, obscure, and dangerous men to usurp the functions of his responsible ministers, whose recommendations are ignored, whose warnings are disregarded, and whose measures for the defense of the State are not only baffled, but resented as symptoms of disobedience.

The sway wielded by his mother over Nicholas II. soon came to an end, owing chiefly to differences between herself and her daughter-in-law on the subject of the Emperor's children. In the course of that rivalry, the strenuous opposition of the young wife checked the influence of the mother over the son. One of the consequences of this domestic struggle for the mastery was that the Emperor freed himself partially, and for a time, from unofficial control; and his first spontaneous act, in the second year of his reign, was to appoint M. Goremykin, a man devoid of qualifications, to the post of Minister of the Interior (1896). This official remained in power for three years, and was then translated to the presidency of the Committee of Ministers—a sort of respectable refuge for ex-statesmen. His successor, M. Sipyaghin, chosen by the influence of the Dowager Empress, who pointed out that he had been favorably noticed by "your never-to-be-forgotten father," deserves a few words of mention. For, next to a man's acts examined in the light of his avowed motives, there can be no

safer guide to his moral character and mental vigor than his choice of associates and fellow-workers; and some monarchs' claims to the gratitude of their subjects are founded, like those of old Kaiser Wilhelm, entirely upon the wise selections which they made, and the tenacity with which they clung to their ministers through thick and thin. Judged by this standard, Nicholas II. will be ranked amongst the most unfortunate rulers of the Russian people.

SIPYAGHIN THE FAVORITE

His second choice, M. Sipyaghin, was nicknamed "the Boyarin," from his extreme love of ancient Russian customs and traditions and the childish ways in which he manifested it. Intellectually Bœotian, but socially agreeable, he was a welcome guest in the houses of our nobility, where tea-table gossip is at a high premium. His political force lay in the thoroughness with which he threw himself into the part of courtier and the skill with which he acted it. Ever blithe, his face wreathed in smiles, his words sweetened with the honey of adulation, he infected his master and many of his own equals with the optimism of Candide. All was for the best in that best of States, Russia, thanks to the greatest and best of monarchs, Nicholas II. That was the faith of Sipyaghin, who loved his sovereign sincerely, and mistook that love for patriotic duty. In return, the Emperor warmed to him, making him not his friend only, but his comrade, and singling him out for special marks of favor. For instance, although his Majesty, as a rule, never dines or sups at the house of a minister, he made an exception for M. Sipyaghin.

M. Sipyaghin's ascendency over Nicholas II. reached a point at which the jealousy of M. Pobedonostseff was aroused: it touched even religion. For the Minister of the Interior, encroaching in his light, off-hand manner upon the domain of the Chief Procurator of the Most Holy Synod, induced the Tsar to visit Moscow and spend Passion Week there; and the trip was successful beyond expectation. On this pilgrimage, Sipyaghin treated the Emperor as Potyemkin dealt with Catherine II.; he enveloped him in an atmosphere of popular affection, surrounded him with signal proofs of his subjects' prosperity, intoxicated him with the wine of self-satisfaction. But, while his Majesty was thanking heaven that his people were happier than foreigners, millions of his best subjects were being despoiled of their hard-earned money, and many were being imprisoned or banished, some for obeying the commands of God, others for infringing the unjust laws of the government. M. Sipyaghin, who was not a cruel man at heart, was hated as the champion and inspirer of this misrule. Friends warned him to be on his guard; but, replying that he would continue to do his duty, he went light-heartedly on his way.

On Monday, April 14, 1901, he invited his Majesty to dinner for the following Thursday; and the Emperor graciously consented. In the domestic circle and the State department preparations were at once made for the repast. Officials of the ministry were despatched in search of a special kind of big strawberries, larger than those which were to be found at Yeliseyeff's in the Nevsky Prospekt. Fiery gipsies were engaged to sing before royalty; telegrams were despatched to Paris for prize chickens; piping hot pancakes were ordered *à la Russe*, to be eaten with cold caviare; despatches were sent to the caterer Prospere, of Kharkoff, for dainties for the imperial palate; and many officials of the ministry scoured the capital for piquant delicacies. But, on the Thursday fixed for the imperial repast, Sipyaghin's body was carried to its last resting-place. The minister had been assassinated by a youth named Balmashoff, not twenty-one years old, as a warning and a protest.

THE RISE OF M. DE PLEHVE

His Majesty now had another opportunity for showing his judgment and gratifying his predilections. Amenable chiefly to tangible and visible influences, his choice fell upon M. de Plehve,* who speedily developed into the formidable Dictator of All the Russias. This official is tolerably instructed, possesses an intricate acquaintance with the seamy side of human nature, knows how to touch deftly the right cords of sentiment, prejudice, or passion, and can keep his head in the most alarming crisis. When state dignitaries and officials lost their nerve on the tragic death of Alexander II., M. de Plehve, then public prosecutor, was cool, self-possessed, resourceful. These qualifications were duly noted,

* M. de Plehve was assassinated on July 28, 1904, several months after this article was written.

and his promotion was rapid; he became successively Director of the Police Department and Secretary of the Council of the Emperor, where he helped to ruin the Finnish nation before the destinies of 150,000,000 Russians were finally placed in his hands.

THE CHARACTER OF M. DE PLEHVE

M. de Plehve cannot be classified by nationality, genealogy, church, or party. Of obscure parentage, of German blood with a Jewish strain, of uncertain religious denomination,* his ethical worth was gauged aright years ago by his colleagues in the Ministry of Justice, and recently again in the Council of Ministers. Aware of their hostile judgment, his first acts were calculated to modify it. He set out for the sacred shrine near Moscow, the Troitsko-Serghieffsky Monastery, where he devoutly received Holy Communion at the hands of an orthodox priest. While he was thus displaying his piety in view of his subordinates, the peasants in Kharkoff and Poltava were being cruelly flogged, by his orders, for showing signs of disaffection. Visiting those provinces in person, M. de Plehve promptly rewarded the governor of Kharkoff for flogging the malcontents at once, and punished the governor of Poltava for flogging them only as an afterthought.

M. DE PLEHVE AND THE PEASANTS

That revolt of the peasants, which was repeated in Saratoff and elsewhere, marks an era in Russian history; for it resulted in M. de Witte's commission of inquiry into the condition of the agricultural classes in Russia, and in that minister's fall. The marshals of the nobility were empowered to summon members of the Zemstvo, landed proprietors, and anybody else who could enlighten them in their investigations. Peasants, too, were asked to give their views; and all were encouraged to speak out freely. And this was the question asked: If the peasantry are materially impoverished and physically degenerating, if their live-stock is dwindling to nothing, and if the food they eat is less in quantity and worse in quality than ever before, is Nature to blame or man? And if man, what man? The results of the inquiry were convincing; for, without previous consultation, those spokesmen of various social classes throughout Russia, whose interests conflict in many ways, were practically at one in their opinion. Partial to euphemisms, they condemned the system of administration. Dotting their i's and crossing their t's, M. de Plehve called that system by the name of autocracy; and no Russian can honestly say that he was wrong.

The reform inaugurated by Alexander II., when he struck off the fetters of serfdom, ought, so these commissioners held, to be further developed. The peasants should be freed from the shackles of special penal legislation. They should be taught to read, to keep themselves clean in body and in soul, to cope with the horrible diseases which in their ignorance they now communicate to each other, to shake off the network of superstition, which is eating away their spiritual nature as the poison of infection is undermining their physique, and to fit themselves for trade and industry. That was the opinion of all Russia's representatives—noblemen, landed proprietors, doctors, lawyers, tradesmen, and peasants. Yet the men who uttered it were punished for their audacity. M. de Witte had exhorted them to speak their minds; the Tsar punished them for obeying his minister; and M. de Plehve encouraged the Tsar.

THE FALL OF A TRUTH-TELLER

That Land Commission was the turning-point in the career of M. de Witte, whose services the Emperor had inherited from his "never-to-be-forgotten father." The ease with which the minister fell into disfavor, and the irrelevant grounds on which he was dismissed, are characteristic of the Tsar's arbitrary ways of thinking and acting. M. de Witte is a statesman of high powers—and great limitations—a financier whose earlier policy did, I believe, much harm, as his mature acts did much good, to the nation. As minister, he came eventually to understand the needs of his time and country, and sought, with alternating success and failure, to satisfy them; his work was a mixture of promise, achievement, and failure. If the one-eyed man is necessarily the leader in the kingdom of the blind, M. de Witte deserved to be the head of the government in contemporary Russia. But the members of the camarilla refused to have him, and,

* M. de Plehve's father died recently; and the powerful minister called personally on the Lutheran pastor, asking him to perform the funeral service speedily and unostentatiously. He was loth to let it be known that he, a pillar of orthodoxy, was the son of a Protestant.

with the monarch's support, they proved more powerful than he. For they already had brought things to such a pass that none can now serve Russia as ministers but such as are skilful in flattering the Tsar; and M. de Witte was not one of these. He not only spoke freely to Nicholas II., but refused to change his opinion in accordance with the Emperor's desires. He also declined to dupe the foreign Powers. "Your Majesty pledged your word to evacuate Manchuria, and the world believed you. Russia will now lose all credit, and perhaps not even gain Manchuria, if it please your Majesty to break that pledge. War also will follow, and we sorely need peace. Besides, Manchuria is useless to us. Therefore, I cannot be a party to this policy." Thus plainly spoke the Finance Minister, heedless of courtly phraseology. "Witte is a haughty dictator, who gives himself the air of an Emperor." So spoke the courtiers among themselves, and to his Majesty, through the Grand Dukes. And the autocrat, wrathful that a subject should oppose his wishes and refuse to coöperate with him in professing to work for peace, while provoking war, dismissed him. To the Russian nation, that loss meant great bloodshed, vast expense, widespread misery: what else it involves we cannot yet say.

DE PLEHVE THE DICTATOR

M. de Plehve is now the most influential personage in the Russian Empire—a Muscovite Grand Vizier, who wields absolute power over what we may be pardoned for calling the greatest nation on the globe; and he holds his position at the pleasure of his imperial master. Whether he remains in office or is dismissed tomorrow depends, not on the good or the evil that may result from his arbitrary administration, but on the success which attends his endeavors to keep the Tsar in countenance and to persuade the wayward monarch that autocracy is safe in his hands. The massacres of Jews, the banishment of Finns, the spoliation of Armenians, the persecution of Poles, the exile of Russian nobles, the flogging of peasants, the imprisonment and butchery of Russian workingmen, the establishment of a widespread system of espionage, and the abolition of law, are all measures which the minister suggests and the Tsar heartily sanctions. M. de Plehve, like his colleagues, would not be minister if his régime were really helpful to the country. That is the unpalatable truth which must be told about the government of Nicholas II.

MURAVIEFF; MINISTER OF JUSTICE

Another of the Tsar's well-beloved advisers is M. Muravieff,* the Minister of Justice, who has cheerfully and steadily subordinated all justice to the personal vagaries of his sovereign. He is one of those plastic public men, of the type of Bertrand Barère, whom one finds in all countries in a state of social and political chaos. Today there is no limit to his subserviency to the Emperor; tomorrow no man would be surprised to see him vote with Russian Jacobins for the suppression of the autocracy. Through him, the law courts receive timely hints about the wishes of the Crown in those cases which interest the rulers of Russia.

THE WILL OF THE TSAR

It is a mistake, therefore, to imagine that the Emperor is a tool in the hands of his ministers; it is they who are his instruments, merely suggesting measures palatable to the monarch and formulating his will. They make him feel that what he thinks is correct, what he says is true, what he does is right. This Hobbesian view of his position has been carefully engrafted upon his mind by the two theorists of autocracy, M. Pobedonostseff and Prince Meshtshersky. The Procurator of the Holy Synod, a cold-blooded fanatic of the Torquemada type, is the champion of oriental despotism in its final stage, equipped with railways, telegraphs, telephones, and rifles, and hallowed with canonizations, incense, and holy oil; the feats of Ivan the Terrible achieved with the blessings of St. Seraphim. Of Prince Meshtshersky, the editor of the *Grashdanin* and the private counsellor of the Tsar, it would be difficult to convey an adequate picture without introducing scenes which would offend the taste of the non-Russian public. His political ideas are those of the Dahomey of fifty years ago, or the Bokhara of today, modified in two important points. According to him, every governor of a province, every peasant-prefect, should share the irresponsible power

* It is rumored that M. Muravieff is to succeed M. de Plehve as Minister of the Interior, though not as Minister of Police, M. de Plehve having combined the two offices He was the presiding officer of the Hague Tribunal during the trial of the Venezuelan difficulties.

of the autocrat, and when dealing with the peasantry need observe no law.

"Questions of the Zemstvo have no more to do with law courts," he writes, "than questions of family life. If a father may chastise his son severely without invoking the help of the courts, the authorities—local, provincial, and central—should be invested with a similar power to imprison, flog, and otherwise overawe or punish the people." *

The Tsar, then, is what inherited tendencies and the doctrines of Pobedonostseff and Meshtshersky have made him. Between humanity and divinity, he is a *tertium quid*. Such is the doctrine of the two theorists of autocracy; such the conviction of their pupil. He is the one essence in the Empire; they are his organs. Hence, they strive to please him, to carry out his behests, to anticipate his wishes, to suggest plans in harmony with his fixed ideas or passing moods. Necessarily, also, they color and distort facts, events, and consequences; for, while he can appreciate effects, his faculty of discerning their relations to causes is almost atrophied. He is ever struggling with phantoms, fighting with wind-mills, conversing with saints, or consulting the spirits of the dead. But, of the means at hand for helping his people or letting them help themselves, he never avails himself. Books he has long ago ceased to read, and sound advice he is incapable of listening to. His ministers he receives with great formality, and dismisses with haughty condescension. They are often kept in the dark about matters which it behooves them to know thoroughly and early. Thus, shortly after the present war had begun, a number of dignitaries and officials gathered round General Kuropatkin, one day, and asked him how things were going on. With a malicious twinkle in his eye, the War Minister replied: "Like yourselves, I know only what is published. The war is Alexeyeff's business, not mine." When three ministers implored the Tsar to evacuate Manchuria and safeguard the peace of the world, he answered: "I shall keep the peace and my own counsel as well." To one of the Grand Dukes, who, on the day before the rupture with Japan, vaguely hinted at the possibility of war, the Emperor said: "Leave that to me. Japan will never fight. My reign will be an era of peace to the end." With such little wisdom are the affairs of great nations directed.

* This doctrine, frequently laid down in the *Grashdanin*, was clearly expressed in that paper on March 1, 1904.

THE TSAR'S SELF-SUFFICIENCY

The pity of it is that there is no intermediary between the isolated sovereign and the disaffected nation; no one who has free access to the monarch for the purpose of telling him the truth. Our history records the deeds of emperors whose authority was as absolute as is his; but they were not inaccessible to public opinion, indifferent to public needs, or deprived of the counsel of strong men. Alexander I. was wont to spend whole nights in talking freely and frankly to individuals who told him what they knew and thought. Nicholas I. profited by the services of Benckendorff, to whom Russians could speak plainly, and who had the courage to tell his master what was needed. Alexander II. was served by Count Adlerberg, who played a similar part with tolerable success. General Richter was the mentor of Alexander III., and his influence was powerful and beneficent. But Nicholas II. stands alone on his dizzy pedestal—a Simon Stylites among monarchs. His adjutant, Hesse, who is privileged to see him at all times, is an officer who can scarcely write his name. The Tsar has created a gulf between the autocracy and the people, between himself and his fellow mortals, which is nearly as deep and as broad as that which separates the deity from mankind.

HIS UNFITNESS

Many educated Russians are wont to compare their present Emperor with Feodor Ivanovitch, the weak-willed, feeble-minded son of Ivan IV. But there were points even in that monarch's favor which we miss in the life of Nicholas II. He was at least conscious of his weaknesses. "I am the Tsar of executioners!" his artistic biographer makes him exclaim, on an historic occasion. And, after all, his own weakness was more than outweighed by the strength of will of his prompter, the great statesman Boris Godunoff. The sad conviction is now rapidly gaining ground that Nicholas II. is getting to resemble, in certain ways, the unfortunate Paul I. He is eminently unfit to control, personally, the destinies of a great people;

and he is, unfortunately, ignorant of his unfitness. That is the danger which hangs over Russia at home and over Russias' peaceful neighbors abroad. Deep-rooted faith in his own ability prompts him to shun men whose statesmanship might shield his people from the consequences of his faults, and to choose officials who will serve merely as tools in his unsteady hands. Consequently, his choice of favorites and of ministers is deplorable. Thus, the idea that he should have offered the post of Minister of Public Instruction to a man so entirely and deservedly discredited as Prince Meshtshersky embitters those of his subjects who are aware of the facts as much as would the appointment in England of such a man as Jabez Balfour to the archiepiscopal see of Canterbury.

THE TSAR AS A BUSINESS MAN

A great deal has been written about the Tsar's love of peace, his clemency, his benevolence, and his fairness; but the Russian authors of these eulogies belong to the category of flatterers, who, when his Majesty sleeps, are busy quoting profound passages from his snoring. His reputation as a staunch friend of peace is but the reflex of the views laboriously impressed upon him by M. de Witte, whose whole policy, good and evil, was based upon peace. But, owing to the defective condition of that faculty by which the mind traces effects to causes and calculates results, all he does contributes to bring about the very ends which he abhors.

In the conduct of state affairs, the Tsar is reserved and formal. Like his father, when presiding over a committee, or council, he listens in silence to the opinions of others, almost always withholding his own. He sometimes departs from this rule when he wishes to give a certain direction to the discussion. It was thus when M. de Plehve brought in the bill to enlarge the arbitrary powers of provincial governors, proposing that these officials should be the representatives not only of the government, but also of the autocrat, and should, therefore, share his powers. The Emperor then opened the sitting with a few words to the effect that he concurred in that view. In his study, he is generally busy signing replies to addresses of loyalty, or writing comments on the various reports presented by ministers, governors, and other officials. He is encouraged by his courtiers to believe that all these replies and comments are priceless; for even such trivial remarks as "I am very glad," "God grant it may be so," are published in large type in the newspapers, glazed over in the manuscript, and carefully preserved in the archives like the relics of a saint. But the most interesting are never published; and, of these, there is a choice collection. Here is one: A report of the negotiations respecting the warship *Manchur* was recently laid before him by Count Lamsdorff. The tenor of it was that the Chinese authorities had summoned the *Manchur* to quit the neutral harbor of Shanghai at the repeated and urgent request of the Japanese Consul there. On the margin of that report, his Majesty penned the memorable words: "The Japanese Consul is a scoundrel."

HIS UNJUSTIFIABLE INTERFERENCE

The Emperor imagines it to be the right and the duty of the Autocrat of All the Russias to intervene personally in every affair that interests himself or has any bearing on his mission. The instances of this uncalled-for personal action are nearly as numerous as his official acts; and the consequences of several are written in blood and fire in the history of his reign. They have undermined the sense of legality; and the end of legality is always the beginning of the reign of violence. The saddest part of the story is that, the more unsteady he becomes, the more vigorously he sweeps away the last weak barriers which stand between the autocracy and folly, or injustice, such as the Council of the Empire, the Committee of Ministers, and the Senate. A few examples will enable the reader to judge for himself. The late Minister of Public Instruction, Sänger, who was not an enemy to instruction like so many of his predecessors, brought in a bill changing a preparatory grammar school in Lutzk, supported by voluntary subscriptions, into a complete one. It was a useful measure; and the Council of the Empire, having taken cognizance of it, passed it unanimously. On the report as presented to the Tsar his Majesty wrote: "No. I disagree entirely with the Council of the Empire. I hold that we must encourage technical and not classical education." The bill was killed, and Sänger resigned but

neither technical nor classical education is encouraged.

The Senate, being a judicial and also an administrative institution, can pass resolutions which, if approved by the majority and not opposed by the Minister of Justice, have the force of law. But neither the Council of the Empire nor the Committee of Ministers can enact a law, because their decisions have to be referred to the Tsar, who may agree with the proposal of the majority or the protest of the minority, or ignore both and act on his own initiative. Alexander III. usually took the side of the minority; and his son and successor has followed his example religiously. He has also established a practise of first approving the bill in principle, and then allowing the minister to send it before the Council or the Committee, so that all the members know beforehand the opinion of the monarch. But if the majority is bold or honest enough to throw it out, the Tsar always adopts the view of the minority.

HOW HE SANCTIONED A BILL

Here is an amusing case which characterises our government and our rulers. A bill was introduced to indemnify landed proprietors in the Baltic provinces for the losses they had incurred through the government monopoly of alcohol. M. de Witte held that the sum of seven millions should be paid over to them, in the course of a number of years; the majority maintained that it ought to be paid at once. M. de Witte first informed the Tsar of this divergence; and his Majesty promised to confirm the view of the minority. The minister then wrote a letter to the Secretary of the Council, M. de Plehve, telling him that the Emperor had promised to confirm the decision of the minority so soon as the documents were placed before him. M. de Plehve freely communicated this announcement to all the members. Then many officials, seeing that opposition would be fruitless, changed their views, or their votes, so that the minority unexpectedly became the majority. In the course of time, the documents were laid before the Tsar, who remembered only that he had pledged himself to M. de Witte to reject the proposal of the majority. Accordingly, without reading the papers or taking further thought, he redeemed his promise; and the wrong bill became law.

The course of justice, civil and criminal, is liable to be impeded in the same way. Here is an example. A certain person incurred large debts in St. Petersburg and was declared bankrupt. In the ordinary course of law, his estates were to be sold and the creditors satisfied. The Tula Bank was charged with the sale of the estates; but the Tsar, having meanwhile been asked to interfere, issued an order stopping the sale and suspending the operation of the law. An action was brought against Princess Imeretinsky by her late husband's heirs. The Princess, who had powerful friends, privately petitioned his Majesty to intervene on her behalf, and her prayer was granted. The Tsar ordered the plaintiffs to be non-suited and the action quashed; and his will was duly executed. In a third case, some noblemen sold their estates to merchants; the transactions were properly carried out and legally ratified. But the Tsar, by his own power, canceled the deed of sale, and ordered the money and the estates to be returned to their previous owners. Such instances of interference with the course of justice might easily be multiplied.

THE CONSTANT MISCARRIAGE OF JUSTICE

Of the course of justice in political trials little need be said. The prosecution of the murderers of the Kishineff Jews is fresh in the memory of all. An incident unparalleled in our history before the present reign rendered that trial celebrated for all time; the counsel for the prosecution in the civil case threw up their briefs and left the court because of the systematic denial of justice to their clients. When the flogging cases were heard in the Government of Poltava last year, a similar course was taken by the lawyers. The rights which our laws bestow upon prisoners were so persistently denied them that the advocates of the accused peasants had no choice but to throw up their briefs and leave the court. In every political trial, the Minister of Justice closes the doors; and he is prepared to do the same in any civil lawsuits if either of the parties has influence at Court. Peasant malcontents are flogged without trial or accusation; workingmen are shot down when parading the streets. In all this, M. Muravieff, the human embodiment of Russian law, the Minister of Justice, is the executioner of justice and the executor of unrighteousness.

Yet, undoubtedly, the power of the autocracy could be employed to further the cause of humanity, enlightenment, and justice if such were the will of him who wields it. A single word from the Tsar would cause a profound change to come over the condition of the country and the sentiments of his people. The responsibility for his acts cannot be laid upon the shoulders of his ministers, whose advice he refrains from seeking in the most dangerous crises of his reign. It was not his ministers who prompted him to break the promise he had given to evacuate Manchuria; they entreated him to keep it. It was not they who proposed that he should curtail the power for good still left to such institutions as the Council of the Empire, the Committee of Ministers, and the governing Senate. It was not they who impelled him to make the monarchy ridiculous by seeking wisdom in the evocation of spirits and strength in the canonization of saints. It was not they who urged him to break up the Finnish nation by a series of iniquitous measures worthy of an oriental despot of ancient Babylon or Persia; on the contrary, they assured him in clear and not always courtly phraseology that justice and statesmanship required him to stay his hand. It was not his official advisers who suggested that he should despoil the Armenian Church of its property and endowments, while leaving all other religious communities in the possession of theirs, and should punish with bullets and cold steel the zealous members of that church who protested in the name of their religion and conscience. Almost all his ministers united for once in warning him that this was an act of wanton spoliation, and in conjuring him to abandon or modify his scheme. But, deaf to their arguments, he insisted on having his own way.

AN UNSETTLED NATION

The Tsar's reign has, therefore, brought everything into a state of flux; nothing is stable with us as in other countries. No traditions, no rights, no laws are respected; there are only ever-increasing burdens, severer punishments, and never dwindling misery and suffering. The Tsar's meddling unsettles the whole nation and disquiets even the obscure individual, because nobody is sure that his turn will not come tomorrow. Thus, on the one hand, a whole county council in Tver, with its members, its officials, its schools, doctors, teachers, and statisticians, was lately annihilated by a stroke of the imperial pen; while, on the other hand, a general here, a journalist there, lawyers, physicians, officials, have been seized in various parts of the country and imprisoned or banished. Under Paul I. only those who were in the neighborhood of the Emperor had reason to apprehend his outbursts of eccentricity; but Nicholas II. has sent genuine pashas, like Prince Galitzin and General Bobrikoff,* to govern the provinces; and these men are as arbitrary as himself.

REASONLESS PUNISHMENT

What strange and unpleasant mishaps may befall private persons can be inferred from a few examples. A short time ago, a journalist of the capital, who writes with considerable verve, was packed off to Siberia—not in a day or an hour, but in a twinkling. His crime? The Tsar's imagination worked upon by an over-zealous priest. One day, early in 1902, M. Amphitheatroff published a moderately interesting article describing the home circle of a landed proprietor, whom he depicted as very firm and strict with his family, and so scrupulous in his dealings with the other sex that he boiled with indignation if his wife's chambermaid flirted with any male relative or stranger. He had a sympathetic son, with eyes like a gazelle's—a well-meaning youth, who wished everybody to be happy, but possessed no ideas on practical matters. The kind-hearted mother sat between father and son, tenderly loving both. It was an idyllic picture of Russian life at its best—and nothing more. The censor read it and saw nothing wrong. The minister, Sipyaghin, glanced at it, and passed on cheerfully to his hot pancakes and cold caviare. The Tsar himself perused it, and liked it; it was "such a pleasing picture of the serene life of a Russian squire." But the Emperor's chaplain, Yanisheff, descried high treason between the lines. According to him, the landed proprietor, who struck the table with his fist whenever he heard of a little flirtation on the part of his wife's maid, was no other than the Emperor Alexander III.; the son with the sympathetic eyes and vacil-

* Since this article was written, General Bobrikoff, Governor of Finland, was assassinated at Helsingfors, June 16th.

lating character was Nicholas II. As the portrait, if intended as such, was not flattering, it needed audacity on the part of the priest to say, "Sire, the ingenuous youth of limited ideas is obviously your Majesty"; and the Tsar must be credited with a large dose of naïveté to have been persuaded that the cap fitted the imperial head. He at once summoned and questioned Sipyaghin. "Yes, I read the feuilleton, your Majesty, but noticed nothing offensive in it." "Well," replied the Emperor, "you may take it from me that it is a treasonable skit on my never-to-be-forgotten father and myself. Send the scoundrel to Siberia." And to Siberia he was whisked away, without a chance to buy warm clothing for the journey or to get money for his needs. It was not much consolation to M. Amphitheatroff that he was subsequently pardoned for a crime of which he was innocent, and then banished to Vologda, where he is now undergoing his punishment.

"SEVERITY SERVED UP COLD"

Under Nicholas I., when serfdom still prevailed in Russia, such arbitrary acts were not unknown. But even that autocrat treated the persons whom he exiled with a certain paternal kindness foreign to his namesake. Thus, in 1826, the poet Poleshayeff, who had written some verses to which the police took exception, was dispatched to the army as a common soldier. But the stern autocrat gave him an audience on the eve of his departure, spoke kindly to him, kissed him on the forehead, and said, "Go and mend your ways." And, in those days of absolutism, no Russian general was ever packed off to the Far East, by way of punishment for taking broad-minded views of the people's needs, as General Kuzmin-Karavayeff, professor at the Military Judicial Academy of St. Petersburg was a few weeks ago, by the express orders of the Tsar. MM. Falberg and Pereverzoff, two gentlemen who, at the Congress of Technical Education, held in St. Petersburg, last January, hissed the instigators of the Kishineff massacres, were also seized by the police, and, without trial or question, without even time to put on warm clothing, were hurried off to Yakutsk, the very coldest part of the inhabited globe. "Severity, served up cold, is the only way with empire-wreckers," as M. de Plehve remarked. In like manner, M. Annensky, an old man who lived at peace with all the world, was suddenly expelled by the police from his home and city because a spy accused him in error of having pronounced a speech a few days before at the funeral of Mikhailovsky, the editor of a review. Everybody knew, and knows, that Annensky did not utter a word on that occasion. But a spy made a blunder; Annensky suffered for it; and there was no redress.

In all these measures, in their most trivial details, the Tsar takes an eager and personal interest, because he treats them as part of the defense of autocracy. He knows, therefore, what is being done in his name; he expressly, and in writing, approves coercion, and the many novel forms of it brought into vogue by the *âme damnée* of autocracy, M. de Plehve. Thus he conferred a star upon Prince Obolensky for his energy in flogging the peasants of the Government of Kharkoff until some of them died; he even raised this zealous official to the unique rank of Lieutenant-General of the Admiralty—a post of which the Russian public had never heard before. He appointed M. Kleighels, one of the most corrupt of police officials, to be his general adjutant. At this the nation, and even the Court, murmured audibly, for no police officer had ever received this rank. But the Tsar set their dissatisfaction at naught, and made Kleighels Governor-General of Kieff. A minister timidly hinted to his Majesty that all Russia hated Kleighels, and that so unpopular an official would hardly succeed in administering so difficult a province as Kieff. But Nikolai Alexandrovitch answered: "I care nothing for what they say. I know what I am doing."

AN "IMPIOUS" PEOPLE

So far, one of the most salient results of his Majesty's return toward the epoch of serfdom has been the estrangement of almost every class from the dynasty and its chief. For a nation like Russia, which cannot yet dispense with the monarchical form of government, this is a calamity. The nobles are generally on the side of the people, which, unfortunately, is not that of their ruler. An example of this attitude was given by an ex-minister, Prince Vyazemsky, who publicly condemned the conduct of the police in flogging

the students in the Nevsky Prospekt. The nobles of Tver have not only spoken, but suffered, for the popular cause, which the Tsar spurns as impious and punishes as treasonable. In order to extinguish this resistance, the Emperor has lately signified his wish to confer such powers upon every governor of a province as will enable him to deport any person, without trial or accusation, not only for a political offense, but for disagreeing with the views of his Excellency the Governor on any local question. Arbitrary regulations have lately been issued by the Chief of the Police in St. Petersburg, by the Governor-General of Moscow, and by the governors of other provinces, which supersede the laws of the Empire; and any infringement of them is visited with fines of R. 3,000—and larger sums in Poland—and three months' imprisonment besides. Governors upon whom special powers have been conferred can now oblige a landed proprietor to do anything which they hold to be requisite for what they call public order. If such a governor wishes to fine and imprison the owner of an estate, whom he dislikes, he has but to send a policeman to seek and find a rubbish heap, or a pool of water in the courtyard, and the end is attained.

"FIREWORK REFORMS"

The English reader, for whose admiration many fancy portraits of the Autocrat of All the Russias have been drawn, may ask how these things can be reconciled with the manifesto promulgated by his Majesty on March 11, 1903, which promised certain reforms to his people. The answer is that the manifesto was a mere display of fireworks. That document, which made a stir in Russia and abroad, was drawn up by M. de Plehve and altered again and again by the Tsar himself, until he had elaborated a statement of which the form was solemn and the contents trivial. Setting aside its mere frothy phraseology, the only tangible reforms it foreshadowed were the abolition of the joint responsibility of the peasants for taxation and the maintenance of religious tolerance. As foreigners understand religious tolerance better than the incidence of taxation, let us briefly compare the imperial promise touching religion with the imperial achievement.

THE TSAR'S "RELIGIOUS TOLERANCE"

Since he issued the manifesto, Nicholas II. has done nothing for religious tolerance, and very much against it. The Jews have been persecuted even more cruelly and more extensively than before his welcome words were uttered. The Emperor's uncle, the Grand Duke Sergius, who is Governor-General of Moscow, has made it a sort of sport to hunt out the Jews and drive them from the city. Anti-semites who go further are safe from punishment, and would find many imitators if the pastime were less obnoxious to the people of the United States. Jewish surgeons and doctors have been gathered in large numbers and sent to meet danger or death in the Far East. Roman Catholics are ceaselessly worried in their work, insulted in their religious sentiments, and almost forcibly driven into Orthodoxy by spiteful orders unworthy of a Christian government. To belong to the Armenian Church is to be branded with the mark of Cain; and it is sometimes worse to be a Russian nonconformist than to worship idols or to poison one's neighbor.

A golden opportunity arose for the fulfilment of the Tsar's promise, shortly after it had been made. The new Russian penal code was then being drawn up; and the section dealing with crimes against faith was under discussion. Here the Emperor's mild and tolerant spirit was expected to bring about great and desirable changes. But the hope was disappointed. One change was made for the better, but only one. An Orthodox believer who wishes to leave his denomination may henceforward go abroad and there change his religion without fear of punishment, whereas, formerly, he was liable to pains and penalties. That is all. But, even now, if such a man, being unable to go abroad, should ask a Russian Lutheran or a Roman Catholic priest to receive him into his church, the minister in question must refuse. To comply with the request would entail severe punishment.

THE CRIME OF THE SACRAMENT

There can be no mistake about the Emperor's personal action in hindering his subjects from serving God in their own way, for it was vigorous, personal, and direct. Whenever the existing institutions or the responsible ministers were inclined to loosen the grip of the law on the conscience of the individual, the Tsar's veto formed an insuperable impediment. Examples are numerous. The fol-

lowing is instructive: The laws dealing with religious misdemeanors being under discussion, a minority of the Council of the Empire steadily advocated toleration; but, at every turn, his Majesty sided with the majority. Once, and only once, the bulk of the members favored a clause which was reasonable and humane; and then the Emperor quashed their decision without hesitation. The question was: If a Russian who is Orthodox only in name, and something else—say Lutheran—in reality, asks a clergyman of his adopted church to administer the sacrament to him on his death-bed, should the minister be punishable if he complied? The Council of the Empire, by a considerable majority, answered "no"; and their arguments were clear and forcible. So plain was the case that even the Grand Dukes took the side of the majority. But the Tsar, putting down his foot, said, "A clergyman who shall administer the sacraments of his church to such a man shall be treated as a law-breaker; it is a crime"; and his decision has received the force of law. As this declaration of the imperial will was made after the manifesto, to speak of the Emperor's tolerant views would be satirical.

Another instance took place, also after the promulgation of that "Magna Carta" of Russian liberty. Baron Uexkull von Gildenband proposed that certain sections of the population, who had been forced several years ago to join the Orthodox Church, all of them against their will and some even without their knowledge, should now be permitted to return to their respective churches, if they chose. Some of these people had been Lutherans of the Baltic provinces; others had been Uniates of western Russia—*i. e.*, Catholics, who, with the liturgy of the Greek Church, hold the beliefs of the Latin, and are in communion with Rome. It was an act, not of magnanimity, but of common justice that was here suggested. But, when the general debate was about to begin, the Grand Duke Michael, acting in harmony with his Majesty's known dispositions, withdrew from the Baron his right to speak in favor of the proposal, which therefore dropped. By these and other like fruits the tree may be known.

UNORTHODOX MIRACLES NOT ALLOWED

What is most astonishing is that the head of Orthodoxy should cause the members of an important branch of his own church to be harried as if they were public enemies. Here are a few specimens of the methods employed against the Old Believers in the present reign. One of their monasteries—the Nikolsky *Skeet*, in the Kuban Government—was seized by an archimandrite named Kolokoloff, who, at the head of fifty Cossacks, drove out the monks and took possession of their dwelling. One of their bishops, Siluan, protested, and was thrown into prison. Yet the archimandrite who had won this easy victory, not satisfied with his violence against the living, also wreaked his spite on the dead. Two Old Believers, who had departed this life in the odour of sanctity, Bishop Job and Gregory, the priest, were reputed to be in heaven, and their bodies were said to be immune from decomposition, a fact which pointed to their saintship. But the Old Believers cannot be permitted to have miracles or saints. The Orthodox archimandrite, therefore, violated the tombs and dug up the bodies. He found the latter really intact, and, breaking their coffins, he saturated the boards with petroleum and then burned the mortal remains of the holy men to ashes.*

ORTHODOX PERSECUTION

To affirm that positive laws are broken in order to render religious persecution possible is but to assert a truism. The proofs are of frequent occurrence. The Senate, by one of its legislative decrees,† authorized the Old Believers to open a chapel in Uralsk. This permission had already been given by the ministry, so that it could not lawfully be called in question. Yet the governor of the province canceled it; and there was no redress. On another occasion, three children in the village of Simonoska in the Government of Smolensk were forcibly taken from the custody of their father, one Rodionoff, because he was a Dissenter, and were placed in charge of a complete stranger, who was a member of the Established Church. In many districts of the interior, priests of the sect of the Old Believers are arrested and imprisoned because they let their hair grow long, like the clergy of the State Church. This punishment is administered in violation of the decrees of the Senate and the circulars

* This procedure was described in the *Grashdanin*, 1896.

† Ukase N. 461, promulgated on February 27, 1900.

of the Minister of the Interior, which have laid it down over and over again that long-haired clergymen are not punishable for neglecting to use the scissors.* The Tsar has been told of all these grievances, but he has made no sign.

"DEATH BY TORTURE"

A tragic story, the hero of which was Bishop Methodius, one of the pillars of the Old Believers, will bring home the cruelty of the system to the minds of humane readers. It has lately been brought to the notice of his Majesty without eliciting even an expression of regret. Born in Cheliabinsk, Methodius was ordained a priest, and zealously discharged the duties of his office for fifteen years before he was raised to the episcopal see of Tomsk. One day the Bishop administered the sacraments to a man who, born in the State Church, had joined the community of Old Believers. This was precisely a case of the type discussed in the Council of the Empire, and so harshly provided for by the Emperor himself. Methodius was denounced, arrested, tried, found guilty, and condemned to banishment in Siberia; and the sentence was carried out with needless brutality. With irons on his feet, penned up together with murderers and other criminals of the worst type, he was sent by *étape* from prison to prison, to the Government of Yakutsk. Through the intercession of an influential co-religionist, he was allowed to stay in the capital of that province; but soon afterward, at the instigation of a dignitary of the State Church, Methodius was banished to Vilyuisk, in northeastern Siberia, a place inhabited by savages. The aged Bishop—he was seventy-eight years old—was then set astride a horse and tied down to the animal, and told that he must ride thus to his new place of exile, about seven hundred miles distant. "This sentence is death by torture," said Methodius's flock. And they were not mistaken. The old man gave up the ghost on the road (1898); but when, where, and how he died and was buried has never been made known.

THE TSAR'S CRASS SUPERSTITION

If the repressive measures to which the Tsar thus attaches his name have little in common with true religion, his constructive action appears to be inspired by thinly disguised superstition. In miracles and marvels he takes a childish delight, and is as ready to believe the messages from the invisible world which the spirits send through a M. Philippe in the Crimea, as in the wonders wrought by the relics of Orthodox monks, whose names he himself adds to the roll of Russian saints. His predecessors were more chary of peopling heaven than of colonizing Siberia. Nicholas I. assented to the canonization of Mitrophan of Voronesh (1832), whose body was found intact after it had lain over a century in its coffin; but that was the only beatification made during the reign. Alexander II. allowed the Holy Synod to enrich the church with one saint—Tikhon, Bishop of Voronesh (1861); his successor did not add even one. But the present Tsar has not only canonized two,* but he personally ordered one of the candidates, Seraphim of Saroff, to be proclaimed a saint, in spite of the disconcerting fact that his body, although buried for only seventy years, was decomposed. The Orthodox Bishop Dmitry of Tamboff protested on this ground against the beatification as contrary to church traditions; but he was deprived of his see and sent to Vyatka for venturing to disagree with the Tsar. His Majesty holds that the preservation of the bones, the hair, and the teeth is a sufficient qualification for saintship; and he has been assured by prophetic monks that God will soon work a miracle and restore Seraphim's dead body in full.

But it would occupy too much space to enter fully into these details, or into the grounds of his Majesty's belief that an heir will soon be born to him † through the mediation of his favorite saints, with whose image he lately blessed the Siberian and South Russian troops. The main point is that upon church affairs, as upon every other branch of administration, the Emperor has brought his personal influence to bear, and made it prevail over the objections, the protests, and the sound advice of those who were best able to guide him.

THE GRAND DUKES, UNLIMITED

Who, then, it may be asked, influences the autocrat whose personal rule is thus absolute? If his ministers are but his organs, and even

* See the order of the Consistory of Novo-cherkassk, May 19, 1893, N. 2928.

* Theodosius, Archbishop of Chernigoff, canonised April 25, 1896, and Seraphim of Saroff, canonised July 31, 1903.

† A son was born to the Tsaritza on August 12, 1904.

his women-folk are powerless to move him, whose is the spirit that animates him? The answer lies on the surface. In the sweeping theories of autocracy, which he has made his own, M. Pobedonostseff and Prince Meshtshersky, the Torquemada and Cagliostro of contemporary Russia, were his teachers. Their abstract aphorisms and personal appeals engendered a faith and fervor in the spirit of their plastic pupil which have become second nature; and he now measures every new idea by its bearing upon autocracy. The teaching of these masters is backed by certain Grand Dukes, who form a sort of secret council like that which regulates the life of the great Lama of Tibet. Under Alexander III. they had no part to play, for that monarch kept them in their places. Nicholas II., on the contrary, is easily swayed by these self-seeking members of his family. They paint their plans in the hues of his own dreams, present him with motives which appeal to his prejudices, and always open their attack by gross flattery. They are consequently more than a match for poor "Nickie," as they call him; and their influence over him is pernicious. One of them, who was for years the manager of the vast funds supplied by loyal Russia to build a church to the memory of Alexander II., has yet to account for enormous sums of money which disappeared mysteriously under his administration. The Grand Duke Sergius, Governor-General of Moscow, a man addicted to Jew-baiting and other unworthy sports, is the Tsar's mentor in questions of religion, whether abstruse or practical. It was he who proposed to abolish the Juridical Society of Moscow, which he suspected of liberal tendencies; and, when it was objected that the members were scrupulously observant of every law and regulation, he answered: "That's my point—they are, for this very reason, all the more dangerous to the State!" The Grand Duke Constantine offers brilliant suggestions on questions of public instruction and military affairs. The Grand Duke Alexis, whose foreign mistress, a French actress, causes ministers to tremble, is the great palace oracle on the navy, of which, however, he expresses a very poor opinion in private, Perhaps the most influential of all is the Grand Duke Alexander Mikhailovitch, who has for a considerable time been the *alter ego* of his Majesty.

This grand-ducal ring is the Russian governing syndicate unlimited; and no minister could withstand it for a month. It is able to thwart his plans in their primary stage, to discredit them in the Tsar's eyes during the discussion, or to have them canceled after the Emperor has sanctioned them. Obviously, Russia has more autocrats than one.

PLUNDER AND COREA

Always in want or in debt, the Grand Dukes flock together wherever there is money to be had, like vultures over a battlefield; and, if they stand to win in any undertaking, they care little about the nationality of the losers, and less about the ethics of the game. Their latest venture was the Lumber Concession on the Yalu River in Corea, which had no little share in plunging our unfortunate country into the present sanguinary war. The scheme had been proposed on the strength of M. Bezobrazoff's assurances that it would bring millions to the pockets of the lucky investors and add a kingdom to Russia's far-eastern possessions. At first his Majesty, dissuaded by his ministers, shrank from the thought of mixing shady speculations with imperial politics. Accordingly he issued a strict command to the Grand Dukes to keep aloof from the discreditable business. The ducal ring then sent M. Bezobrazoff to knead the imperial will; and so ingeniously was this done that the Tsar not only withdrew the prohibition, but himself joined the investors, and put some millions of his own into the concession. The Grand Dukes reasoned correctly that, if the Emperor had money in the undertaking, everything possible would be done to make it increase and multiply—and with it their own investments. And that is what happened.

PHILIPPE, SERAPHIM & CO.

Upon the mind of their simple relative the Grand Dukes work with consummate skill. Every candidate for imperial favor whom they present is a specialist who promises to realize the momentary desires of the Tsar. Thus M. Philippe, the spiritualist who appeared during the Emperor's illness in Yalta, promised him a son and heir and was therefore received with open arms. As time passed, and the hopes which this adventurer

raised were not fulfilled, the canonization of St. Seraphim was suggested by a pious Grand Duke and a sceptical abbot, because among the feats said to have been achieved by this holy man was the miraculous bestowal of children upon barren women.

Another of the Tsar's passing favorites was an eccentric idealist named Khlopoff, who occupied a small post in the Ministry of Ways and Communications. Through the Grand Duke Alexander Mikhailovitch, to whose children he gave lessons, he was brought to the notice of the Emperor, who conceived a liking for the honest, disinterested reformer. Khlopoff idealized the Russian people, enlarged poetically on their qualities, dramatized their actions, and prophesied the marvels they would accomplish after certain reforms had been effected. His Majesty hung upon his eloquent recitals of the peasants' hopefulness in sufferings, and asked his new friend to travel through the country and to report on the grievances of the people. But, after a twelvemonth of Khlopoff's irresponsible activity, the ministers grew restive; Pobedonostseff requested the Tsar to give his favorite a responsible position or else dismiss him; and, the novelty of his rhapsodies having worn off, his Majesty ceased to receive the reformer. As he continued, however, to read his reports, M. Pobedonostseff spoke earnestly to the Grand Duke; and Khlopoff was dismissed with a pension.

THE CAUSE OF THE JAPANESE WAR

But the most dangerous of all the imperial favorites is M. Bezobrazoff, a cross between a clever company-promoter and an eccentric. This gentleman, who in his lucid intervals gives proofs of extraordinary shrewdness, began his career as an officer in the cavalry of the Guard, passed on to the post of Master of the Hounds, and, in this capacity, made the acquaintance of the members of the grand-ducal ring. In time, he resigned, and, hoping to do a brilliant stroke of business *à l'Américaine*, went to the Far East, where he was to look after the financial interests of the Grand Dukes. The Yalu forests seemed to promise well as a speculation, and he returned with a proposal for exploiting them. The sharp criticism with which the project was received by M. de Witte, Count Lamsdorff, and others at first alarmed the Tsar. But M. Bezobrazoff, who was received by his Majesty at the request of the Grand Dukes, had no difficulty in winning over the wavering young monarch; and the Tsar, as has already been stated, himself became an investor. From that moment, M. Bezobrazoff's ascendency began. He returned to the Far East with plenipotentiary power such as no minister ever possessed. General Kuropatkin, Baron Rosen, Count Lamsdorff, were subordinated to him; and his report on the Manchurian railway accelerated M. de Witte's fall. He caused Admiral Alexeyeff, a man of narrow outlook and vast ambitions, to be appointed viceroy; and, between them, they lured the unsteady monarch, and with him all the nation, into the present costly and disastrous war.

THE TRUE CONDITION OF RUSSIA

Thus the whole Russian Empire, with its peasantry, army, navy, clergy, universities, and ministries, is but the servant of an inexperienced prince, who is not only deficient in the qualities requisite to a ruler, but even devoid of the tact necessary to enable him to keep up appearances. At home, the nation is suppressed; it cannot make its voice heard on the subject of war or peace, of taxation or education, of industry or finance; it cannot even save its soul in its own way. Abroad, the policy of Russia is a policy of expansion without end, planned by officials without scruples, and executed by a government without responsibility. It has brought things to such a pass that assurances given by ambassadors are not binding on the Foreign Minister; promises made by the Foreign Minister are disregarded by the heads of other departments and dishonored by the Tsar; treaties ratified by the Tsar are not binding on the government, which may plead a change of circumstances as a justification for breaking them. This theory, which, to our shame, is become as specifically Russian as the Monroe Doctrine is American, has been firmly established by Nicholas II., who may truly say that the Empire is himself and that his ways are inscrutable.

It is no exaggeration to state that the domestic consequences of this system—if system it can be called—are calamitous. Two ministers have already been murdered; several governors and officials have been shot at, and killed or wounded; numerous

country-houses have been set on fire and burned to ashes; peasants are being flogged, noblemen banished, lawyers, schoolmasters, and officials imprisoned, newspapers suppressed, workingmen fired upon by troops; while the whole nation is kept in ignorance and superstition in order that one man should be free to realize his ideals of autocracy. All that broad-minded monarchists, like the present writer, desire is to save our people without injuring our Tsar. Against monarchical institutions, without which our nation could not work out its high destinies, we have nothing to urge. Even the dynasty we accept as a fact. But we strongly hold that the affairs of the nation, which are not identical with the changing caprices of an individual or the insatiable greed of a ring, should be conducted by competent and moderately honest men independently of Court influence and on ordinary business principles.

AMERICAN BOOKS IN ENGLAND

NOVELS OF AMERICAN LIFE THE MOST POPULAR—
THE ERRATIC PREFERENCES OF THE BRITISH PUBLIC

BY

CHALMERS ROBERTS

CERTAIN eminent English critics declare that American literature, particularly American fiction, lacks distinction. They say that even the best of the younger American novelists fail to appreciate the possibilities of their environment; that the most brilliant promise rarely ripens to fulfilment, and that ability to do good work is sacrificed to the needs of sensational advertising and to the rewards of monster circulations for poorer work. Doubtless, some of this criticism, at least, is due to resentment at the American literary invasion of England.

The international copyright agreement, when framed, seemed wholly for the protection of British writers who had suffered much at the hands of American "pirates." But in spite of the exorbitant prices paid to a few British writers by American publishers, I doubt if the total sum now equals the payments gratuitously made in the old days, when the market was quite free. On the other hand, just as the growth of the United States as a great commercial nation has made it a "world power," so our young literature has forced itself upon foreign readers. Ten American books are published in England today where one was published twenty years ago. These books are winning an army of readers, who had, in the main, to be aroused from intense indifference to the details of American life.

For four years, I have been engaged in introducing American books to English readers, and yet I find it difficult to fix upon any lines of literary work done in America which seem especially to appeal to British minds. No one aware of the general tone of successful English novels could have predicted the large sales secured in Great Britain for "David Harum," "Eben Holden," "Old Gorgon Graham," and "Mrs. Wiggs." Human nature is the same everywhere, and these books are intensely human; yet they are also intensely foreign and full of detail quite unintelligible to the average Briton. Certain writers, like James Lane Allen, win a large audience because of their adherence to the traditions of art. Others are purely the favorites of fortune, like Winston Churchill, whose similarity of name with a popular and pushing young Englishman has undoubtedly helped the sale of his novels. Of people whose books sell well on their merits, there are two or three schools—Mary Wilkins, for instance, represents one, Ellen Glasgow another, Jack London and the late Frank Norris a third. Their books are all such books as the English reader expects from America, and most easily understands when he gets them. Aside from fiction,

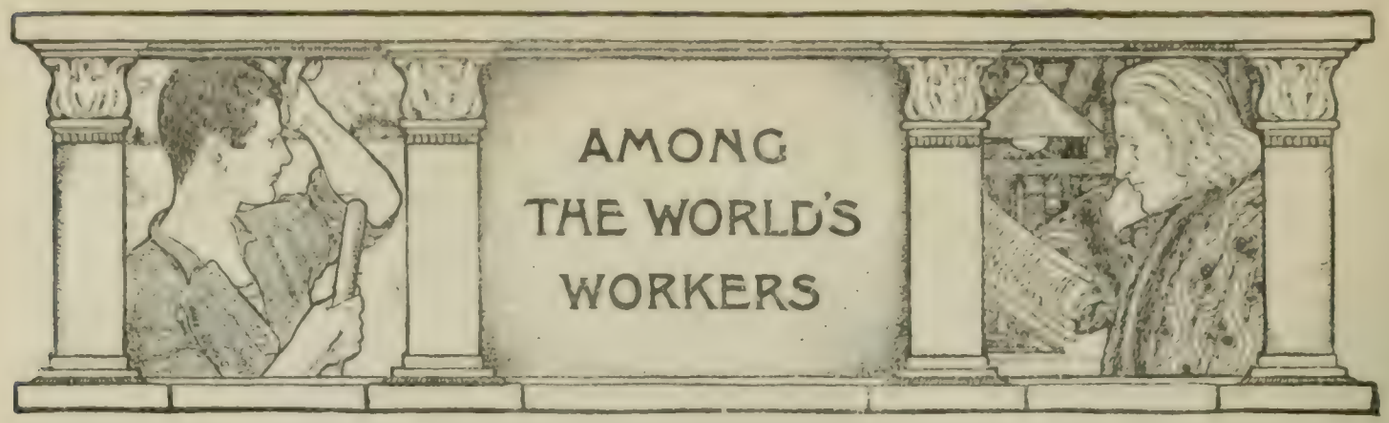
books like Andrew Carnegie's "Empire of Business" sell permanently because the author is as well known in Great Britain as in America; like Booker T. Washington's, in that the humanitarian and sociological public is perhaps the widest in the world; like Helen Keller's autobiography, for the same reason, with the romantic attraction of the author's personality added.

In my immediate experience, the books of Miss Wilkins, of Miss Glasgow, and of Mr. Norris have had the best receptions, both from critics and buyers. Had he lived, Mr. Norris would soon have had in England a following as large in proportion as in his own country. The old story, that certain American writers sell better in England than at home, is to a great extent untrue. Furthermore, one could name many of the best writers of American fiction who have never found their British audience. I could astonish American readers with a list of names unappreciated in England. Their publishers have exhausted all the mild means available to the English publisher; several of them have, in fact, passed from one house to another, in the hope of finding a proper hearing, but for the most part in vain. Perhaps they are too much of the old school, and are classed with forgotten Trollope and Wilkie Collins in England. There are fashions in fiction as elsewhere, and spent New England or the red-blooded West are the places now most favored by English readers of American fiction. They have their own tales of mere men and women, of a better quality, they believe, than the American stories.

The reading public in England, however, is very limited—by no means so great a percentage of the population as with us. Few of the millions taught to read by free schools have reached the point where they can appreciate fairly good novels. The cheap weeklies and monthlies are the most popular forms of literature. But the weeklies and the monthlies, which go to millions of American homes, are immeasurably better than the same class of publications in England. This is but another evidence of that keenness of mind and that ambition of intellect which are the strength of the American people at home and the pride of their countrymen abroad.

Again, in England, people seldom buy books. They get them from a library. One wonders how any book reaches a sale of ten thousand. The big libraries may each buy a thousand copies of a book, and several thousand may be distributed to bookstalls at stations, and to book-shops. Strange to say, English readers seem most given to book-buying when they are setting out on journeys, and the sale of a book by the great monopolists of railway-station stalls, W. H. Smith & Sons, is often greater than to any other buyer. The English bookseller has been a famous character in the past, but, from all accounts, he is a waning power, and will ultimately be overborne by the great department stores. He has forestalled their cut prices, so that on its very day of publication you can, in all shops, buy a $1.50 book for about $1.00. The English publisher suffers under the custom of the "baker's dozen," requiring him to sell thirteen books as twelve. Yet, he pays his authors, as a rule, a high royalty impossible in America, and makes his fortune as if he still lived in the palmy days of the three-volume novel—if he is one of the young hustlers. The old houses, which made their family fortunes out of the "three-decker," keep up by the constant induction of new capital. They set a dignified fashion, and restrain their younger colleagues from fully adopting "the howling pandemonium of American publishing." If any pushing young house dare praise its own wares in advance of the critics, its practice is strongly denounced. If it seek to sell books directly to the reader through the post, the retail bookseller objects. So the advertising circulars exhort you "to order from your nearest bookseller."

Of the maintenance of traditional publishing dignity by the old houses, the American booklover can have but the smallest conception. They do not sell books; they merely publish them. One little book suddenly caught on with the public and was the talk of its brief hour. The publishers found it quite impossible to supply the demand. It was "out of stock" for weeks at a time. Newspapers talked of the sales as probably reaching half a million copies, this estimate being based mainly on the publishers' obvious difficulties and their "steenth" editions. Yet I happen to know that they sold less than fifty thousand!



AN EXCHANGE THAT SAVED A TOWN'S PROSPERITY

EIGHTEEN months ago, the storekeepers of Williams, Iowa, as is the custom of storekeepers in such regions, bought, for cash, the produce of the surrounding rural district. The farmers who made a living by selling their produce in Williams drove across country or took the train to Webster City or Iowa Falls, each fifteen miles distant, and many times the size of Williams, where they made their purchases, believing in the advantages of "city" stores, though the stores of Williams depended entirely upon the trade of people within a radius of three to four miles. At that time, the books of the largest store in Williams showed a loss on the previous year's business of 15 per cent.

Today the storekeepers of Williams supply the trade within a radius of ten to twelve miles, sell to the farmers whose produce they buy all that the farmers require, and are conducting the most profitable business in the history of the town, with gains ranging from 10 to 33⅓ per cent. The farmers now drive loaded wagons into Williams and loaded wagons home. The business problem of the small town has been solved.

Two years ago this November, John L. Wilde, a storekeeper of Williams, devised a trade-getting and trade-keeping plan. He persuaded the merchants of the town to combine into a general company, the Williams Exchange. The Exchange was to buy all produce for sale, paying for it either in cash, at the regular market value, or in currency good only in Williams stores, at an advance of 10 per cent. over the regular market value. The Exchange was to supply the merchants and ship the over-stock to Eastern markets. After discussion, however, it was decided to restrict the operations of the Exchange to butter and eggs, for the members believed that enough of those were brought to offset what the farmers needed to buy.

The Exchange began with a capital stock of $5,000, divided into shares of $50 each, with a paid-up capital of $1,000. With this money, it secured and equipped with the latest creamery machinery a large warehouse and a work-room, hired two competent creamery men to attend to the business of the Exchange, and purchased specially coined aluminum currency of the face value of $2,000. This aluminum currency was made in the same denominations as regular coin. One side read "Williams Exchange, Williams, Iowa." The reverse read "Good for 50, or 25, or 100, or 5, or 10"—"cents" understood—"in Merchandise." Each incorporator signed an agreement to accept the aluminum currency in payment for any and all merchandise. The Exchange began business in February, 1903, after notification to the farmers in the neighborhood that any one who brought his butter and eggs to Williams would be given twelve cents a dozen for eggs and thirteen cents a pound for butter, in cash, as had been done for years; or thirteen cents a dozen for eggs and fourteen cents a pound for butter, in aluminum currency, good in all Williams stores. These stores had meanwhile laid in attractive stocks.

Today farmers drive twelve miles to bring their butter and eggs to the Williams Exchange, passing other towns on the way. In the first twelve months, $30,000 worth of butter and eggs was bought by the Exchange, of which 91 per cent. was paid for in Williams aluminum currency, and but 9 per cent. in actual cash. Almost one-half the cash was spent subsequently in Williams stores, so that actually but $1,500, in currency, was paid out for the $30,000 worth of produce bought. The remaining $28,500 was spent in Williams stores within the year—the best year in the history of Williams stores. The trade of the stores is double what it was eighteen months ago.

A farmer drives to the Exchange with his butter and eggs. The experts in charge judge the market value of the produce. If the farmer wishes cash, he is given a green weigh-slip, signed by the Exchange expert, giving

the amount of produce and the value, payable at the bank, or at any store in town. If he wishes the advance over the market price, he is given a white weigh-slip, crediting him with an amount 10 per cent. higher. These white weigh-slips bear the guarantee of the ten leading merchants in the little town—four general merchandise stores, two drug stores, one clothing and men's furnishing-goods store, one hardware store, one furniture store, and one plumbers' shop. The farmer takes this white weigh-slip to any store and makes his purchase. If his slip calls for $10, he may purchase but 10 cents' worth, and receive $9.90 in change in Williams' aluminum currency, which is worth its face value in merchandise in every store in Williams. The only places where it has no value are the bank and the post-office. These white weigh-slips are kept by the merchants until the first of the following month, when they are turned over to an auditing committee. On the 16th of the month the Exchange pays each merchant in cash to the amount of his slips, out of the proceeds from the sale of the butter and eggs.

The Exchange sometimes buys 3,500 dozen eggs and 6,000 pounds of butter a week. Most of this produce is sold to a New Orleans commission house. The profits are sufficient to pay the salaries of the creamery experts and the operating expenses of the Exchange. One patron of the Exchange has sold enough butter and eggs alone in the past year to clothe his family, supply the table with the required store goods and the home with the necessary household goods, purchase a new agricultural implement, and pay a doctor's bill of almost one hundred dollars. There are scores of other patrons who sell enough butter and eggs to purchase every necessity. In every way, the Exchange is a great success.

In the eighteen months of its existence the Exchange has attracted widespread attention. Letters of inquiry have been received from England, Germany, and other countries of Europe, while every section of the United States has been eager for information about the Exchange. Within the first three months, more than two thousand letters of inquiry had been received.

AUTOMOBILES IN NEW USES

THE use of the automobile is rapidly widening. In New York and in other large cities, automobile omnibuses and trucks are already common. And here and there, at home and abroad, motor cars have been found to work successfully at quite new tasks.

In Paris, a specially designed automobile-wagon frame has been made, on which a 1,250-gallon water-tank is mounted, and the machine is used to sprinkle the streets. The supply of water is automatically made proportionate to the speed at which the machine travels along the road. By this device, if the road needs much water, all that is necessary to increase the supply of water is to increase the speed of the machine. Tests have proved that the best average speed is three to four miles an hour. The water is thrown in sheets, 23 feet on each side, or a total spray 46 feet wide. With this stream, and at the best average speed, the car will sprinkle six-tenths of a mile (1,700 square yards) in fifteen minutes. The tank may be removed from the truck, and the automobile used as an ordinary traction wagon. It is fully strong enough for such purposes. It is also used as a street sweeper. The advantages of this machine are that it can water and sweep side streets that a trolley-car sprinkler cannot reach, and that it can do its work more rapidly than a sprinkler drawn by horses.

A trolley-car company in Washington, D.C., has established an automobile repair wagon, which serves as a traveling repair shop. Its scope of action is greater than that of the ordinary repair wagon, for it is used to haul derailed cars back to the track and even to draw disabled cars back to the barns. It weighs three tons, can be charged at the company's own power station, and is cheaply maintained. A lumber company in Michigan used an automobile machine as a snow plow, and as a traction engine during the lumbering season. The machine plows out roads and hauls lumber.

But the most startling of new automobiles is the coast-defense carriage just exhibited in London—a sort of monitor on wheels. A round steel turret is mounted on an automobile framework, and this moving miniature fort is supplied with three pieces of small artillery. The body of the machine is bullet-proof. As it can carry fuel for 500 miles, its range of activity is very great, and the battery is heavy enough to do considerable damage to a ship off shore. The possibilities of automobiles seem limitless.

A SUCCESSFUL ADVANCE IN BUSINESS EDUCATION

THE first public high-school in the United States for educating boys to be trained business men, the High School of Commerce, is now in session in New York City, in a new building just erected at a cost of $1,000,000. More than twelve hundred students are enrolled to pursue the commercial courses.

Graduates of the ordinary high-school enter life without adequate business knowledge. The graduate of a "business college" has some business ideas, but may have very little general education. The High School of Commerce was instituted to combine the advantages of both, laying especial emphasis on the business training. The usual "literary" courses are given, but in rather compressed form. In addition to these, comprehensive studies in the fundamentals of business are taken up. In the first year, book-keeping, stenography and typewriting, and business geography are begun. Some one practical staple of commerce is studied exhaustively. For instance, with cotton as the subject, the cotton-growing sections of the world are located, their relative supplies and influence on the markets are learned, and the processes of cotton raising, and the transportation, manufacture, and sale of cotton are all followed through the natural channels of commerce.

As the student advances, subjects of wider range and more complex details are undertaken. There is a course in banking, another in commercial law. Even in the studies ordinarily given in a high-school, the pupils consider the bearing the subject in hand has on business. To give practical effect to the training of the school, a bank is run by the boys. Checks are drawn, indorsed, and cashed, loans made on good collateral, and all the regular transactions of a bank carried on. More than this, mock businesses are conducted in modern fashion. Wheat is bought and paid for in cash or in security. It is transported (on paper), the freight is paid, the crop is marketed, and payment is received by check against the bank account of the buyer.

One class has already graduated from the school. Practically all of the students had been engaged for business positions before graduation. The school has grown so since this class began its work that a new building became a necessity. Business courses in high-schools are common, but New York is the first city to erect a building, as a part of its public-school system, wholly for commercial training. Chicago is already following the lead, after a careful study of the New York school. Other cities are considering similar projects.

The New York School of Commerce stands for a new step in public-school education—the practical teaching of business as well as the so-called liberal studies. Saving, as it does, much of the time spent at business apprenticeship, it is a long step forward in business economy.

A GOVERNMENT EXPERIMENT TO INSURE PURE FOOD

THE United States Department of Agriculture recently began investigating the foods and drugs offered to the American people, and many interesting facts have been discovered in the Department's laboratory. Widespread attention was attracted to an experiment concluded this summer in which Dr. H. W. Wiley subjected a squad of volunteers—known as the "poison squad"—to a diet of food adulterated with borax or boric acid. The Department wished to learn whether the fairly common practice of preserving butter and other foods with these antiseptics was harmful. No other method of inquiry would serve than actual experiment with human beings. So, for periods ranging from thirty to seventy days, twelve young men, without abandoning their regular occupations, ate their meals together, and allowed Dr. Wiley to make such studies of their condition as he wished. The borax and the boric acid were at first mixed with their butter and other edibles, but later—since the young men showed a natural desire to be sparing with the particular food that happened to be adulterated—it was administered in capsules as an accompaniment of the meals. The time of the experiment was divided into a fore period, a period when the preservative was given, and an after period. During each period, observations were made, and, finally, the results were compared.

It was discovered that the use of the preservative had a tendency to diminish the weight of the body slightly, and to interfere with the combustion of food by the body. Large doses or small doses long continued had a bad effect on the general health. An inescapable conclusion was that even moderate use of the preservative threw an added duty on the kidneys. But Dr. Wiley could not discover that small amounts of these preservatives in foods not eaten regularly did any appreciable harm.

The chief dangers, then, that lie in the use of preservatives are these: that too much be employed, or that a preservative be used in an article of regular consumption, like butter, or in so many different kinds of food, as to make daily doses probable. The experiment showed that only pure foods are harmless, even though the effect of small amounts of borax taken from time to time be not especially harmful. The acquiring of information like this marks a new and valuable addition to Government activity.