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THE WORLD'S WORK



MAY to OCTOBER 1903

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THE WORLD'S WORK



VOLUME VI

MAY, 1903, to OCTOBER, 1903

A HISTORY OF OUR TIME

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JOSEPH H. CHOATE
UNITED STATES AMBASSADOR TO THE COURT OF SAINT JAMES'

THE WORLD'S WORK

MAY, 1903

VOLUME VI



NUMBER I

The March of Events

THE great subjects that now have most attention in five different quarters of the world are projects for the betterment of backward masses of mankind. The building up of the least fortunate people in Ireland, in Russia, in South Africa, and in our own southern States now engages the wisest men of three great nations. This is a happy change from thoughts of war and even from the routine of peaceful politics.

If the long unrest of Ireland is about to end in quiet and prosperity, if the peasantry of Russia be lifted even a little and some gleam of religious and personal liberty shine in on long-oppressed life there, if the reconstruction of the British colonies in South Africa goes on smoothly, and if the enthusiasm of southern educational leaders continues to substitute thrift for illiteracy in the backward part of the population—these practical movements will all mark definite economic progress of incalculable value; for they will bring into productive activity a large population that has not yet contributed its share to economic civilization. To these great movements may be added the advancement of the populations of our island wards in the Philippines and in Porto Rico.

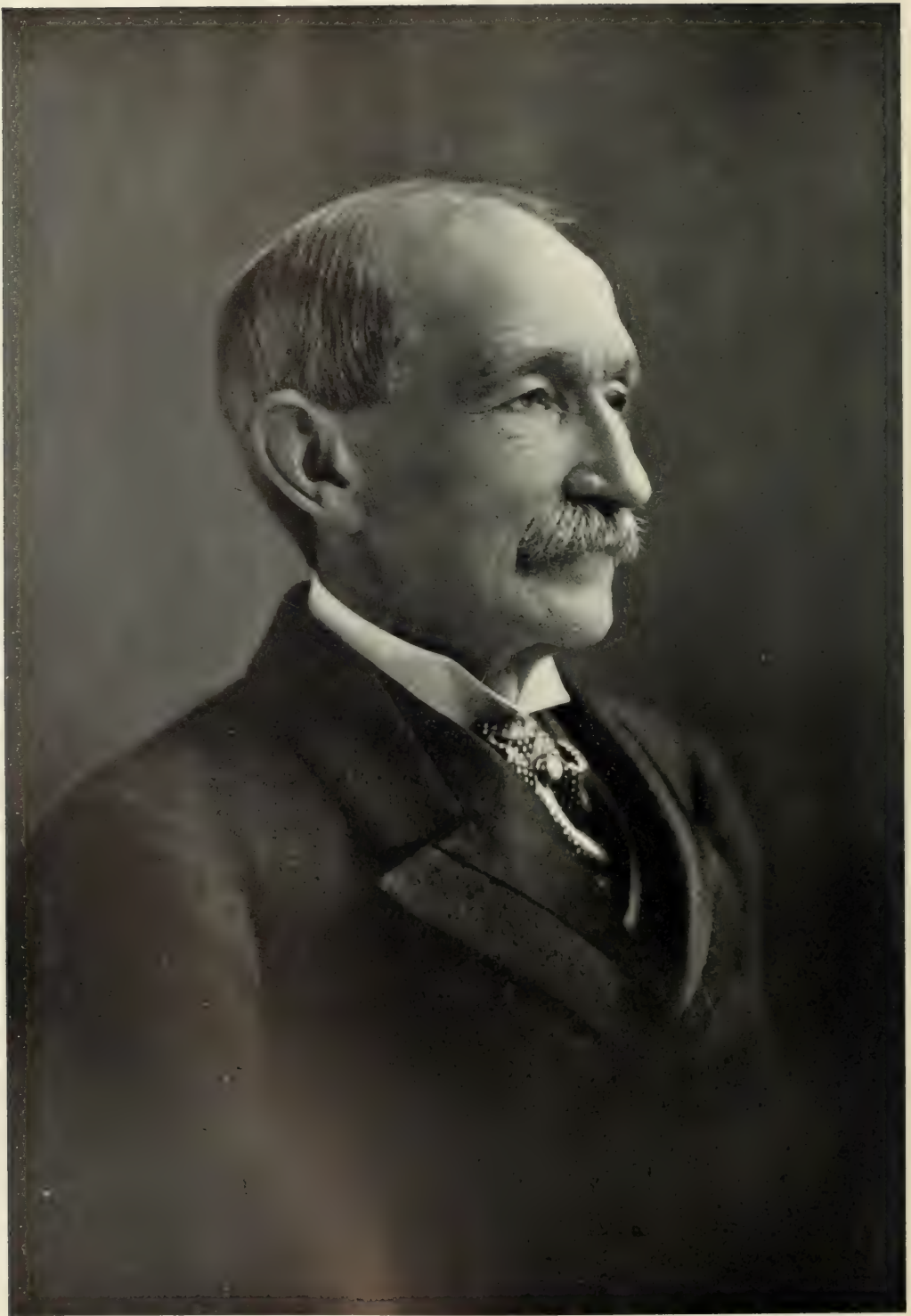
If all these populations—the Irish tenants, the Russian peasantry, the Dutch and the natives in South Africa, the Negroes and the backward whites in our southern States, and the Philippine peoples—were brought up to the same level of efficient life as the masses

of men in any of the dominant industrial parts of the world, there would be such a gain as it has hitherto taken centuries to bring. They would add to the productive classes as large a number of workers as the productive classes now contain. For a very small part of mankind are yet the economic masters of the world.

Slow as all these large tasks are, and perhaps impossible as some of them are within any measurable period, it is significant that the work of some of the governments and of many of the foremost minds of our time is the work of developing backward populations. It is the most straightforward effort that civilization has ever made to extend itself.

AN ERA OF INDUSTRIAL STATESMANSHIP

THAT the building up of backward populations is taking hold on the imaginations of the leading nations and of far-sighted men is proved by other events. The mood of the world—even the ideals of mankind—are changing with this conception of duty. The thought of war is gone—for the time at least—from all men's minds except the Turks'. The military hero is for the moment forgotten. The industrial reconstructor is taking his place. It is Mr. Horace Plunkett in Ireland; it is Governor Taft in the Philippines; it is Mr. Chamberlain on his return from South Africa, who now fill the people's thought.



Photographed by Gutekunst

MR. WAYNE MACVEAGH

MEMBER OF THE HAGUE TRIBUNAL TO WHICH WILL BE REFERRED THE QUESTION WHETHER THE
RECENT ALLIES AGAINST VENEZUELA SHALL BE PREFERRED CREDITORS

(See "The March of Events")



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CHIEF SECRETARY FOR IRELAND, WHO INTRODUCED THE IRISH LAND BILL

(See "The March of Events.")

The public sentiment of the world would not brook even a little war by any nation with Venezuela, as two years ago it would not permit a division of China or open hostilities about it. For there is now a definite and in some ways a united public sentiment of the world, which may fairly be called a new force; and it regards these practical tasks of bringing up inefficient populations to efficiency as the separate nations once regarded the acquisition of new territory. The acquisition of productive men is of greater value than the acquisition of territory. Economic efficiency is more desirable and more necessary than military glory.

The industrial age is making this change in the world's thought, and this change may turn out to be its chief contribution to civilization.

It is worth observing, too, that this is not a "movement" of theorists, not a millennial plan of dreamers. It is the work of practical men; for their thought is built up out of action, and they have no utopian schemes manufactured out of dreams of universal peace. It is the statesmanship of the industrial type of man, whose imagination deals with the concrete products of well-directed labor in a world filled with men who have hands to work with.

THE CZAR'S DECREE OF LIBERALITY

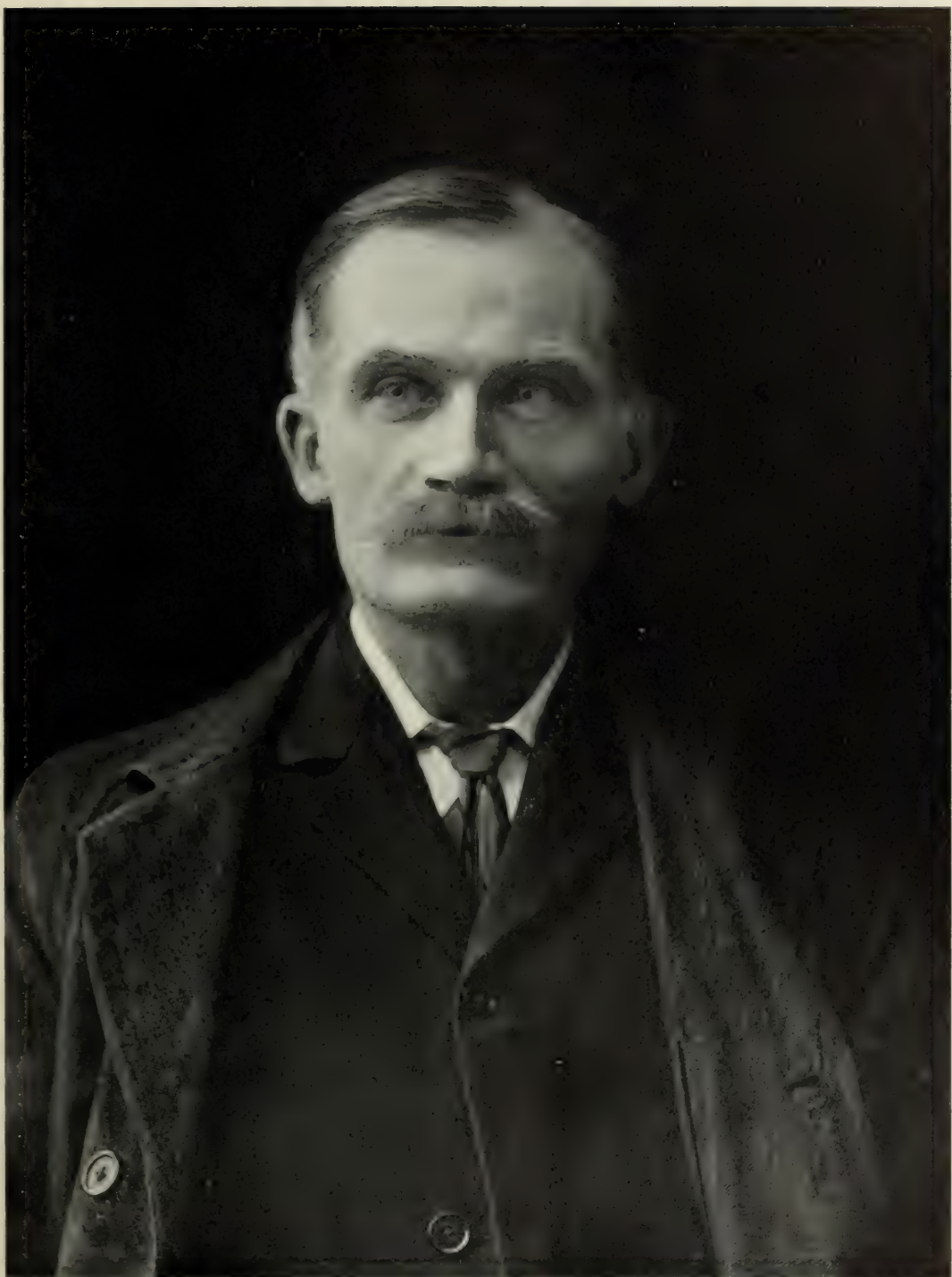
THE Czar, who is perhaps the most benevolently disposed and the most helpless great ruler in the world, has issued a decree directed at two results—the enlargement of the personal and industrial freedom of the peasantry and the relaxation of ecclesiastical tyranny. The text of it is practically unintelligible to readers who live in an atmosphere of personal and religious freedom. It consists of generalities expressed in imperial phraseology. It must be interpreted less by what it says than by the conditions under which it was put forth and the stubborn large facts of Russian life. There is no definite meaning to American readers in these paragraphs, for instance, of this historic document:

"On ascending the throne of our ancestors by the providence of God, we made a solemn vow before the Almighty and our conscience to guard sacredly the centuries-old pillars of Russian power and to dedicate our life to the service of our beloved fatherland in indefatigable solicitude for our subjects.

We chose, in order to assure the well-being of our people, the way indicated by the memorable deeds of our predecessors, especially our never-to-be-forgotten father. God pleased to interrupt the deeds of our father by his early death, and thus laid on us the sacred duty of completing the consolidation of order and truth begun by him in conformity with the exigencies of national life. The troubles agitating our country, which to our deep regret have partly been sown by designs hostile to the State and partly engendered by doctrines foreign to Russian life, hinder the general work of ameliorating the well-being of our people. These troubles confuse the public mind, remove the people from productive labor, and often ruin families dear to our heart and young energies, among high and low, necessary to the internal development of the country. In demanding the fulfilment of this our will, while remaining strongly opposed to any violation of the normal course of national life and having confidence that all will loyally discharge their local duties, we are irrevocably decided to satisfy the needs for which the State has become ripe, and have deemed it expedient to strengthen and decree the undeviating observance of the principles of tolerance laid down by the fundamental laws of the Russian Empire, which, recognizing the Orthodox Church as the ruling one, grant to all our subjects of other religions and to all foreign persuasions freedom of creed and worship in accordance with other rites; and we are further resolved to continue the active carrying out of measures for the improvement of the material position of the orthodox rural clergy, while enabling them to take a larger share in intellectual and public life."

The practical results that will come immediately from the decree will be small. The Russian bureaucracy, which is in the main opposed to change, is almost omnipotent; and what we mean by religious freedom seems anarchy even to a liberal Russian. This decree of religious freedom, for example, is understood not to apply to the Jews.

The large facts are—the serfs, who were technically freed by Alexander, have got small benefits of freedom; they are a mass of the least developed peasantry in Europe; they are yet practically incapable of personal initiative; and the ruling classes regard their power as an inherent right; for the government, from palace to village, is corrupt and oppressive by long habit. At the other extreme of society there is unrest—a more or less blind push toward intellectual and religious freedom. The Czar is at heart more liberal—or he wishes to be—than most of his subjects.



Photographed by Topley

PROFESSOR JAMES W. ROBERTSON

COMMISSIONER OF AGRICULTURE AND DAIRYING FOR THE DOMINION OF CANADA

(See page 345)



SIR LIANG-CHEN-TUNG

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CHINESE MINISTER TO THE UNITED STATES

(See "The March of Events")

He cherishes the efforts of his father and of his grandfather to better the condition of the people. He is an amiable, benevolent man, who accepts his absolute rulership as a devout inheritance. The direction of his ambition is shown by his call for the Hague Peace Conference and by this decree. But he is the most absolute despot in Europe, by inheritance and of necessity. His conception of religious liberty, for example, must be the conception of the *pontifex maximus* of a tyrannical ecclesiastical organization. The more devout he is the less he can know of real religious freedom.

But the decree has shaken the stolid state of mind of immobile Russian life. It puts an ideal before thoughtful men. It encourages the liberals. It moves all Russia, by a little at least, further toward Europe. Discussion of the definite results that may be expected fill the European journals, but the one certain result is the agitation of Russian thought. Just what will follow toward the reform of the land laws, toward a change in local government and toward religious liberality the slow working of a vast machine will reveal.

The decree has emboldened the liberal leaders to make the following specific demands:

"A great increase and improvement in elementary education under popular control.

"The establishment of *Zemstvos* (local assemblies) where they do not exist, and the granting of greater powers and a representative character to the *Zemstvos* everywhere.

"The completion of the liberation act of Alexander II. by the placing of the peasantry on a footing of legal equality with the rest of the nation.

"A change in the financial policy by relieving the peasantry of the burden of the taxation now imposed for the sake of encouraging mushroom industries which cannot flourish without a prosperous home market.

"Limitation of the power of the police and mitigation of the press censorship."

THE STORY OF THE LONG-HELD-UP CUBAN TREATY

OF an industrial rather than merely political character also is the long-drawn-out delay with the Cuban treaty; but action on it has been thwarted by politics of the most doubtful kind. In a niggardly form it now awaits the approval of Congress,

and the President will call an extra session in November to consider it.

The story is long and weary—the more weary because it is not creditable to us.

We promised Cuba freedom and we kept our word. We promised financial relief by a reciprocal trade treaty. We have for a year and a half haggled about it.

In his last message President McKinley made an earnest, almost an impassioned, appeal for such a treaty. The appeal was repeated by President Roosevelt in his first message. "Weighty reasons of morality and national interest," he said, demand a "substantial reduction" of our duties on Cuban products. He recited the pledges in our behalf which Cuba had made a part of its constitution, and he declared that we were "bound by every consideration of honor and expediency to pass commercial measures in the interest of her material well-being."

But a reduction of the duty on sugar was stubbornly opposed by the beet-sugar interest and by some of the representatives of the South, who were further exercised by any proposed reduction in the duty on tobacco. The Senate yielded to this opposition. On June 14th the President sent a special message. But Congress adjourned without ratifying the treaty. When it met again the President again insisted, and a treaty, negotiated between Cuba and the United States, was submitted to the Senate. This was still more favorable to the United States and less so to Cuba than anything previously proposed. It provided for a reduction of only 20 per cent. in our duties on Cuban imports, and for reduction of Cuban duties on our goods of from 20 per cent. to 40 per cent. Again the Senate refused to act. The President then called an extra session, and at that session the treaty was finally accepted with the condition that the House approve it. The President will call Congress in extra session in November.

We promised; President McKinley urged; President Roosevelt urged in two regular messages and in a special message; the Senate remained inactive for two sessions; in an extra session it approved a niggardly treaty conditionally; and the President will call an extra session of Congress. This is the story, and there the matter rests till November.

The "weighty reasons of morality," the

considerations of "honor," are as imperative as ever. The considerations of "expediency" and "national interest" are far stronger. In the year and a half which has passed Cuba has made much progress. Her government has proved more conservative than her best friends dared to expect. Capital from many sources has been attracted to the island. A considerable railroad system is in the course of construction. The repeal of bounties on European sugar in accordance with the decision of the Brussels Conference has given a better market for her sugar. She is being pressed by European Powers for the negotiation of commercial treaties of a favorable character. Her industries are steadily advancing in scope and variety, and are improving in machinery, in methods and in available capital. In a word, her markets are becoming more and more valuable to us, and bid fair to continue increasingly inviting. We are, under the new treaty, admitted to these markets on specially good terms in return for most stinging concessions by us. The Cuban Government has acted with moderation and sagacity and generosity to us.

THE POWERS' SUSPICIONS OF GERMANY

EVERY study of present international relations leads to the suspicion that other nations, especially the English, have of Germany. Germany is on friendly formal terms with all the great Powers, and the Emperor's policy is a policy of building up his own people rather than a policy of aggression. Yet there is a certain German restlessness that requires constant explanation to allay suspicion.

There is no doubt of Germany's wish to control the Rhine to its mouth, and to have such access to the North Sea as the possession of Holland would give her; and this wish is one of the possible dangers to an indefinite European peace. But in addition to a longing for Holland, the German envy (if that be the proper word) of England for her colonies and of the United States for our industrial success keeps the German mind ever on lands across the sea and ever on plans to slacken the activity of the Americans. It is not fair to say that the German Government feels such envy or has such plans. - It has given no overt evidence that is worth serious consideration of such a wish or of such

action. But the thought of the Germans, as it finds expression in some of their writers on public subjects and as it is often betrayed in their periodical literature, is suggestive of possible future trouble.

A series of letters by an English student of German opinion have been appearing in the London *Spectator* that are causing comment throughout Europe. The writer of them reviews the expressions of German thought in many private influential quarters. He finds a strong opinion that South America "will during the twentieth century be the scene of grave conflicts" and that it will undergo "profound transformation." This is always in connection with the German colonies there. There is talk that will not cease about Germany's wish to buy the Danish West Indies as a naval base to South and Central American waters. There is a strong feeling in favor of a European customs-union against the United States, with Germany as its centre. There is ceaseless complaint about the United States tariff on imports from Germany.

In relation to England a similar feeling of fundamental hostility or suspicion is common. If England is hated in all Europe, it seems to be hated more in Germany than elsewhere. England would stand in the way of a German acquisition of Holland. England's great navy stands in the way of German influence on the sea. England would, if necessary, stand with the United States in maintaining the Monroe Doctrine for the protection of South America from European control of territory.

All this is not to be taken too seriously. There is nothing to show that Germany threatens the peace of Europe or of the world. But the Germans have an ambition that is larger than their own land, and the idea of a Pan-Germany appeals strongly to their imaginations when they see the great part that England and the United States are playing in the world's commerce and colonization. Wise statesmanship will cause this ambition to spend itself in healthful rivalry rather than in open hostility; and fortunately commerce is becoming more and more a force for peace.

THE DANGER TO HOLLAND FROM GERMANY

IT is unluckier that any labor trouble should occur in Holland just now than in almost any other country in the world. The

general unrest of labor threatened to become open revolt when the Government set itself more strongly against strikes than any Government has hitherto done. Laws were passed making participation in a strike punishable by fine and imprisonment, which was equivalent to making a strike a sort of treason. For the Government owns a considerable part of the railroads, and the railroad employees are therefore public servants. The Government proposes, also, to train, as if for military service, a brigade of men who shall take the places of strikers. These actions precipitated a general strike that had already been threatened, and the land and a part of the water transportation of the country were for a time stopped.

One interesting result to the general student of social disorders is that "socialism is devouring itself in the Netherlands." That is to say, the State ownership of railroads is a sort of socialism; and the socialistic strikers strike against their own system—against the (thus far) socialistic State. This is a curious and interesting occurrence to those who advocate State control.

But a far more practical matter is the danger that the occurrence puts Holland in. It may even be said that the peace of Europe is in a certain (remote) way endangered. Holland is geographically a part of Germany, and Germany would give much for political control of this territory which lies on the North Sea. Holland "sits astride Germany's great river." German commerce, and most of all the German navy, would profit by political control of Holland. Much comment has been made throughout Europe on a map of "the German Empire as it will be in 1950," whereon Holland is represented as a part of Pan-Germany. The German Emperor is said to have sent a warning to the Dutch Government that German commerce must not be interfered with by labor troubles. Whether or not this be true, or whether, if true, it were meant as a threat, it has caused much comment. English opinion is that Holland is in a much more precarious situation than the diplomats of Europe have openly confessed.

The German desire for Holland is hardly concealed; and there are three especial reasons for it: its geographical position; the possibility that the young Queen may die childless and that the Dutch may then set

up some form of republican government; and the growth of the Hague Tribunal in the good wishes and high expectations of mankind. The opposition to German annexation would be stronger from other governments if the Dutch should have a definite programme for a democracy; and it will be stronger in proportion to the growing importance of the Hague Tribunal.

The situation is acute enough to keep international suspicions alive, but not threatening enough to cause immediate fear. Yet such a general disturbance as a labor threat to transportation lines, for these reasons, brings a distinct political danger as well as an unusual situation between employer and employee; for it is a strike against the State.

THE PASSING OF SOUTH AMERICAN SUSPICION OF THE UNITED STATES

FOR a long time, and especially since our war with Spain, Central and South American opinion has been more or less suspicious of the United States. This suspicion showed itself during the early sessions of the last Pan-American Congress, held in the City of Mexico; and it is a feeling as natural as it is unwarranted. Time and events alone can cause us to be fully understood in these Spanish-American countries. Every incident, therefore, that causes a better understanding is to be heartily welcomed.

The unhappy Venezuelan trouble, though an ill wind, has blown us some good toward a better understanding. The Argentine Republic addressed a long argument to our Government in an effort to secure from our Government a declaration condemning the forcible collection of debts by strong governments from weak ones; and in this argument the Argentine Government committed itself to the Monroe Doctrine. Of course our Government could make only a non-committal reply to such a request. We cannot take a position that could be construed as responsibility for the debts of any other government but our own. All this is old straw that has been threshed before.

The Argentine Government and all other Spanish-American Governments are obliged to know, and do know, that this forcible method of collecting debts did not commend itself to public opinion either in the United States or in England. It is not likely to

become common. It brings too many complications. It gives the whole world too much trouble. It is not a method that one strong Power would use against another strong Power, but only against a weak one. The Venezuelan incident has not commended itself to civilization as a good precedent.

But the open declaration of the Argentine Government in favor of the Monroe Doctrine is a step forward in the better understanding of the position of the United States. It is the first declaration of the sort that any South American Government has made; and this is a point of very considerable importance.

Important for the same reason is a sensible and liberal expression of Brazilian opinion that has been published in *La Prensa* of Buenos Ayres, the chief newspaper of South America. This newspaper makes a long review of our treaty with Colombia concerning the canal; it shows why political fear of the United States is unwarranted; it points out the political fairness and liberality of the treaty and the respect that our Government shows for Colombian autonomy; it makes plain the advantage to Central and South America of the control of the canal by our Government; and it says in conclusion:

"This is satisfactory and tranquilizing as a positive formula of the American solidarity and conservativeness expressed eighty years ago (in the Monroe message), and more necessary at present than ever."

These are cheerful indications of a growing confidence that South American opinion must have in the friendly purposes of the United States. Such confidence is of importance to us as well as to them; for we must make commercial conquest of South America, and if political suspicion is allayed trade will flourish better.

A CHECK TO RAILROAD CONSOLIDATION

WE seem to be in a fair way at last to find out what the Government can do to prevent the indefinite consolidation of railroads. The biggest consolidation ever made was the unified control of the Northern Pacific and the Great Northern, including the Chicago, Burlington & Quincy. These, it will be recalled, were, after a sharp conflict between the controlling owners, practically united in ownership by the organization of the Northern Securities Company, a cor-

poration formed simply to hold the controlling interest in these roads.

This enormous consolidation of two great competing roads was thought by the Attorney-General of the United States to be in violation of the anti-trust law, because it restricted competition and was in restraint of commerce. He brought suit against the unifying (or "holding") company, the railroad companies, their officers and some of their principal owners; and the decree of the United States Circuit Court of Appeals, sitting at St. Louis, was a complete victory for the Government. The Court ordered the dissolution of the "holding company" because it is in violation of the anti-trust law—it destroyed the possibility of competition between the roads and was in restraint of commerce.

If the Supreme Court sustain this decision, as it is thought that it will by many well-informed lawyers who know the decisions of the Court involving similar principles, what will follow? Is not practically every other interstate railroad consolidation also in violation of the anti-trust law? Are not even interstate industrial consolidations of formerly competing companies unlawful? Some other railroad consolidations undoubtedly are unlawful; but others may not be. No sweeping conclusion is yet warranted.

But three assertions may be made with confidence:

1. No decision of any case, no construction of any law, will prevent consolidations in some form even though they do restrict competition. The wastes of competition are as obvious as its benefits. No law will seriously check the general economic tendency toward combination.

2. But the monopoly of certain far-reaching kinds of public service and of certain universally necessary products is not going to be permitted by the public.

3. These two propositions seem (and doubtless are) contradictory, in theory at least. But the main matter of all this agitation and effort is to prevent the great evils of combination without making helpful combinations impossible. That is the task, and we are just entering an experimental period in dealing with it. In the clash we may find out a way to preserve the liberties of the people *against* organization, and at the same time to preserve the liberties of the people also who are *in* organization.

No preceding incident in the so-called anti-trust agitation compares with this in importance; and the country owes this to the personal energy and insistence of the President. The anti-trust law had before his administration been practically a dead letter. It is now very much alive. Mr. Roosevelt continues to show that quality as an executive which years ago provoked the remark from a New York politician that "he had no more sense than to think that a law is made to be enforced."

Whether this now-living anti-trust law shall play havoc with many combinations formed in restraint of trade will depend first upon the decision of the Supreme Court and then on public opinion. Public opinion may express itself through Congress in modifying it or in repealing it. But, whatever happens, this decision, affecting the largest combination of transportation interests ever made, brings us at one leap into a practical effort to see what can be done to restrain harmful combinations. We pass from mere discussion to experiment. The incident reminds us, too, that the economic era of consolidation has brought new legal problems. The old formulas no longer fit.

THE GROWTH OF THE IDEA OF MUNICIPAL OWNERSHIP

THE April municipal elections in Chicago and in the cities of Ohio show a drift toward the extension of municipal functions that has been getting stronger. In Chicago the main matter was the renewal of street-railway franchises which will soon expire. Mayor Harrison stood for renewals for short terms and for ultimate municipal ownership, and he was reelected. In Cleveland practically the same question was presented in another form, and Mayor Tom L. Johnson was reelected. Both these happened to be Democrats, but party politics, though an important factor in these elections, was not thought to be the determining factor. The main question that a decisive number of voters answered at the polls, as they understood it, was whether the corporations should rule the city, or the city the corporations. At Toledo, where Mayor "Golden-Rule" Jones was again elected by an overwhelming vote, the same disposition was shown even more strongly. He was an Independent candidate. There was a Demo-

cratic candidate and a Republican candidate, each with his party organization and its newspapers. The newspapers practically ignored Mr. Jones and he had no important support of this kind. His reelection means simply that he has won the confidence of the masses by his programme, which used to be called "socialistic." While the academicians are discussing the theory of municipal ownership, the people, in these cities at least, are getting into the habit of voting for its coming.

MR. ROOSEVELT'S CONTINENTAL OUTING

THE President seems—and he has some right to be—the happiest man in the country. On his journeys last year he spoke to the people about the regulation of trusts, and he has since signed legislation to regulate them, and the Government has won its case in the United States Circuit Court of Appeals against the Northern Securities Company. He has had the satisfaction, too, since his last outing, of signing the Panama Canal act; and the reciprocity treaty with Cuba seems certain at the hands of Congress in extra session in the fall. These are large events to have come in a single winter. And the same winter brought the army reorganization act and a large appropriation for the increase of the navy—both measures that the President had a keen interest in. It has been an unusually successful legislative season for the important measures that he recommended.

But Mr. Roosevelt's happiness, as most other men's, lies in less things than these. He is out of harness; he is meeting the people; he is outdoing every predecessor in the energy and the extent of his traveling; he is seeing nature, too, and no man takes a keener joy in outdoor life than he. He knows his West. In variety of experience and intensity of enjoyment it is doubtful if any man's vacation yields him more. To be sure, it requires a continent for him to take a wholly satisfactory outing. But fortunately we have the continent, with diversity enough to satisfy all his activities; and he has well earned even a continental vacation.

The President's public addresses up to the time he entered the Yellowstone Park were characteristic and interesting. He spoke of the Monroe Doctrine and the need of a strong navy—"he who speaks softly and carries a

big stick will go far"; of the tariff, which he would not now radically revise; of the trusts, for the regulation of which Congress made legislation that is satisfactory for the present; of the Philippines, where Governor Taft is proving himself as wise an administrator as any man that any country ever sent on such an errand; and of the Cuban treaty, which he hopes Congress will approve. With an energy never equaled he has made many short non-political speeches also, about good citizenship, activity, family life, natural history—always enjoying himself and always speaking rather as Theodore Roosevelt than as President. The people see the man rather than the official.

Politics? It is only fair to say that Mr. Roosevelt has been going to the Rocky Mountains for many years for recreation. It is a habit with him; and it is characteristic of him to speak about what has been done under his administration rather than to discuss political theories. But if the less versatile, indoor politicians of his party be again disposing of him in their club gossip, and are arranging a consolidation of the great financial interests against him, they are likely to be reminded at the end of the game that Presidents have before prospered by the enemies that they have made. Mr. Roosevelt has gone on a vacation; but he can do more things—including political things—during a vacation than duller men can do who stick to their work the whole year round.

"GOVERNMENT BY INJUNCTION"

SO-CALLED "government by injunction" has had two recent applications—the first to forbid, for a time, a strike on the Wabash Railroad, and the second to restrain members of trade-unions and others from interfering with a trolley-car service in Connecticut.

The first important use of the injunction in cases of dispute between employers and employed was in 1894, at the time of the violent railroad strikes on the roads that centre at Chicago. The United States Circuit Court (Judges Wood and Grosscup) enjoined trade-unionists and others from "interfering with or stopping any of the business" of the railroads (which were enumerated), and also from "compelling, or inducing by threats, persuasion, or violence any of the employees of such roads to refuse or fail to perform any

of their duties as employees." The United States courts took jurisdiction of these cases because of the interruption of interstate commerce and the transportation of the mails. That is a simple and well-established right and duty on their part. But the noteworthy thing in the action of the courts—for the Circuit Court was afterward sustained—is the scope of the action, which was not confined to enjoining things previously accepted as illegal, but went to the extent of enjoining the act of "inducing" and of "persuasion."

It was declared at the time and has since been held, not judicially, but by lawyers of wide reputation, that this was a novel assumption of authority. Partly for the enforcement of the orders of the courts, partly in the discharge of his general duty with reference to interstate commerce and the carriage of the mails, President Cleveland ordered the United States troops to intervene; violence was stopped and order reestablished. Few conservative men doubt that he did what he ought to have done, but the working-men of the country, many of whom had never had a clear idea of the functions of the Federal judiciary, were made suspicious.

This is the most important case of so-called "government by injunction." But early in March of this year the employees of the Wabash Railroad Company, who had threatened a strike, were, with the officers and delegates of their various unions, enjoined by the Circuit Court of the United States (Judge Adams sitting) from "in any way or manner ordering, persuading, inducing or otherwise causing, directly or indirectly, the employees to strike or quit the service of that company." The injunction was also extended to all attempts to interfere with connecting railroads, or to prevent them from transporting the freight sent to them by the Wabash.

On the first of April this injunction was dissolved by Judge Adams. But the main matter of the injunction was, however, the things that it forbade. Judge Adams followed Judges Wood and Grosscup in prohibiting "persuasion" and "inducement." The assertion of authority and the use made of that authority are practically the same in both instances. There have been numerous like injunctions issued by the

Federal courts in various parts of the Union, notably in West Virginia, in Wisconsin and in Ohio.

Judge Adams's injunction in the Wabash case gave time for the railroad company and its employees to settle their differences; and for this protection to the public it has been commended in many quarters. But fortunate as this result was, it does not touch the larger principle involved. It is a principle that has not yet received public approval.

The State courts have been slow in following the Federal courts, probably because they had no such definite function as that which relates to interstate commerce, and possibly because they are somewhat nearer to the people. But on the fourteenth of March, the Supreme Court of Connecticut, in the matter of the strike and boycott against a trolley company, issued an injunction fully as sweeping as any from the United States courts. The Court enjoined numerous trade-union officers and still more numerous individuals, indicated as strikers or persons connected with the dispute, from "any act or language intended or intending to prevent persons from continuing in or entering the employment of the plaintiff," who was the trolley company. There were many things enjoined besides—boycotting, picketing, patrolling, loitering near the company's lines and the like. Unquestionably the Court was influenced indirectly by the precedents of the Federal judiciary.

Whether or not this principle be finally upheld by the highest courts, it is sure to be contested in public discussion and to play a large part in party politics and perhaps in future elections.

MR. ROOSEVELT'S POLITICAL APPOINTMENTS

PRESIDENT ROOSEVELT'S political appointments that have provoked most independent criticism are Mr. Payne as Postmaster-General, Mr. Clarkson, of Iowa, as Surveyor of the Port of New York, Mr. Byrne as District-Attorney in Delaware, and Doctor Crum as Collector of the Port at Charleston, S. C.

In regard to Mr. Clarkson's appointment, it was felt that the President had used an office in New York as a reward for a political manager; for no business man in New York would have thought of the Iowa politician for the place. Such an appointment was

on the face of it distinctly contrary to Mr. Roosevelt's creed and general practice.

Mr. Byrne's reappointment to a position that he had filled without credit was construed, whether it was so meant or not, as recognition of the Republican faction in Delaware that has been built up by Addicks's bribery. This is the most unfortunate appointment that Mr. Roosevelt has made. Personal loyalty to a friend is a good quality in any man, whether he be President or not; but it is not a sufficiently good quality to cover up so unfortunate a "recognition" of the very worst force in American politics. That a man is an Addicks man is enough to make him ineligible to decent political society.

The criticism of Doctor Crum's appointment has been chiefly, but not wholly, in the South, where resentment has been strongly expressed against the appointment of a colored man to this office in Charleston. But this is rather race criticism than political criticism—except that the most has been made of the inadvisability of appointing a man to office who for any reason is not acceptable to the community. On the other hand, there has been a strong rally to the President of that strong and large body of opinion that thinks it unfair for the Negro to be ignored in the bestowal of Federal offices.

The President's appointment of Mr. Plimley as sub-Treasurer at New York was withdrawn and Mr. Fish was appointed to the place. The appointment of Mr. Plimley, who was unfit, brought to light the same weakness of men in important positions that has many a time done damage; for he had the written indorsement of prominent men who knew that he was not a proper man for this post. It sometimes seems that nobody has the courage to deny any man a recommendation for a public office. It has been proved time and again that no such recommendations are worth serious consideration. There is hardly a man out of jail who cannot get them, and get them from good men.

The remarkably small number of the President's appointments that have provoked criticism is noteworthy. Noteworthy, too, is the excellence of most of them. He has raised the standard of judging appointments, and he has raised it higher than the superficial observer who has a short memory is likely to give him credit for.

THE SUCCESSFUL COAL STRIKE COMMISSION

THE award of the Coal Strike Commission, as it has been interpreted and received by the public, is rather to the advantage of the miners than of the operators. The public has commended the spirit of the report and has concluded that the mismanagement of the situation shown by the operators was a somewhat worse practical offense than the conduct of the miners, which also was reprehensible.

But the large fact that stands out is not the relative advantage gained by one side or by the other, but rather the important fact that the President's action in calling a truce and in appointing this Commission led at last to peace and to work. The public will have to pay more for anthracite coal than it paid for several years before the strike, for both miners and operators will get more money because of the increase of wages. But the public is willing to accept a settled condition even at this price.

Of course, no permanent settlement—no certain plan to prevent the recurrence at some time of another such strike—could be devised. But the recommendations of the Commission go as far toward permanent prevention as could be expected. These three recommendations are the most valuable part of the report:

"The discontinuance of the system of employing the 'coal and iron police,' because this force is believed to have an irritating effect, and a resort to the regularly constituted peace authorities in case of necessity.

"A stricter enforcement of the laws in relation to the employment of children.

"That the State and Federal Governments shall provide machinery for compulsory investigation of difficulties similar to the investigation which this Commission has made."

The first recommendation is local, but the other two are of general application; and the emphasis given to them by the Commission is worth to the whole community all that the Commission cost. The principle of compulsory investigation of labor troubles seems likely to be adopted. It is already embodied in a statute in Illinois and perhaps elsewhere. And in general it may be said that the work of this able Commission is entitled to the heartiest appreciation of the whole country. The value of its report will increase with time and study.

MR. CLEVELAND AND THE PRESIDENCY

THERE is a strange persistence shown by some who have forgotten our political history and do not know public feeling, in regarding Mr. Cleveland as a possible Democratic candidate for the presidency next year. If anything be certain in politics, it is certain that no man can be elected President who has twice held the office. That no man shall have a third presidential term became a fixed law when Washington declined a third term. Those who forgot this law were reminded of it when a stubborn effort was made to nominate General Grant for a third term.

Furthermore, few things are more certain than the unpopularity of Mr. Cleveland among the managers of his own party. Although he is the only Democrat who has occupied the White House in more than forty years, and although he made a permanent place for himself in our history, his party would not now have him. The southern Democrats, who are the dominant part of the party, although they may have drifted away from Mr. Bryan, have not drifted back to Mr. Cleveland.

Finally, if anything can be more certain than Mr. Cleveland's practical ineligibility for a third term and of his unpopularity among his own party managers, it is his own state of mind as revealed by his conduct and his recent public utterances. He has neither done nor said anything that implied that he would become a candidate again.

It has been proved that he was the best candidate that his party has had for half a century; but to talk of him as a candidate again argues a paucity of men that is unbecoming the great party to which he belongs.

THE MOST DIRECT WAY TO BUILD UP A PEOPLE

CANADA today supplies nearly all the cheese that Great Britain imports, and is steadily increasing large shipments of butter to the same market. This has come about by bringing science home to the Canadian farmer as briefly related by Mr. Iles in this magazine. The United States Department of Agriculture at Washington and the experiment stations throughout the Union prosecute researches much more extensive and thorough than those of our Canadian neighbors.

But the Canadians have the knack of

immediately putting the experimental and laboratory knowledge into practical use—into the farmers' hands. They manage to induce the farmers to use the new knowledge at once. No sooner have the official experts in cattle, the experimenters in fodders and silos, the professional makers of butter and cheese arrived at their conclusions, than these are pressed upon the farmers at their homes. By model dairies and curing-rooms, by traveling dairies of simple type sent through the villages and cross-roads, by lectures, pamphlets and newspaper articles, by shows at fairs, the facts and their value are plainly set forth, to be eagerly learned and practised. They go even further. Butter and cheese of the best brands might remain on the dairy shelves if new markets were not found and made safely and easily accessible. Accordingly, the Canadian Government instituted a system of continuous cold storage all the way from the dairies to the ports of Great Britain. The policy of the leaders is simply to break the way for new and vast interests and then to withdraw in favor of the spirit of self-help that they have aroused and directed.

Professor Robertson, the chieftain in all this work, has always had the intelligent and hearty backing of his Government, and never more fully than now, when the Honorable Sydney Fisher, himself a successful farmer, is Minister of Agriculture.

This remarkably direct application of science and organization to farm industries means great gain for the men and women on the farms; but what about their children? They, too, are remembered by a bettered training in which the duties and joys of the farm are emphasized. Schools are to be established as the informing anterooms to the wheat-field, the orchard, the wood-lot and the dairy. An all-round appeal to intelligence will show that many a learner with a weak verbal memory is a deft fence-builder, that a boy faulty in spelling may know how to transplant a sapling so that it will thrive. These schools are to be placed at strategic centres, where they will have the best chance of becoming national object-lessons. A sedulous and wide-awake canvass will bring the merits of these schools before every rural community in Canada. This and other such fundamental plans radically change the whole popular conception of education.

PREPARING FOR THE ST. LOUIS WORLD'S FAIR

THE amazing history of the Louisiana Purchase is emphasized by the celebration of its centennial at St. Louis; and the world's fair to be held there next year in commemoration of it is now firmly fixed in the minds of the people.

A cynic has said that we regard world's fairs as a toper regards drink—we have had enough but are always ready for another; and that, if the cities in which they are held can afford to have them, the rest of the world can afford to go to them. But this weary view of great fairs is undiscerning.

The Louisiana Purchase fair has a reason for being that no preceding exposition had; for, celebrating our greatest expansion of territory, it comes aptly, at a time when we are in an expansive mood. The people are richer than they ever were before; our industrial grasp is firmer and wider; we regard all the world as our market; and we are ourselves as alert to learn each other's triumphs of mechanism and organization as the rest of the industrial world is to learn of us. There ought to be, and doubtless there will be, at St. Louis such an object-lesson in the application of science and skill to industry as was never before seen.

And foreign nations will send more things than were ever seen at a fair before. There is, of course, a very much keener interest in American industry than any preceding fair could profit by; and Mr. Francis, the President of the fair, recently gave such an impressive and effective invitation to the principal European countries, by personal interviews with their rulers, as was never heard of before. "This interest in the fair shown by the rulers of Europe," he recently said with good humor, "will cause New York and other eastern communities to wake up. I went abroad in order to reach our own eastern States."

The mere bigness of the fair, the total cost of which will be \$40,000,000, is very strikingly shown by these comparisons:

	Acres Covered
Philadelphia Centennial (1876)	236
World's Fair, Chicago (1893)	633
Paris Exposition (1900)	336
St. Louis World's Fair (1904)	1,180

But miles and more weary miles of mere "exhibits" never made a fair. The intelligent visitor will expect to see processes and

instructive and beautiful products, not merely a succession of all sorts of things piled up for advertising purposes.

THE AMAZING GROWTH OF NEW YORK CITY

THE rapid physical changes that are taking place in New York City almost baffle comprehension; and they are interesting for more than local reasons because the growth of New York is but an index to the growth of the whole country.

The complete change in the city's appearance within a decade or less by the building of "sky-scrapers" for business uses downtown and for apartments uptown; the construction of an underground electric railway, now nearing practical operation; the enormous increase of the day population; the building of new bridges to Brooklyn, and the colossal plan of the Pennsylvania Railroad Company to come to Manhattan Island by a great tunnel, and to construct a terminal on Long Island which will be reached by another tunnel under the East River—to these the public has adjusted its thought.

But these are not all. The projected tunnels to Brooklyn, and even to Staten Island; the additional underground railroad which will soon be required; the practical removal (so far as they impede travel) of the two great streams on either side of Manhattan Island; the gradual moving of the centre of population across the East River to Brooklyn; the unprecedented building of great office "sky-scrapers" as far uptown as Forty-fourth Street; the development of easy transit so that Philadelphia, as a serious man remarked the other day, will become a mere suburb of New York; the serious declaration by Professor Giddings, the economist, that "in fifty or seventy-five years, at the rate at which the country is now being settled, it is probable that we shall have a continuous city from Lynn, Mass., to Mount Vernon, Va."; the present rapid extension of New York City on Long Island and northward—by these changes Manhattan will within an early time become chiefly a place of business and a place of pleasure—a great office and a great playhouse, with tenements for the very rich and for the very poor. The transportation of the millions that now come and go every day has presented new problems in engineering and brand new tasks in rapid transit.

The rebuilders of the city are doing fundamental work in other ways, too. The State will vote next fall on the proposition to appropriate \$101,000,000 for making the old Erie Canal (which first gave New York its commercial supremacy) again a great waterway. The United States Government is spending large sums in harbor improvements, and the city is increasing its water-supply at a great cost. Men now living will see it the greatest centre of population and of activity and of wealth in the world. And this growth and improvement, which in cost and variety and extent outrun the experience of any city on earth, are but evidences of the development of the whole country. A man who knew New York City ten years ago will hardly believe what he may see ten years hence. So, too, a man who had an accurate conception of the activity and of the productivity and of the wealth of the United States ten years ago will hardly believe the revelations of the next decade.

And all sorts of personal, social, political and educational problems that civilization has yet developed and confronted obtrude themselves, calling for such skill and wisdom as have not hitherto been demanded by any community. The most alert imagination may run riot and become weary before it grasps even the obvious aspects of the wonderful city and its life.

UNPRECEDENTED IMMIGRATION AND ITS CHARACTER

IMMIGRANTS are coming to the United States in a greater swarm than ever before. In 1882 we received nearly 789,000—the largest number that has ever yet come in one year; but the newcomers are expected to reach 800,000 in 1903.

Most of them come from Italy and eastern Europe. So many of them are Italians that, if they continue to settle in New York as they have settled there during the last decade, the Italian population of the city will soon be larger than the population of Rome; and the citizens of New York may look forward to the possibility of two-thirds as many Italians among them as there are white natives of the United States born of native parents. There are in the city native whites born of native parents less than three-quarters of a million—on Manhattan Island less than seventeen per cent.

The decade of largest immigration to our shores was the decade from 1880 to 1890. The present decade, if this present volume continue, will bring us more—as many as 6,000,000, perhaps.

An amended and somewhat stricter immigration law has gone into effect. But it will not exclude many, for illiteracy was not made a bar to entry when the law was amended. The chief amendment of the law is the provision whereby a prohibited immigrant may now not only be stopped at the port of entry, but he may be sent back from any part of the United States within three years after landing, and within two years wholly at the expense of the steamship company that brought him. During the last fiscal year only one hundred and seventy-five persons were turned back at the immigrant station at New York. The new law also enlarges somewhat the prohibited classes, and it imposes a tax of \$2 instead of \$1. The clause prohibiting anarchists is very carefully drawn. It freely admits every proper person from any land—we shall still give refuge to the oppressed and opportunity to the ambitious. But whether it will exclude all the unfit whom the Old World governments assist to come, or whom energetic steamship agents procure, is doubtful.

The Immigration Restriction League has estimated that twenty-eight per cent. of the 650,000 immigrants that came last year are illiterate, and that forty-four per cent. of the southern European immigrants are unable to read and write. The effort will be continued so to amend the law as to require an educational qualification for admission.

THE THRIFT OF NEW ENGLAND AND THE THRIFT OF THE WEST

THE proportion of men and women who retire on small competencies is doubtless greater in Massachusetts than in any other State in the Union, unless it be Pennsylvania, which is the other State of Doctor Benjamin Franklin's residence. But a man who has even the most robust respect for the thrift of the people of Massachusetts must be surprised to learn from the report of the State's Bureau of Labor Statistics that there are more than 45,000 such persons—28,000 men and 17,000 women. Two-thirds of them are native born, too.

The making of such an investigation was

characteristic of Massachusetts. These persons who have retired on competencies are apparently not, as a rule, the owners of large fortunes. Indeed, most men of large fortunes, it is safe to say, do not retire till physical infirmities compel them. In the list are an amazing number who were farmers—more than 3,500—whereas less than 3,300 were merchants. Even the retired blacksmiths number 359, and there are 1,076 "laborers" on this list. This table is instructive, therefore, not as an indication of riches, but rather of thrift. There are, for example, a considerable number of preachers who have retired and have a competence.

But it tells volumes about the careful management that is a part of the New England temperament. Any one who has lived in different parts of the United States has had many occasions to observe what this official report confirms—that the native New Englander has learned the art of living considerably below his income better than any other man among us.

In many of the western States (Iowa and Kansas, for example) probably quite as large a proportion of the people are well-to-do as in Massachusetts; but they have not yet developed an hereditary habit of saving. They yet have no hereditary habits, in fact—as Iowans and Kansans. In their more cheerful life they do not expect rainy days. Their habit is to make, rather than to save.

For the West—or what New Englanders yet call the West—to all its agricultural wealth is adding enormous wealth from manufactures. In the general diffusion of well-being, if it has not already passed New England, it soon will do so. It takes one's breath away, for instance, to recall that Kansas City (population 163,752) has just been celebrating the fiftieth anniversary of its incorporation. It was a mere landing-place on the Missouri River half a century ago, where 250 hardy persons lived. Now it is a great city, built with wisdom enough to have reserved 2,000 acres for parks, and that, too, without debt.

The great manufacturing interests of the West show the temper of the people; for the number of factories is enormous. This means that the farmer is himself also a manufacturer. He turns his money to many forms of production, and he keeps the farm in cultivation, too. It never occurs to him to retire.

He is not working for a mere competency. He is working for the love of it and to develop the country. The pioneer energy of a generation or two ago has not yet spent itself.

The great industries have brought great fortunes everywhere. But very much more interesting than great fortunes are the habits of the mass of people in using wealth. And the habit of the West, while less safe at times for individuals than the New England habit, is better for the community. On the same income a man in Iowa or in Kansas will live better (or "faster," if you will) than a man in Massachusetts. He is more daring, more certain that soil or factory will continue to give good yields; and he is more ambitious. He spends his money now—let his children earn it for themselves, if need be; and he spends it more freely on his children because they will be sure to earn more.

What an admirably varied and economically well-balanced people we have as we enter upon the era of great wealth-getting that we are just now approaching! We have the sort of ability shown in the management of small competencies, especially in New England; and we have the faculty also

of free spending for future profits. Neither the country nor the people are yet half developed. But, when the period of full development comes, it looks as if our democracy will know both how to conserve and how to use wisely the wealth that our industrial supremacy will bring.

A GROUP OF TIMELY PORTRAITS

THE uniform and continuous distinguished service as our Ambassador that Mr. Choate is doing to cement the cordial relations between the United States and England; the historic significance of the bill introduced in Parliament by Mr. Wyndham for making Irish tenants landholders; the fitness of the appointment of Mr. Wayne MacVeagh as our representative at the Hague in the matter of the Venezuela trouble; the extraordinary work of a fundamental nature done by Mr. Robertson in Canada for rural education; and the coming of the new Chinese Minister to the United States, Sir Liang-Chen-Tung, the successor of Wu Ting Fang, of cheerful and unfading memory, make their portraits at this time both pertinent and interesting.

ARE THE BASES OF OUR PROSPERITY SECURE?

[THE WORLD'S WORK publishes every month an article in which some timely and vital subject of the financial world is taken up]

THE *London Times* recently declared that in our remarkable national expansion we have violated economic laws and must suffer the penalty. We have, to use its phrase, "bitten off more than we can chew." There was much of this kind of talk at the beginning of 1902, and there has been still more of it at the beginning of this year. It is by no means confined to European observers of the American situation. One of the greatest financial authorities in this country, a man of national reputation, recently said in reply to an inquiry about the effect of the failure of the Aldrich bill to abolish the old Sub-Treasury system of locking up money, "In my opinion, nothing can prevent a money panic this year, except a failure of the crops." In view of all

this continued talk, it is timely to consider the foundations of our continued prosperity.

It is not needful to recite the marvelous story of our national prosperity in the past few years. What is of more pertinent interest is that there are no signs of retrogression since this year began. Industrial progress continues. There is no indication of any exhaustion of the soil. Our government is financially stronger than any other of the great powers. The resources of the country have not been fully developed. For every five acres of land in actual use there is one acre awaiting only water to make it fruitful in abundance. We are still a young country and have not yet attained the maturity of our powers. It is foolish to talk about our having stopped growing.

There are usually two excellent barometers of our national prosperity: the bank clearings and the railroad earnings. During the last fiscal year, the clearing-house exchanges of the country amounted to \$116,021,618,003, a gain over the preceding year of \$1,201,825,917. Allowing for the reduction in the volume of speculation, there has been a steady increase since then. During the last calendar year, railroad earnings gained \$82,000,000. There has been a constant gain since then. That there has been a slight decrease in net earnings due to the higher cost of operation, resulting largely from increased wages, does not alter the fact of an increased volume of business. Besides, the railroads as a whole are now reporting increased net earnings. The gain in February was $5\frac{1}{8}$ per cent. Much has been said of a falling off in our merchandise exports and of an increase in imports, but the February exports were the largest on record for that month, as were also the exports for the three months ending with February. While the excess of exports for the seven months of the fiscal year was the smallest in seven years, the gain in the last three months indicates that the excess for the full fiscal year will be nearly as large as last year.

Inquire of any banker having relations with the merchants, and the invariable information is that their customers are doing a very active and prosperous business. Indeed, they are so busy that they need more money to finance the business coming to them. The United States Steel Corporation recently reported that it had on its books unfilled orders for more than 5,410,719 tons of steel. The net earnings of the immense corporation for the first quarter of this year were \$24,656,136, notwithstanding some loss due to railroad congestion. This year, 16,316 miles of new railroad construction have been contracted for, as compared with 6,026 miles actually built in 1902.

Business is so active as to produce a severe congestion in two directions. The movement of products to the markets has been so great that the leading railroads East and West have suffered from freight blockades. The Pennsylvania Railroad was obliged for a time to retire its fastest passenger train between New York and Chicago in order to clear the tracks for accumulated freight. It was said in the New York Chamber of Commerce,

a few weeks ago, that even with the enlargement of the Erie Canal, on the 1,000-ton-barge plan, and the extensive railroad improvements recently authorized, the railroads and the canal combined would not afford the necessary facilities for transporting the products of the country to the Atlantic seaboard at New York. Such a prediction, in such a place, does not indicate any prospect of an early decline in our national prosperity.

The congestion in the money market is due in no small part to the increased demand for credit as a result of the immense trade activity. Leading Chicago bankers have attributed the augmented demand for money there to the freight blockades that have delayed the marketing of products. The business men and farmers needed additional funds to tide them over until their freight reached its destination and they could receive their pay.

Statistics might be given *ad infinitum* to show the continued growth of the country. The national banks have increased their capital from \$667,381,231 in 1902 to \$731,275,267 in 1903. The national bank deposits increased from \$4,374,740,459 to \$4,580,927,529 in the same period.

In whatever direction we turn, therefore, we see the evidences of prosperity. Business, according to competent authorities, is not only active but sound. There are only three unfavorable conditions that threaten it. The first is the stringency in the money market. The second is the labor disputes, of which there have been so many of late. But it should be remembered that these are "prosperity strikes." They are the attempts of labor to obtain a larger share of the admittedly great profits of business. Moreover, the labor-unions are not becoming more exorbitant in their demands, and the present conditions are by no means acute. The able report of the Roosevelt anthracite coal commission in laying down the vital principles underlying the labor problem seems to open the door to a better understanding between employer and employee.

The third condition that threatens is the indulgence in outside speculations by business men. Such weak spots as have developed, or as may hereafter be disclosed, are due chiefly to this cause.

A crop failure would be a severe blow to business, but there is no reason to expect

such a calamity; and moreover, it should not be forgotten that the failure of the corn crop in 1901 did not cause a panic.

The only serious feature of the business situation is the congestion in the credit market, and this is felt most in Wall Street, where most of the abuses against credit have been practised. It is this congestion which has given rise to so much discussion of a possible monetary convulsion. It is this condition which more than anything else causes the London *Times* to speak of the day of reckoning for each occasion of economic debauch in this country. And so vast is the pyramid of credit that if the money stringency became so acute as to produce a panic the entire business of the United States might possibly be involved in the convulsion.

The activity in trade has already been alluded to as one cause of the congestion in credits. The higher the prices and the larger the trade movement the more credit required. In spite of the fact that the per capita circulation of money is now in excess of \$29, it seems clear that the business of the country was growing faster than the facilities for handling it. Still the sources of credit-supply would have been ample but for the demands of overspeculation. It is in our speculative ventures that we have "bitten off more than we can chew."

We have become a nation of speculators. The passion for gambling in stocks, grain and cotton has spread over the whole land. It has invaded the rural neighborhoods and taken possession of men, women and even children. A seat in the New York Stock Exchange recently sold for \$82,000. Eight years ago it could have been bought for \$13,000. How far the mania to get rich quick by processes that violate the ancient law of earning one's bread by the sweat of one's brow has corrupted our national life is open to question. It is, however, to be noted that, while trade keeps up its rapid pace, speculation is beginning to lag. Sales of stocks, which amounted to 252,000,000 shares in 1901, fell to 188,000,000 shares in 1902. There has been no increase in stock operations this year, while bond sales have fallen off greatly. This reaction in speculation is regarded by some as prophetic of a decline in trade. It should rather be hailed as affording relief to the overburdened money market.

But speculation has not been confined merely to the New York Stock Exchange. There has been great syndicate speculation in the organization of new companies and the floating of new securities. Trust companies and other financial institutions, as well as private bankers, entered into these underwriting speculations by the wholesale. When it is said that at the beginning of this year there were 793 industrial trusts and natural monopolies, having a total capitalization of \$13,750,734,517, some idea is obtained of the mass of stocks and bonds existing, other than railroad securities, of which there has been an immense increase. In the last three years the additions to the listed and unlisted departments of the New York Stock Exchange have aggregated \$5,600,497,201. This is nearly one-third of the total amount of securities now admitted to dealings in the Exchange. Not only this, but there has been authorized by 120 companies, in the last six months, new capitalization of more than \$1,500,000,000. We now begin to obtain some conception of the enormous burden imposed on the credit capacity of the country.

Part of the recent increase of capital represents the legitimate demands of the railroads seeking to create the new transportation facilities demanded by the business expansion. Seven railroads have lately voted to issue \$230,000,000 of new securities.

There has been far too much underwriting of companies with inflated capital. It is difficult to get comprehensive statistics covering this point, but the twelfth census reported 183 industrial companies whose stocks and bonds, amounting to \$3,085,200,868, represented only \$1,458,522,573 in actual value in money or property.

Of course par values represent very little in a study of this kind. What is important is to know the market price at which the mass of new securities was placed. But it is enough to learn that we have been unable to digest the vast volume of new capitalization placed on the market, and that many underwriting syndicates have had left on their hands millions of securities which they are obliged to carry awaiting a favorable opportunity to sell. No wonder that the reservoirs of credit have been drained, and that the rates of interest which a few years ago seemed permanently on a basis below 4 per cent. are now between 5 and 6 per cent.

and that capitalists find it more profitable to loan money than to invest it in bonds. A readjustment of values to the higher rates of interest is in progress. It is possible that we shall have a rest for awhile from the creation of big companies. J. Pierpont Morgan, in a recent interview, said that the undigested securities would be absorbed without trouble. There has recently been some foreign demand for our bonds.

Last fall during the movement of the crops the surplus reserves of the New York Clearing-House banks were wiped out, and it took heroic measures on the part of Secretary Shaw to save the country from severe monetary disturbance; and even then the leading banks had to form a \$50,000,000 pool as an assurance to the public of their ability to meet any emergency. In March of this year there was another pinch in the money market, and the surplus reserves fell almost to the line of the legal requirement. During the summer there should be a period of comparative ease, but there is no disguise made of the apprehension of another crisis next fall. The advocates of the Aldrich bill boldly proclaimed this danger as an argument for the passage of the bill in the Senate. Its failure has had a depressing effect on the markets. The situation is undoubtedly one of great sensitiveness, calling for caution. The important point is that everybody is on guard and that gradual speculative liquidation is in progress.

But suppose there should be a monetary panic, what could we reasonably expect? The pessimistic utterances of the *London Times* have been quoted. It is a pleasure to turn to what our optimistic friend, the *London Statist*, says:

In past periods of uncertainty and uneasiness foreign capital has been first to take alarm, and to be withdrawn from the country. In future crises the situation will be materially modified. In the first place, America now possesses a considerable quantity of foreign securities, which can, if necessary, be sold to foreign investors, and can be used for making repayments to the foreign investor who insists on withdrawing his capital. Secondly, the proportion of foreign capital now invested in the States in proportion to the total capital is relatively small, and consists, moreover, chiefly of investments whose security cannot be questioned. Consequently there is unlikely to be any large withdrawal of capital from the United States even in a period of bad crops and depression. On the contrary, it is

probable that European capital will tend to flow into high-class American investments, now that the financial strength and security of the investments are becoming more and more widely appreciated."

Just as the western farmers have been able to pay off the mortgages on their farms, thus freeing themselves from their eastern creditors, so the people of the United States have bought from Europe the certificates of their own indebtedness and are no longer under the financial domination of London, Paris and Berlin. Our standing abroad was never so high as it is now, and we have no difficulty in borrowing from Europe whenever we desire. In case of a panic we could buy as much gold abroad as we should want to increase our cash reserves. One thing is certain: we shall never again be compelled to issue clearing-house loan certificates, as has been done in the last five panics. This was openly stated, with marks of general approval, in a recent clearing-house meeting by ex-Comptroller Hepburn. Our banks are stronger and better directed than ever before. Many of them have greatly augmented their capital and resources. Seven powerful chains of banks and trust companies have been formed. New lines of defense against panic have been established, so that if "a wave of irrational alarm" strikes us its power for evil will be greatly reduced.

It is one of the hopeful signs of the financial situation that there is so much talk about the danger of hard times. For a panic feared is usually a panic averted. Despite the commonly accepted theory of the regular recurrence of panics, they do not come with the arithmetical precision of eclipses. Secretary Shaw was recently reported as saying, apropos of the prevailing stringency in money: "Last fall I was hopeful, but feared; this year I fear, therefore I hope." There is a great truth in this. "A panic," says Professor Sumner, "is a wave of emotion, apprehension and alarm which is more or less irrational." A danger foreseen, therefore, is not likely to develop into such a wave of irrational alarm. It is one of the safeguards of the present situation that the things that might produce disturbance and disaster are known. Already a reduction in the volume of speculation is taking place, and the banks, while facilitating legitimate business to the utmost, are displaying a wise conservatism toward new underwriting schemes.

THE LOUISIANA PURCHASE

THE RESULTS OF JEFFERSON'S BARGAIN WITH NAPOLEON—THE GREAT PART THAT THE STATES AND TERRITORIES OF THE OLD LOUISIANA ANNEXATION IN 1803 NOW PLAY IN THE WORLD—THE GREAT GARDEN OF THE CONTINENT

BY

CHARLES M. HARVEY

THE treaty we have just signed has not been brought about by finesse nor dictated by force. Equally advantageous to both the contracting parties, it will change vast solitudes into a flourishing country. To-day the United States take their place among the powers of the first rank."

The prophet was Robert R. Livingston, our Minister to France; the occasion was the signing of the treaty by which Napoleon transferred the Louisiana province to the United States, for \$15,000,000. Its area is 875,000 square miles (almost as great as that of England, Ireland, Scotland, Wales, France, Germany, Spain, the Netherlands, Italy and Switzerland), as compared with 820,944 square miles in the original thirteen States. It extends from the Mississippi River on the east (including the New Orleans district east of the Mississippi) to the main divide of the Rocky Mountains and to the Arkansas, the Red and the Sabine rivers on the west; and from the Gulf of Mexico to the Canadian line.

Mr. Livingston made this prophecy to James Monroe, Jefferson's special delegate to assist Livingston in attempting to carry out Jefferson's project to buy New Orleans and West Florida from France, and Barbe Marbois, France's Finance Minister and Napoleon's personal representative in the sale of Louisiana, who had both just signed the treaty of cession. This was at Paris, on April 30, 1803.

The results of this transaction were to prevent forever the erection of a hostile power on the west bank of the Mississippi and to make inevitable the ultimate annexation of Texas, Oregon, New Mexico and California, and the expansion of the United States into a nation of continental proportions and of world-influence. It was perhaps the most important sale of territory ever made.

Jefferson, who wanted New Orleans in order to control the mouth of the Mississippi on the east side, and who told Monroe to guarantee to Napoleon all the territory west of the Mississippi if this inducement became necessary in order to get that town, got the town and that territory, too. Looking for a city, he had an empire thrust upon him. Napoleon's necessities—his war with England, his desire for money to aid in prosecuting the war, his determination that England should not gain the territory, and his wish to raise up a rival to England on sea and land—worked to the eternal advancement of the United States, of representative institutions, and of the world's progress. April 30, 1803, is a great datemark in the annals of America, of civilization and of humanity itself.

It is this event that all the world is preparing to celebrate by an International Exposition at St. Louis, the principal city of the purchase, in 1904. A considerable part of the American people, with the pride, pomp and circumstance of military and naval participation, headed by President Roosevelt, will, on April 30, 1903, the centenary of the event, take part in the dedication of the grounds on which the exposition is to be held.

The wilderness which Jefferson's enemies ridiculed him for buying comprises today, in whole or part, chiefly in whole, twelve States—Louisiana, Arkansas, Missouri, Iowa, Minnesota, North Dakota, South Dakota, Nebraska, Kansas, Colorado, Wyoming and Montana—and Oklahoma and the Indian Territory. This region is nearly a third of the area of the present United States, and it gives homes to almost a fifth of its inhabitants. Its population of 50,000 in 1803 had expanded to 14,708,616 in 1900, or nearly three times the population of the entire United States in 1800, and nearly four times the whole country's population at the time Washington was first inaugurated as President.



A SCENE IN KANSAS IN THE EARLY PART OF THE NINETEENTH CENTURY

THE LOUISIANA PURCHASE TODAY

JEFFERSON PAID ABOUT THREE AND ONE-HALF CENTS AN ACRE FOR THE VAST TERRITORY OF THE LOUISIANA PURCHASE. THERE IS NO WAY IN WHICH THE REMARKABLE CHANGES OF THE CENTURY COULD BE MORE FORCIBLY SHOWN PICTORIALY THAN BY GROUPING TYPICAL VIEWS OF SOME OF THE GREAT CITIES THAT WE HAVE BUILT WITHIN THIS AREA.

IT NOW INCLUDES MUCH OF THE GRANARY OF THE WORLD, FEEDING NOT ONLY THE LARGE POPULATION OF THESE STATES, BUT SUPPLYING THE DEFICIENCIES OF BOTH EUROPE AND ASIA AS WELL.

THE CENTRE OF POPULATION AND OF POLITICAL AND OF INDUSTRIAL POWER OF THE UNION IS FAST MOVING TOWARD THIS AREA; AND SOME OF ITS CITIES ARE THE HOMES OF THE MOST RAPIDLY DEVELOPED MANUFACTURING ACTIVITIES IN THE WORLD.

THE VIEWS THAT FOLLOW GIVE ONLY HINTS OF THIS DEVELOPMENT, UNPARALLELED IN ALL HUMAN ANNALS. OF THE GREAT NUMBER OF TOWNS AND OF THE MANY CITIES IN THIS AREA, REPRESENTATIVE ILLUSTRATIONS ARE HERE PUBLISHED OF ONLY ONE CITY IN EACH STATE WHICH AT A SWIFT GLANCE GIVE THE CONTRAST TO THE WILDERNESS OF A HUNDRED YEARS AGO.



THE LIBERAL ARTS BUILDING AT THE LOUISIANA PURCHASE EXPOSITION



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A VIEW OF DENVER, COLORADO, TOWARD THE ROCKY MOUNTAINS



Photographed by W. G. Walker

WHERE THE RAILROADS CARRY GREAT LOADS OF FREIGHT TO AND FROM CHEYENNE



A FAMOUS INDIAN POST BECAME A BUSY COMMERCIAL CENTRE. CHEYENNE, WYOMING



BUTTE, MONTANA, THE GREATEST COPPER MINING TOWN IN THE WORLD AND A CAPITAL OF VARIOUS COMMERCIAL ENTERPRISES



TOWARD THE FARTHEST WEST

A typical block in Anaconda, Montana, in the northwest corner of the Louisiana Purchase



DEADWOOD, SOUTH DAKOTA
The mining centre of the Black Hills

Copyright, 1900, by the Detroit Photographic Company



A BUSY STREET IN SIOUX FALLS, SOUTH DAKOTA



ONE OF THE COMMANDING BUILDINGS OF MINNEAPOLIS



ST. PAUL, MINNESOTA, FROM THE MISSISSIPPI RIVER

Copyright, 1902, by the Detroit Photographic Company



THE COTTON MARKET AT ARDMORE, INDIAN TERRITORY



OKLAHOMA CITY, OKLAHOMA

As it was in April, 1889



OKLAHOMA CITY TODAY



THE MOST QUICKLY BUILT CITY IN THE LOUISIANA PURCHASE

Another view of Oklahoma City

THE LOUISIANA PURCHASE



MODERN SKY-SCRAPERS IN ST. LOUIS

Photographed by George Stark



ONE OF THE CANYON-LIKE BUSINESS STREETS OF ST. LOUIS

Photographed by George Stark



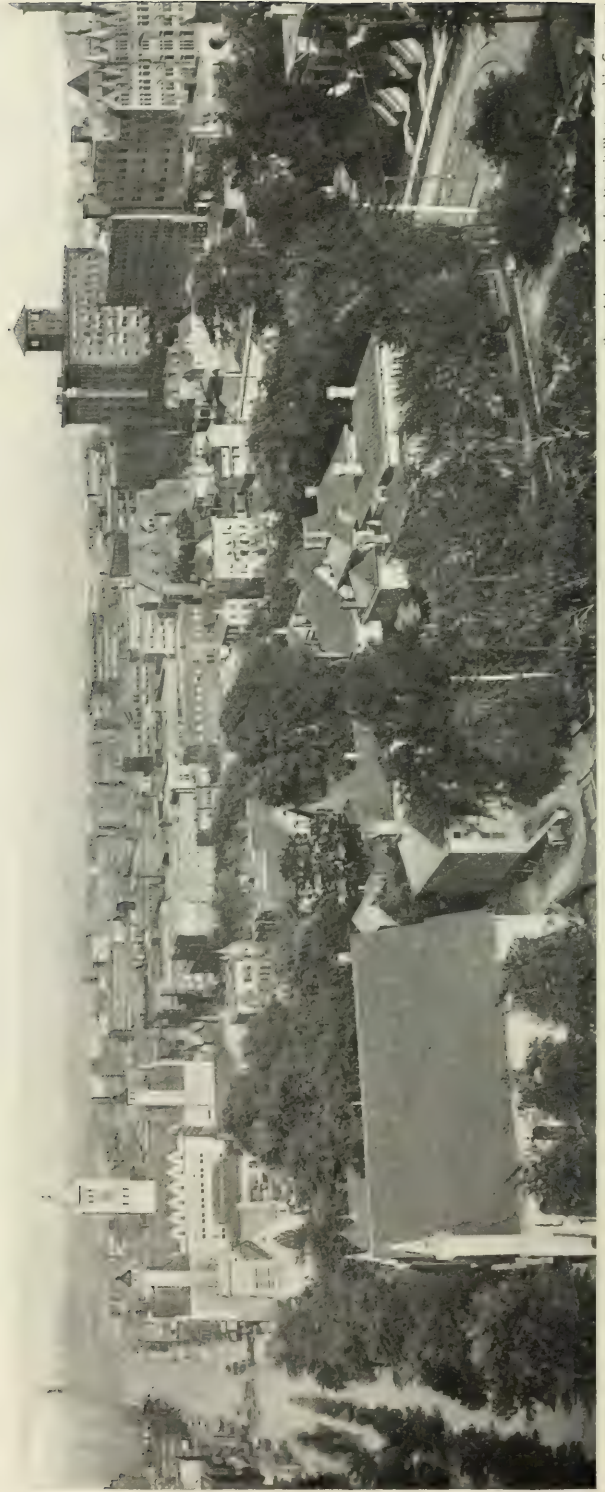
A BUSY DAY IN TOPEKA, KANSAS

Photographed by F. C. Lutes



A BIRD'S-EYE VIEW OF TOPEKA, KANSAS

Photographed by F. C. Lutes



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OMAHA, NEBRASKA, ONE OF THE GREATEST COMMERCIAL CENTRES IN THE LOUISIANA PURCHASE



COTTON IN THE STREETS OF LITTLE ROCK, ARKANSAS
Coming in from the fields for shipment over the railroads



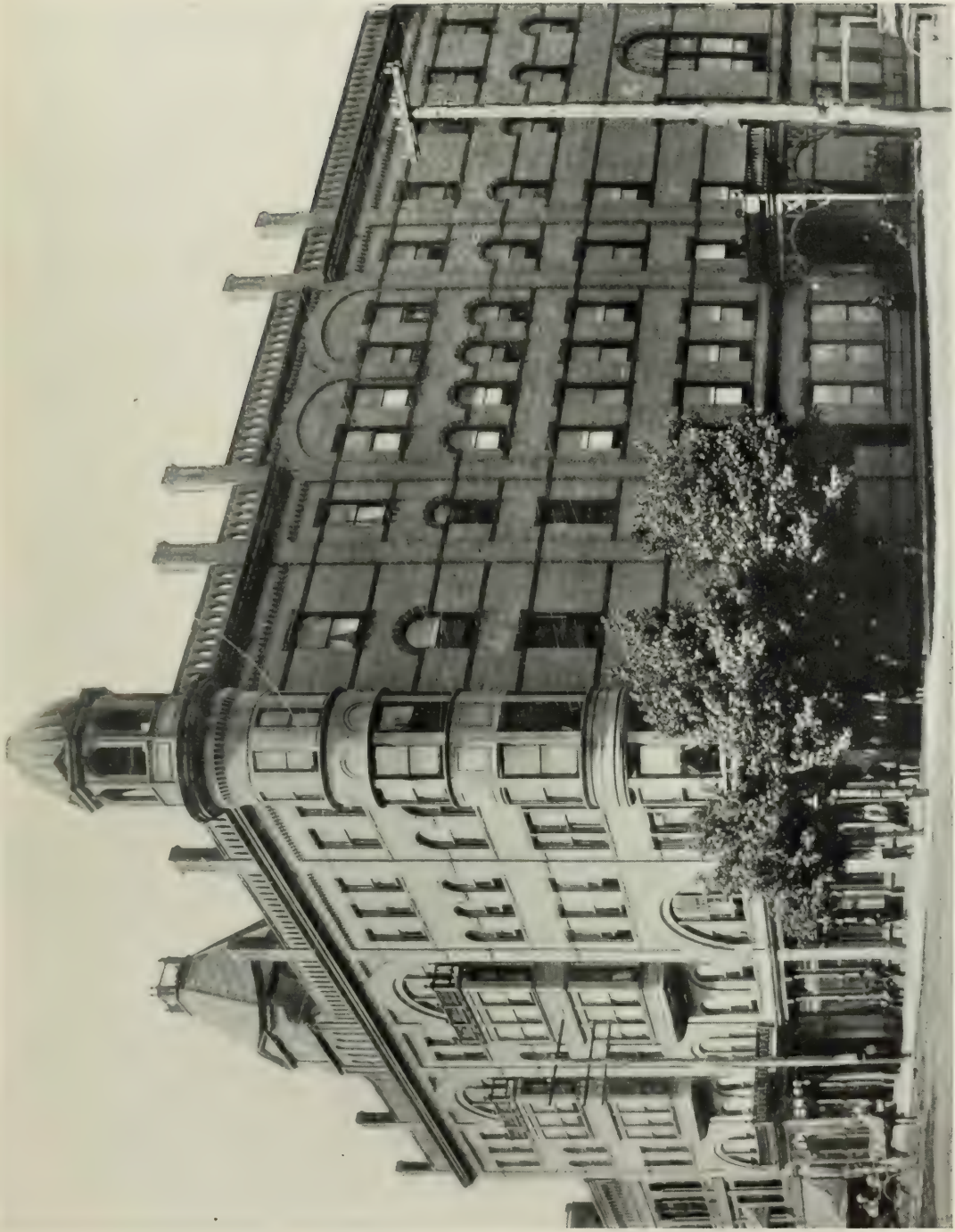
ONE OF THE BUSY STREETS OF LITTLE ROCK, ARKANSAS



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THE COTTON EXCHANGE, NEW ORLEANS, LOUISIANA

The centre of the great industry in the southern portion of the Louisiana Purchase



A MODERN HOTEL IN GRAND FORKS, NORTH DAKOTA

By courtesy of the Great Northern Railroad



AREAS:

The thirteen original States	850,044 miles
The Louisiana Purchase	875,000 miles
Europe (except Russia and Scandinavia)	1,237,667 miles

THE LOUISIANA PURCHASE, THE THIRTEEN ORIGINAL STATES, AND EUROPE

Population of the thirteen original States in 1799	3,816,876
Population of the Louisiana Purchase in 1799	14,708,616

MONTANA
132,159
BUTTE

N. DAKOTA
182,719
BISMARCK

S. DAKOTA
PIERRE
330,975

WYOMING
60,705
LARAMIE

NEBRASKA
1,058,910
LINCOLN

NEBRASKA
2,058,069
DES MOINES

KANSAS
1,334,734
TOPEKA

MISSOURI
1,128,179
JEFFERSON CITY

OKLAHOMA
TERRITORY
20,000

INDIANA
LITTLE ROCK

LOUISIANA
1,118,337
BAYONNE

ALL EUROPE
EXCEPT RUSSIA
& SCANDINAVIA

One of the Louisiana province's States, Missouri, alone has more inhabitants than were in the whole of the thirteen States at the time they won their independence at Yorktown. St. Louis, which had only 1,000 inhabitants at the time of the annexation a century ago, had almost three times as many people in 1900 as were in New York, Philadelphia, Boston and all the rest of the country's cities in 1800.

The States and Territories of the Purchase produced 264,000,000 bushels of wheat in 1900, valued at \$152,000,000—more than half of the wheat crop of the whole United States; 1,013,000,000 bushels of corn, or forty-eight per cent. of the country's product; thirty-eight per cent. of the country's oats. The wheat, corn, oats, rye, barley, cotton, hay and potatoes produced in this region in 1900 brought \$755,000,000, and its farm animals were valued at \$825,000,000, thirty-eight per cent. of those of the whole country.

From that celebrated pioneer experiment in wheat-growing by Oliver Dalrymple, a wealthy Minnesota farmer, in the Territory of Dakota in 1876, quickly came magnificent results. In 1902 North Dakota stood second in the list of wheat-producing States and Minnesota first. These with Missouri, South Dakota, Nebraska and Kansas, all in the Louisiana Purchase, led all the rest of the country last year in wheat-growing. Much more than half of the country's 670,000,000 bushels grown in 1902 (valued at \$422,000,000) was grown in the States of the old Jefferson tract.

And the story of corn is similar. Illinois stood first in corn yield in 1902, as in most years. The four Louisiana States of Iowa, Missouri, Nebraska and Kansas led all the rest of the country. More than half the country's corn crop, valued at \$1,017,000,000, was produced in the territory of the Purchase. Iowa was second in 1902 in the production of oats, Illinois being first. Another Louisiana State, Minnesota, was second that year in barley production, California leading. Iowa was second in hay, New York heading the list. Two-thirds of the country's 195,800 tons' yield of beet sugar for 1902 was grown by the territory west of the Mississippi. Texas, a region which belonged to Louisiana at the time Bonaparte transferred the province to the United States in 1803, but our claim on which was given up to Spain by President Monroe in 1819 as part of the price which

we paid for Florida, and which we did not recover until Polk's days in 1845, produces almost a third of the entire country's cotton. Texas, however, is not included in Louisiana in any of the figures given in this article.

The horse and the burro, introduced into Mexico by Cortez and other Spanish adventurers before they appeared elsewhere on the mainland of the New World, and brought northeast as far as Kansas by Coronado almost a century before Captain John Smith founded Jamestown, or Brewster, Bradford and Miles Standish landed at Plymouth, are among the important products of the trans-Mississippi region. The Louisiana province has a third of all that are on the farms of the United States. The Purchase has forty-two per cent. of the cattle found in the whole Union, thirty-one per cent. of the sheep and thirty-four per cent. of the hogs. Montana and Wyoming, among the newest of communities, stand first and second, respectively, among the States in the number of sheep and their production of wool.

One of the dozen States of the Purchase, Colorado, produced more gold in 1902 (\$28,000,000) than the entire territory of the present United States produced from the discovery of America in 1492 to James W. Marshall's great strike in the raceway of Sutter's mill, on the American fork of the Sacramento, in 1848. In proportion to its area, the Cripple Creek district in Colorado is the richest piece of gold-bearing ground on the globe except the Rand district in South Africa. Colorado has produced \$308,000,000 of gold, \$372,000,000 of silver, \$116,000,000 of lead and \$16,000,000 of copper, or \$812,000,000 for these four metals. Montana also in four metals has added much more than \$1,000,000,000 to the world's wealth in the less than forty years which have passed since Fairweather, Edgar and their companions made the gold strike on Alder Gulch, the site of the present Virginia City, which started the inrush from all over the world that put Montana on the map. Copper has yielded \$391,000,000 for Montana since 1882. Out of its mines have been dug \$357,000,000 of silver and \$282,000,000 of gold.

In slaughtering and meat-packing Chicago is still far ahead of the other centres, with an aggregate value of product of \$249,000,000 for 1900. Kansas City, Kas., which ranks next to Chicago, had a product of \$73,000,000.

South Omaha was only a little behind it. While Chicago did forty-five per cent. of the country's wholesale meat-packing in 1890, its proportion had dropped to thirty-five per cent. in 1900. This relative shrinkage was due principally to the immense expansion in this activity which has been made in the States of the Purchase. This industry, following the producing region in the corn and hay belt, is rapidly swinging the centre of this activity into the Louisiana province.

St. Louis, which was only a fur-trading post on the far frontier when Jefferson bought it, was, in 1900, in the gross value of its manufactured product, fourth among the country's cities, leading Boston, which is one of our oldest manufacturing centres. Minneapolis stands first among the country's cities in flouring and grist-mill products.

The wool product of the Louisiana region, which is one of its smallest interests, would, for 1902, more than pay the whole sum which the province cost. The corn yield of one of its States, Iowa, last year would have paid that price more than six times. A single year's manufactures of one of its cities, St. Louis, would pay Jefferson's \$15,000,000 price for the whole territory fifteen times over.

Besides transferring the United States' boundaries from the Mississippi ultimately to the Pacific, the Louisiana annexation and its direct results, the acquisition of Texas, of New Mexico, of California and of Oregon, swung the seat of the country's activities across the Alleghanies into the great valley. The geographical centre of the contiguous parts of the United States is in northern Kansas, in the heart of the Louisiana Purchase, and the other pivotal points are traveling rapidly in the same direction. The centre of population, which was a few miles west of Baltimore in 1801, when Jefferson was first inaugurated, was near Columbus, Ind., in 1900; and the centre of manufactures, which was hurrying after it, was close to Mansfield, Ohio, in the same year. At the same time the centre of the corn production was fifty-four miles southwest of Springfield, Ills., and the centre of the number of farms was 110 miles east by south from St. Louis, in Wayne County, Ills., not far from the Louisiana Purchase border.

In 1900 the centres of the production of wheat, of oats and of the country's aggregate cereal crop were all in Iowa. In these four

instances the centre, in its westward march, sprang across the Mississippi since 1890, except that the wheat centre made the leap just previous to that year.

This swinging of the United States' productive pivotal points toward the Louisiana territory or into it is rendered especially impressive by the fact that the United States produces thirty-four per cent. of the world's manufactures, thirty-five per cent. of its cattle, fourteen per cent. of its sheep, fifty-two per cent. of its swine, twenty-two per cent. of its wheat and seventy-six per cent. of its corn.

The homestead law, the inrush of immigration thus attracted, the employment of labor-saving machinery and the extension of the railroads all came just in time to make the development of the Purchase the most rapid and remarkable in history. Daniel Freeman, of Beatrice, Gage County, Neb., made his entry in the land office of his district at midnight on January 1, 1863, the moment at which the free-lands act went into operation. His entry was No. 1, his proof of residence was No. 1, his patent was No. 1, recorded on page No. 1 of book No. 1 of the Land Office of the United States. The Louisiana region which got the first allotment under the homestead act has received a majority of those made under that law to this day. Even in 1902 there were 188,445 entries—original, final and commutation—representing probably something like 500,000 persons, under the homestead act, and covering 19,482,000 acres. This represented an area slightly larger than the land surface of South Carolina, and a population in excess of that of Rhode Island, Oregon, New Hampshire, South Dakota, or any one of fourteen other States and Territories. It was a single year's work—the greater part of it performed between the Mississippi and the Rockies—of that piece of legislation.

The homestead and other land laws, with a liberality unknown anywhere else, have helped to attract an immigration unexampled in the world's annals. Of the 21,000,000 souls which other countries have added to the population of the United States since 1821, 5,000,000 came in the forty-one years ending with 1862, the year in which President Lincoln placed his signature to the free-homes law, and 16,000,000 have come since.

In the distances covered, the physical



THE PRODUCTS OF THE LOUISIANA PURCHASE AND OF THE UNITED STATES

THE LOUISIANA PURCHASE IN 1900:		THE UNITED STATES IN 1900:	
Wheat	263,560,935 bushels	Wheat	\$22,220,505 bushels
Corn	1,011,932,967 "	Corn	2,105,102,516 "
Oats	70,307,486 "	Oats	809,125,989 "
Farm Animals, valued at	\$25,000,000	Farm Animals, valued at	\$2,212,756,578
Copper, Montana alone	113,558 tons	Copper	268,757 tons

obstacles overcome and the immense numbers of persons involved, this 16,000,000 migration into the United States since the enactment of the homestead law makes all previous incursions—the transfer of the Jutes, the Saxons and the Angles to England, the invasion and occupation of Italy, France, Spain and other parts of the old Roman empire shortly before that age by the Goths, the Vandals, the Franks, the Lombards, and the other tribes from the east of the Rhine, and all the rest of the great race invasions of history—look small. And what was deemed to be a calamity in those cases has been a blessing in ours.

In the old Louisiana province there is the greatest number of languages heard anywhere in the world. Out of the 575,000 inhabitants of St. Louis in 1900, Germany contributed 59,000, and almost all the rest of the countries furnished some. In the same year thirty-five per cent. of North Dakota's population, twenty-nine per cent. of Minnesota's, twenty-seven per cent. of Montana's and twenty-two per cent. of South Dakota's were natives of other countries. Almost every race and tongue under the sun are represented in this inpouring of humanity. Yet that seemingly unassimilable mass, which in some localities is deemed to be a serious menace to the country's welfare, is quickly assimilated when it passes west of the Mississippi. There is room enough there for all comers. An equality of opportunity is offered to them all. All soon become good Americans and are absorbed into the citizenship of the nation.

Nearly all those States offer especial social attractions for settlers. In many of them the ballot is granted after a declaration of intention to become a citizen. In most of them only six months' residence is required for voters. Wyoming allows women to vote on an absolute equality with men. It was the pioneer in this innovation, beginning it in 1870, in that community's territorial days. Its Legislature has just passed a resolution that equal suffrage has raised the standard of candidates, has made elections more orderly, has improved the character of legislators and legislation, and has developed womanhood into a broader usefulness. This example has been followed by that other Louisiana State, Colorado, and later by Utah and Idaho, outside that locality.

The coeducation of the sexes, which began in Oberlin, Ohio, seventy years ago, is losing some of its friends farther east, but its vogue is increasing west of the big river. In that locality is found the broadest democracy, the fullest liberty, equality and fraternity that the world has seen.

To the sum of the influences which have built up the West the railroads have made a large contribution. That system which had its beginning for the trans-Mississippi region when Mayor Luther M. Kennett, of St. Louis, on the Fourth of July, 1850, broke ground for the line which became the Missouri Pacific, had grown into a total of 56,000 miles of main track for the States and Territories of the Louisiana region at the end of 1902—more than one-quarter of the mileage in the whole United States. The Jefferson tract has at this moment forty per cent. more railway mileage than the entire country had when the rails of Oakes Ames's and C. P. Huntington's Pacific railways met at Promontory Point, in Utah, in 1869, and it has seventy per cent. as much as the whole country had in 1883 when Henry Villard, fifty miles west of Helena, Mont., drove the spike which completed the Northern Pacific, the second of the United States' great transcontinental lines. The railroads have bridged the West's magnificent distances, have abolished the wilderness, have swept Pike's and Long's "Great American Desert" from the map, have brought Cheyenne nearer to New York than Washington was in Jefferson's days and have thrown the valleys of the Columbia and the Sacramento into the circle of the world's interests and activities.

The wild populists of the prairies are as dead as William Wirt's Anti-Masonic Party or John Randolph's Quids. Instead of coupling Wall Street with Lombard Street as enemies of the human race, as they did until recently, Kansas and Nebraska, with their farm mortgages paid, are lending money to Wall Street. The great West, especially Jefferson's section of it, is busy, prosperous, exultant. The country's centre of political gravity is following the westward swing of its great productive forces. Excepting Grover Cleveland, every President—Lincoln Grant, Hayes, Garfield, Harrison and McKinley—who has been elected since Buchanan has come from the Mississippi Valley. In the same period four of the speakers of the

popular branch of Congress—Colfax, Kerr, Keifer and Henderson—have been men from the same region. With the East hostile, as a rule, and the locality between the Alleghanies and the Mississippi indifferent, it was the trans-Mississippi region which dictated President McKinley's Philippine retention policy in 1898. The same locality in 1902, through the State conventions in Kansas, Missouri, Iowa, Minnesota, Colorado, Montana, Texas, Utah, Idaho, Washington and California, have led in putting President Roosevelt forward for the presidency for 1904, compelling many of the States east of the Mississippi to fall into line in his support. It was the region west of the Mississippi that saved the Republican Party from defeat in the Congressional elections in 1902. The same locality forced the passage of the Panama Canal bill, which will change trade channels in the Mississippi Valley into a north-and-south direction from the east-and-west course to and from the Atlantic coast which they have followed hitherto. It was the trans-Mississippi country, particularly the Louisiana part of it, which put the national irrigation act through Congress in 1902, which is expected to divert eventually to that

locality much of the stream of American emigration that is now crossing the border into Canada.

The star of empire still moves westward. Sixty years ago Benton declared that the 2,000 settlers then starting from Missouri's frontier for the Pacific coast would open for us the "North American road to India," which he said lay "through the South Pass and the mouth of the Oregon (Columbia)." Two other avenues of access to Asia have been opened since—one by Puget Sound, which was only a geographical expression when Benton spoke, and the other by the Golden Gate, which then was not even a name. All three, fronting on Asia, the densest populated area on the globe, will build seaports from San Diego to Seattle, and will swing the centre of the country's population, activities and wealth far into the broad Louisiana region.

All these achievements and the settlement of this vast area by the most efficient population in the world were rendered inevitable when Napoleon and Jefferson, by the annexation of Louisiana in 1803, placed the American republic on the roll of the world's great powers.

TEACHING FARMERS' CHILDREN ON THE GROUND

THE BEST AMERICAN AND EUROPEAN MODELS UNITED IN THE COMPREHENSIVE REFORM OF CANADIAN COUNTRY SCHOOLS—AN OBJECT LESSON FOR THE WORLD PLANNED BY A MAN WHO HAS BROUGHT SCIENTIFIC RESEARCH HOME TO FARMERS AND TEACHERS

BY

GEORGE ILES

IT is ten o'clock on a winter morning as we enter the school at Cloverdale, a little village forty miles from Montreal. In the porch, thinly built and draughty, we stamp the snow from our boots, and in a moment find ourselves in the one large room of the building. The box-stove, crammed with maple, murmurs in tune with the keen wind outside; it is well that double windows stand between us and the external tempera-

ture of eight below zero. The teacher who greets us is just such a young woman of decided intelligence as one sees in a good city school, well bred and well trained. Her pupils are strangely contrasted with those of the schoolrooms of Montreal or New York. Here are twenty-three boys and girls all the way from five to sixteen years of age. In fine weather, the teacher tells us, children as young as four are brought to school, simply

as onlookers, and to be kept from bothering their mothers at home. With versatility worthy of all admiration the teacher passes from task to task. Now she instructs a tot of five as to the differences betwixt C and D, and then explains to that child's eldest sister a problem in the rule of three. In hardly a single study are more than two or three pupils abreast of one another; it must be that the emulation, the helpful companionship in lessons, so common in large graded schools, is here unknown. And let it be remembered that this Cloverdale school, small as it is, has quite as many scholars as the average country school either in Canada or in the United States.

In the State of New York the rural population is, for America, comparatively dense, and yet in 1901 her rural schools had each on an average only twenty-seven pupils; in each of as many as 3,628 of these schools, one-third of the whole, there were but ten pupils or fewer. Such figures display in striking fashion the first evil of rural education whether north or south of the Canadian frontier. The plain remedy is the consolidation of small into large schools, with the transportation of pupils in vans at the expense of the community. This plan originated in Kingsville Township, Ohio, in 1892, and is now legalized for any community in that State desirous of its adoption. Particularly noteworthy is its success in Gustavus Township, where nine little schools have been absorbed in one handsome central school. Instead of nine teachers giving instruction to nine petty groups of children, each one of a staff of five teachers devotes her whole time to courses as well graded as those of a city school. When a score or more in a class of grammar or geography are questioning, answering, reciting in one another's hearing, they learn much that they would otherwise miss. In the Gustavus school the attendance is now ninety per cent. of the enrolment; contrast this with an average of but fifty-seven per cent. in 1891 in the rural schools of Wisconsin and with fifty-five per cent. today in those of Nova Scotia. When pupils are called for in comfortable vans, especially in bad weather, they rarely excuse themselves except when they are ill. The boys and girls thus go to school oftener in the year, and they remain at school for more years than did their less fortunate predecessors. And

how about cost? In Wisconsin, where consolidation has been widely adopted, in not a single case is the new expense as much as that of maintaining the isolated and superseded schools. No wonder that twenty States of the Union have introduced this method of bettering their rural education.

But there is more the matter with the ordinary country school than its smallness of scale. At Cloverdale, for example, ask how the fathers of the pupils earn their bread. You will hear that most of them are farmers raising barley, oats and hay; some of them have herds of cows whose milk is sold to the neighboring cheese factory. One man has become well-to-do through his apple orchard, which sends every October a goodly harvest to the Montreal market. Yet that these children come from homes where the livelihood is earned out of the ground is ignored in the lessons. The instruction as far as it goes is good: its staple is reading, writing and arithmetic, with a little grammar, geography and history. This is all. It might do well enough if the boys and girls were all going to be clerks or traders; or if, in the fulness of their ambition, they were to strike out for professional careers. But of sowing and reaping there is never a word; nothing about the planting and tending of trees, the production of milk, butter and cheese. Never, even remotely, does a lesson touch on building or drainage, on the composition of foods or the chemistry of fuel, or light up for so much as a moment the drama of struggle and survival of which every clover patch is a theatre. It is well that children should learn at school useful lessons they can learn nowhere else, but should not the children of the farm be led to see somewhat of the inexhaustible scope for brains which offers itself to the farmer? The fact is, that rural instruction has been largely devised in cities with a view to city conditions. And the courses in city schools are faulty enough, ridden as they are by clerkly traditions which permit the word to usurp the place of the act, instead of being merely its symbol and aid. The second evil in rural education throughout America is the stress laid upon verbal studies, the blinking the actual world of duty and joy for which country children should be informed and trained.

All this has for years pressed itself upon the minds of educators, and notable efforts

here and there are afoot in the field of reform. What makes the situation in Canada of particular interest is that there a scheme of betterment is planned to cover every part of rural education and is sketched upon a scale intended to become national in area. This movement is headed by Professor J. W. Robertson, of Ottawa, Ont., who has for thirteen years been Commissioner of Dairying and for eight years Commissioner of Agriculture for the Dominion. In these capacities he has been by far the most intelligent and effective instructor that rural Canada has ever had. He and his staff, year by year, have taught scientific dairying in the hamlets, villages and towns of Canada. In 1886, when he became professor of dairying at the Ontario Agricultural College, the Dominion exported butter and cheese worth \$7,500,000; in 1902 these exports had risen to \$25,000,000. His thorough acquaintance with the country schools in every province of Canada convinced him that they urgently needed reform. It was necessary that he should have the coöperation of a man of wealth, of broad intelligence and the utmost public spirit; this coöperation he enjoys from Sir William Macdonald, of Montreal, who at an outlay of \$3,000,000 has given to McGill University technological departments as excellent as any in the world.

The programme of reform is to take effect next September, and will begin with consolidation as exemplified in Gustavus Township, Ohio. In each of the old provinces of Canada, Prince Edward Island, Nova Scotia, New Brunswick, Quebec and Ontario will arise a Macdonald Consolidated Rural School. The initial cost of the school, fully appointed, will be met by the Macdonald fund; for three years the same fund will meet the expenses of maintenance and of conveyance beyond the present cost of the little schools to be superseded. In every respect these new schools are intended to be the best of their kind in the world, and are from first to last to be managed by the usually elected school boards of their districts. In each of these same provinces is to be chosen a neighborhood containing five or six rural schools; over each of these groups is to be placed a traveling instructor. Two teachers of proved ability from each province, with a man to spare, eleven in all, are now being trained to take charge of these consolidated schools and the

five groups of scattered schools. They began with special courses at the University of Chicago, studying plants, their growth and evolution; at the Agricultural College, Cornell University, they took courses in agriculture, horticulture, dairy husbandry, economic entomology and agricultural chemistry. At the Teachers' College, Columbia University, they studied physiology and elementary physics and heard special lectures on the art of teaching. What are the courses these men are to conduct at home? Nature-study is to be central, with manual training and household science as of equal importance. A garden will surround every school as its appropriate setting. In addition, on plots ten feet square will be planted wheat, potatoes, clover and corn. On patches side by side wheat will be sown from seed selected and unselected. In 1899 Canadian schoolchildren on farms from Prince Edward Island to British Columbia began sowing oats and wheat from selected seed; in three years the gain was twenty-seven per cent. in the weight of oats and twenty-eight per cent. in the weight of spring wheat, the successful competitors receiving \$10,000 in prizes from the Macdonald fund. The prize-winners have formed Seed Grain Associations to raise and supply selected seed of prime quality. This enterprise promises as great profit in the grain fields as the application of the same principles have earned in rearing thoroughbred horses and cattle.

Every child at a Macdonald school is to have an outdoor slate on the soil to put living things on to be rubbed out. The successive phases of sprouting, the dip and spread of rootlets, are to be observed day by day, described in writing and illustrated with the pencil. How varieties of soil and of soil enrichment affect a growing crop is to be fully noted. There is to be close observation of the insects which visit plants either as friends or foes. That the rotation of crops is gainful has been the A B C of agricultural science for many years; yet intelligent rotation is much less practiced than it should be. When wheat follows clover it yields from four to six bushels more to the acre than when it follows wheat and finds the soil partly exhausted of wheat-food. Plots are to be cropped in series of four: the first in cereals, as wheat; the second in clover; the third in pasture; the fourth in cultivated

crops, as potatoes or Indian corn. It will be shown that rotation adds at least one-fourth to the gross return of the soil, a lesson not likely to be forgotten when a boy leaves school to cultivate a farm as profitably as he can. The winter lessons will include the chemical side of agriculture, with simple and varied experiments. The year round there will be manual training and courses in household science.

Both boys and girls will thus be put in full possession of themselves; their hands and eyes, their reason, judgment and imagination will have a chance as well as their memory for rules and definitions. The boys will be taught drawing, the use of the carving-tool, the plane, the saw. Girls will be instructed in sewing and cooking, in the elements of housekeeping. At every point the school will be dovetailed into the home, the farm, the workshop, the smithy, the dairy. Let it not be supposed that the farm fence is to bound the horizon of the school or that books are to be neglected. The study of botany will be all the better relished for proceeding upon the observation of growing plants, the care of shrub and tree. The lessons of geography will begin at home, but are not to stay there; the forces which have molded its river-basin or hillside will be explained; then by easy transitions will be studied the causes which have indented so deeply the shores of the Atlantic and hollowed out the chain of great lakes from Port Arthur to the sea. Whatever the theme, it will be plainly shown that much remains unknown, that research and experiment have mighty conquests before them, that knowledge is not dead, or nature a finished thing. So far from culture being ignored, such a scheme as this gives culture a solid basis by developing the rich meaning of homely tasks and homely scenes, and then proceeding from the here and now to the full circle of all that has ever been done or remains to do. And literature will not be neglected: enough good reading will be included in the courses to whet the appetite for more.

The scheme happily begins with prepared ground. Nova Scotia already has nature-study in her schools. Ontario, the most populous and wealthy of the provinces, has at Guelph, forty miles west of Toronto, an Agricultural College of the first rank. Con-

nected with this college is rising a Macdonald Institute for Teachers, to serve also as a residence for women teachers, which will cost \$175,000. It will be opened next September and is planned to bring the Agricultural College into close touch with the teachers of rural schools. These teachers will receive short courses in nature-study and domestic economy. No fees will be charged: scholarships with allowances for traveling expenses will be offered. The plant-houses will afford material for nature-study the year round. Nova Scotia is following the example of Ontario and is building an Agricultural College to be effectively partnered with her rural schools. New Brunswick is planning to follow suit; and so is Manitoba, the prairie province, destined, as she is, to attract a vast immigration in the years of the near future. In the normal schools of the Dominion, with aid from the Macdonald fund, manual training is universal; at the cost of the local authorities, domestic science and nature-study are included in the courses of most of these schools and during this year will be extended to the remainder.

Canada within the past six years has made strides in agriculture and industry so amazing as to awaken her people to new hope. They see that their new gains are largely due to bettered education, and they are thoroughly alive to the augmented power still better education stands ready to bestow. Sir William Macdonald's aid extends for three years; at the end of that time it will be for local boards of education and provincial authorities to say whether the new instruction shall be continued and extended or whether there shall be return to the old ways. Three years ago Professor Robertson and Sir William Macdonald joined hands to introduce manual training in the schools of twenty-one Canadian towns and cities. This year eight thousand boys and several hundred teachers are receiving this training. After next June aid from the Macdonald fund will cease. In every case the public authorities concerned have seen to it that the courses shall be maintained. Even more gratifying is the fact that manual training has been adopted by the public schools in twenty other places, the only aid from the Macdonald fund being that it trained the teachers required. Thus has a past master in the art of large giving swept the whole round of education; brought

a university to the foremost rank in applied science and original research; enriched the schools of towns and cities with manual training of the best type; turned to the long-neglected children in the country, and put within their reach the best knowledge and skill, that their lives may have a new prosperity and joy.

American educators will watch with keen interest this work of their friends and neighbors of the North. There has never been in the Union a project of educational reform so inclusive and thoroughly thought out as that now taking form under the guidance of Professor Robertson. The consolidation of country schools is an old story all the way from Massachusetts to Iowa; nature-study has for years been pursued in many hundreds of our rural schools; in not a few States manual training was introduced long ago; and in thousands of girls' classes instruction in household work is part of a well-tested course. Wisconsin, in 1901, offered to pay half the expenses of County Agricultural Schools, the other half to be borne by each county. Marathon County has accordingly established such a school at Wausau, and Dunn County at Menomonie, with generous aid from the Honorable J. H. Stout. But it has remained for Canada to combine as a whole, harmonious and complete, on lines to include a whole people, nature-study, manual training and household science, with consolidation as its basis. Never before has individual enterprise been bold enough to plan a reform in the instruction of a great commonwealth, and pave the way to success by a generous and shrewd appeal to local pride and public spirit.

The work of the man who has devised this remarkable plan is interesting. In 1902 the food products from farms exported from Canada exceeded \$80,000,000 in value as against \$39,000,000 in 1896. This remarkable showing is chiefly due to advances in education and organization among the farmers, who in turn owe much to Professor Robertson. He was born in Scotland in 1857, came, with his parents, to Canada in 1875, engaged with his father in farming, took up the dairy business, and succeeded so well at it that in 1886 he was appointed Professor of Dairying at the Ontario College of Agriculture at Guelph. In 1890 the Dominion Government, of which Sir John

Macdonald was the head, saw the growing importance of the dairying industry and instituted at Ottawa, the Federal capital, the new office of Dairy Commissioner for Canada with Professor Robertson in charge. Then began a series of labors under his direction as noteworthy as any in the annals of applied science.

From the first Professor Robertson has maintained that grain, fodder and hay, when sold by the farmer, carry away vastly more of the accumulated fertility of his land than when these are worked up into dairy products with the aid of brains and common sense. Five pounds of cheese sell for as much as a bushel of wheat and remove from the land scarcely a tithe as much of its plant-food. One hundred dollars' worth of butter bears off from the soil less of its valuable elements than five cents' worth of hay. To an important extent the same is true in rearing pigs and poultry for the market, and here he is never tired of repeating that what may be saved by wise economy may be far exceeded by commanding the highest prices in producing the first qualities. The best brands of bacon, the best chickens, bring prices so much higher than second best that to aim at anything else is to waste time. In plainly worded and illustrated pamphlets he has sent information broadcast regarding the best strains of pigs, sorts of feed, pens and treatment. The result is most gratifying: six years ago Canada exported in hams, bacon and pork \$4,500,000 worth; last year the figures were \$12,500,000. Nearly treble is a good increase, but twelve times is still better, and that is the rate at which the poultry exports advanced from 1896 to 1902. At Government stations the best strains of chickens have been ascertained as well as the best modes of artificial hatching, rearing, fattening, killing, plucking, shaping and shipping. That fattening pays handsomely came out in experiments at Professor Robertson's own poultry-yard. He says: "I had more cold meat for the table from one fattened chicken than from three chickens unfattened. The cost of feed consumed was six and three-fourth cents per pound of increase in weight." The usual object-lesson is afforded at chicken-fattening stations where the best practice is illustrated and the fattened fowls sent to market.

Cheese-making on factory principles in

1891 was fairly well-established throughout Canada; all that was needed was improvement in details and extension into new territory. But cheese-making is an industry for summer only; why not go into the business of butter-making in winter? In their past practice the farmers had been feeding their cows all winter and getting nothing back, because the cows were dry from November. But to command an enlarged butter market it was imperative to make a better article than the brands commonly produced. Accordingly the art of butter-making in factories in winter was taught with experimental illustrations; the object-lessons were given on a commercial scale. The importance of the utmost cleanliness, of maintaining right temperatures, was insisted upon; then lessons were given in packing and in ensuring against the surface mold which deducts dollars from the market price of a package. Illustration Dairy Stations were established for summer use, always with a view to extend coöperative methods. None were more successful than those of Prince Edward Island. In that smallest of the provinces Professor Robertson,

on behalf of the Dominion Government, established in 1892 a round of cheese factories and creameries where butter and cheese were made and marketed as from Government dairies. Five years afterward the Government withdrew, the business having no further need of its fostering care. In 1901 the Island had forty-seven factories, which turned out butter and cheese worth \$566,824; contrast these figures with those of ten years before, when four factories had an output of \$8,448 worth of cheese and no butter at all. The local government now employs for the Island a traveling instructor in butter- and cheese-making, who visits all the factories frequently and regularly so as to maintain and advance their standards of production. Experiments at other Government dairy stations had proved that when cheese is cured at temperatures not higher than sixty degrees Fahrenheit there is less shrinkage, and its flavor is bettered so much that a cent a pound is added to the market value. The dairy products exported from Canada last year were worth three and a half times as much as in 1886.

THE NAVAL STRENGTH OF THE POWERS

THE ADVANCES IN A SINGLE YEAR BY THE LEADING WORLD POWERS TOWARD SUPERIOR NAVAL EQUIPMENT AND EFFICIENCY

BY

ALBERT GLEAVES

LIUTENANT-COMMANDER U. S. N.

IN the examination of the recent Naval Budgets of the Continental Powers there is food for much reflection. The English estimates for the ensuing year are \$172,000,000 as opposed to the current appropriation of \$156,000,000. This is to go to the completion of six battle-ships, eleven armored cruisers and eighteen minor vessels, and to the commencement of three battle-ships, four first-class cruisers and three third-class armored cruisers, four scouts, fifteen destroyers and ten submarines, and to the maintenance of 122,500 officers and men.

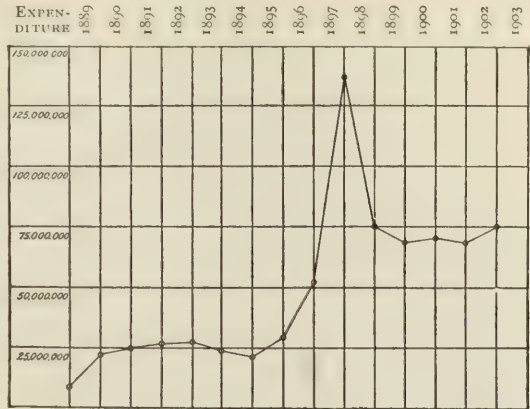
Germany's appropriation contemplates the

construction of two battle-ships, one armored cruiser, two small cruisers and four minor vessels. The building programme of the other powers is not announced. Comparative figures for 1903 are as follows:

	Appropriation for Shipbuilding and Armament	Increase in Armored Tonnage for 1903-'04	Personnel 1903
England	\$86,750,000	111,800	118,625
United States	46,345,632	60,000	28,000
France	30,312,967	54,781	45,326
Germany	?	66,000	35,685
Russia	20,224,841	67,500	39,306
Italy	5,085,307	63,125	22,335

England's extraordinary expenditure is necessitated by her policy of maintaining a two-Power standard—the United States not being considered a possible enemy. Germany longing for commercial supremacy, France watching the Far East, and Russia still cherishing her hope of centuries for a winter port either in the waters of southern Europe or in the Persian Gulf, are all steadily expanding their fleets in proportion to their needs and ambitions. The United States, although isolated by two oceans from Cabinet discussions of the Old World, is not unmindful of the obligations of the Monroe Doctrine and the possibilities arising from the Panama Canal, and is therefore not inclined to lag in this competition of naval armaments; this is shown by the recent appropriation of \$80,000,000 and the authorization of five battle-ships. The suggestion of the General Board to adopt a continuous building programme, coupled with the proposition to add yearly to our fleet four battle-ships and two armored cruisers, with a proportional number of smaller vessels. until our fleet numbers forty-eight battle-ships, is a wise policy which perhaps had its origin in the definite and systematic plan of the German Navy Bill of 1899, which, as amended in June, 1900, is to raise the German fleet to the establishment

THE ACTUAL EXPENDITURE UPON THE UNITED STATES NAVY FOR FIFTEEN YEARS



of thirty-eight battle-ships, fourteen large cruisers and thirty-eight small cruisers.

It is difficult to arrive at a comparative strength of the various fleets, as the usual methods of comparison are indeterminate and misleading. For instance, if the base of comparison be tonnage, the list of sea Powers in order of strength will be England, France, Russia, United States, Germany, Italy and Japan. If, on the other hand, it be tons of displacement per mile of sea coast, the order will be entirely changed as follows: Germany, Italy, France, Japan, England, Russia and the United States.

THE INCREASE IN ARMORED TONNAGE AND PERSONNEL OF THE PRINCIPAL NAVIES FOR 1902-03, ALSO THE TOTAL NAVAL ESTIMATES FOR 1903-04

Dotted lines—Personnel. Full lines—Tonnage. Broken lines—Estimates.

UNITED STATES	Personnel.....	3,000
	Tonnage.....	60,000 _____
	Total Appropriation, \$72,500,000	-----
ENGLAND	Personnel.....	3,750
	Tonnage.....	111,800 _____
	Total Appropriation, \$172,000,000	-----
RUSSIA	Tonnage.....	67,500 _____
	Total Appropriation,	\$51,000 ----
GERMANY	Personnel.....	2,800
	Tonnage.....	66,000 _____
	Total Appropriation,	\$55,000,000 -----
ITALY	Tonnage.....	63,125 _____
	Total Appropriation,	\$36,000 ----
FRANCE	Personnel.....	1,100
	Tonnage.....	54,781 _____
	Total Appropriation,	\$60,000,000 -----

TRANSPORTING NEW YORK'S MILLIONS

MORE PASSENGERS CARRIED ON THE STREET RAILWAYS IN NEW YORK CITY THAN ON ALL THE OTHER RAILROADS IN THE WESTERN HEMISPHERE—THE MOST DIFFICULT TRANSIT PROBLEM IN THE WORLD—HOW PUBLIC AND PRIVATE ENTERPRISE ARE ENABLING NEW YORKERS TO DEVOTE MANHATTAN ISLAND ALMOST SOLELY TO BUSINESS

BY

W. W. WHEATLY

Illustrated from photographs by A. Hedley and A. R. Dugmore

WHILE New York with all its boroughs is one city, it is with equal truth more than one city. It is in reality an aggregation of cities. Manhattan is the great business and social centre, but clustered around it is a chain of populous communities each a city in itself. A gentleman residing in New Jersey, within forty-five minutes' ride of Manhattan, when told recently that he could scarcely claim to be a New Yorker, replied: "Why not? My business interests are here, and the only thing besides the Hudson River which separates my residence from my business is an imaginary line which for some purposes is of value but for other purposes doesn't count. I'm just as near the business district of Manhattan as the resident of the Bronx or the suburbs of Brooklyn, and when you are counting New Yorkers I want to be counted in."

In any broad view of the metropolitan population there should be included the three New Jersey counties just across the Hudson River, with a population at present of about 900,000. The population of the several boroughs of New York is about 3,632,000, which, with tributary New Jersey added, gives a total metropolitan population at the beginning of 1903 of 4,500,000. The annual average rate of increase is more than 100,000. Within the decade from 1890 to 1900 the increase was 38 per cent., or 3.8 per cent. per annum, and it is unlikely that the next decade will show a greater rate of increase than the past. Assuming the increase for the next decade at the rate of 35 per cent., the estimated population in the year 1913 should be a little more than 6,000,000 people.

Meanwhile New York is growing upward

as well as outward, and facing as it grows the most complicated transit problem in the world. It advanced at first from a four-story to a ten-story city. Its expansion outward toward the suburbs promoted its growth upward in the crowded business district. Long ago it passed the ten-story period and jumped to the fifteen-story and twenty-story type of construction. Now it is entering the thirty-story period. The modern steel building twenty to thirty stories high, and housing thousands in place of hundreds under one roof, has contributed more than any other single cause to the increased concentration of passenger travel to and from the business district. In a recently built twenty-nine-story structure there are 1,125 little boxes called offices. Nearly 6,000 people are employed in this building. It requires twenty trains of six cars each to furnish seating capacity to carry them to their homes. When all of them turn out at 5:30 every evening and try to go home at one time, and when hundreds of other buildings disgorge their thousands of homeward-bound workers, all impatient to secure a seat or a strap, the concentration of people in the trains and cars is like the packing of sardines in a box. If the upward growth continues, the concentration during business hours will become a problem of the utmost gravity; indeed, as a noted transportation expert recently called it, "colossal." Said he:

"The thing above all others which impresses me is the striking fact that the surface and elevated roads of New York carry twice as many people every year as all the steam railroads of the United States combined. Also that the yearly travel on the New York roads more than equals all the steam railroads of

North and South America combined. I do not wonder that your people say they have a serious and complicated traffic problem to solve."

When asked if, after studying the conditions, he could suggest a solution, he said, with a gesture of impatience:

"There is no solution—at least, not at present. You may think next year that you have solved it, but your passenger travel is increasing so rapidly that it will not stay solved. The same old problem in one form or another will present itself each succeeding year for many years. The greatest difficulty is that there is a limit to the number of lines which can be placed within the limited area of the lower end of Manhattan Island, and sometime during the next generation that limit will be reached. You should have a board of transportation experts, composed of three engineers and two practical transportation men, to prepare a comprehensive plan of transit development which can be worked out gradually as the city may require.

New York has fallen several years behind her transportation needs, and no improvement can be made without municipal coöperation with the transportation companies. Other cities also have permitted their transportation facilities practically to stand still while the population outgrew them. There is no large city in which the facilities of rush-hour transportation have kept pace with the requirements. The problem in all these cities is similar, but not equal in difficulty, to that of New York. In New York it is absolutely unique. Situated like a feudal castle surrounded by a moat spanned by a single bridge, Manhattan forces those living to the east and west literally to fight their way over the barriers. All day the business district surges with tidal waves of traffic. In the homeward-rush hour its force becomes almost irresistible. Notwithstanding the steady expansion of the city outward and upward, few people remember that the street facilities remain the same. A twenty- or a thirty-story city demands something more than a one-story street. It also requires more and better transportation lines than the four-story city of ten to twenty years ago.

The time is not far distant when Manhattan Island must be devoted to business alone. The insufficiency of its narrow area to provide room for residences for its business population

will eventually drive the people across the rivers in search of homes. Country residences, now the luxury of the rich, will become the privilege of the poor. City homes are now considered desirable for not more than six or seven months in the year. For this reason the apartment hotel is becoming the temporary residence of those who live part of the year in the country. The number of private dwellings now being erected in Manhattan is only one-fifth as large as ten years ago, and their average cost in the same time has increased fourfold. In 1892 the number of private dwellings built was 710, at an average cost of \$17,500. In 1901 it had dwindled to ninety-seven, at an average cost of \$59,800. In 1902 the number erected was 144, at an average cost of \$78,000. The devotion of larger areas to railroad, bridge and tunnel terminals, to parks, public institutions and apartment hotels, and the constant overflow of the business districts into the residential districts, make it reasonably certain that the time is near when only the very rich can afford private dwellings in the city proper. The construction of sixty huge apartment hotels at a cost of \$750,000 each in 1902 indicates the direction in which the residential section is being transformed.

At the present time the number of passengers handled on the surface and elevated lines of the metropolitan territory amounts to about 1,350,000,000 a year, an increase within ten years of more than 100 per cent. The increase of passenger travel as compared with the increase of population is at the rate of almost three to one, and such has been the experience in nearly all large cities. In Manhattan, Richmond and the Bronx 2,500,000 passengers are handled daily, about 1,200,000 in Brooklyn and Queens, and about 400,000 on the local lines just over the river in New Jersey, making a total of more than 4,000,000 daily riders. In the year 1860, the number of rides per capita of population on Manhattan Island was 47; in 1870 it was 118, in 1880 it was 182, in 1890 it was 283, in 1900 it was 388, and for 1903 it is estimated at 415. These figures reflect not only the growth of Manhattan, but also of the surrounding territory. The distribution of the daily travel between the elevated and surface lines of Manhattan is indicated by the figures furnished for the six working days of the week ending December 13, 1902, in which the

elevated system averaged 749,172 and the surface lines 1,519,608, making a total of 2,268,780 passengers daily. These figures are often exceeded. For instance, on the first day of the Dewey celebration in September, 1899, the elevated carried 805,000 and on the second day 836,000, and on Monday, December 22, 1902, it carried 931,000 passengers; and on Monday, December 17, 1902, the surface lines carried 1,625,127. Seventy-five per cent. of the surface traffic and all of the elevated traffic is north-and-south traffic, and only twenty-five per cent. of the surface traffic is handled on the east-and-west lines.

The map of Manhattan Island shows the marked peculiarities which shape the traffic situation and account for the tremendous condensation within a narrow area. It is like a triangle, with its base resting at the north on the Harlem River and its southern apex eight to thirteen miles distant at the Battery. The rivers have heretofore proved almost insuperable obstacles to the lateral expansion of the city. The narrowness of the triangle, one-half to two miles between the rivers, has crowded the business district, to which the greater part of the traffic flows, into a very small area. The long lines of traffic coming from the north converge as they approach the business district. Many of them terminate before they reach the City Hall, and the few remaining ones coalesce as they proceed toward the apex of the triangle at the Battery. The great office district and financial centre, located between Canal Street and the Battery, a distance of a little more than a mile, is at the narrowest part of the triangle, and is served by the narrowest of streets and the fewest transportation lines. It is here that the Brooklyn Bridge and most of the great ferry lines of the Hudson and East rivers drop their swarms of passengers on the island, and it is here that the congestion of traffic is most marked. Most of the people coming from over the rivers by the bridge and ferries are compelled to walk to and from their business. The following figures show the volume of the east-and-west (bridge and ferry) traffic for the year 1902:

PASSENGERS CARRIED, YEAR 1902.

East River and Staten Island Ferries, all lines.....	84,500,000
Brooklyn Bridge	109,000,000
Hudson River Ferries, all lines.....	108,500,000
Total.....	302,000,000

It is of considerable interest to know what the daily east-and-west traffic from over the rivers amounts to, and the figures are given below:

AVERAGE DAILY TRAVEL FROM OVER THE RIVERS TOWARD MANHATTAN.

From Long Island and Staten Island by Ferries.....	119,000
From Long Island by Brooklyn Bridge..	150,000
From New Jersey by Ferries.....	150,000
Total.....	419,000

As these figures represent travel one way only, it will be seen that the ferry and bridge lines carry an average of 838,000 passengers to and from Manhattan each working day.

The concrete fact, however, upon which transportation calculations must depend, is the number carried in an hour in one direction. The transportation problem of Manhattan, as of all other large cities, is strictly a rush-hour problem. The morning rush is between 7:30 and 9 o'clock, and the heavy evening rush in the single hour from 5 to 6 o'clock, with the peak of the load from 5:30 to 6 o'clock, when everybody wants to go home at once. The business and shopping district of Manhattan, roughly speaking, may be described as that part of the city between Twenty-third Street and the Battery. To this district the heavy stream of traffic flows in the morning and back again at night. A careful estimate which I have recently made, based upon the most reliable information and figures obtainable from the transportation companies, shows the average volume of traffic leaving this district from 5 to 6 o'clock P. M. to be as follows:

ESTIMATED RUSH-HOUR TRAVEL LEAVING BUSINESS DISTRICT.

To the Northward by all Elevated Lines.....	75,000
To the Northward by all Surface Lines.....	67,000
	142,000 or 56.8%
To Long Island and Staten Island by Ferries.....	31,000
To Long Island by Brook- lyn Bridge.....	33,000
	64,000 or 25.6%
To New Jersey by Ferries ..	32,000
	32,000 or 12.8%
To Local Manhattan (east and west) points, not in- cluded above	12,000
	12,000 or 4.8%
Average Total in Maxi- mum Hour.....	250,000 or 100%

These figures are often exceeded upon special occasions, as, for instance, the Brook-

lyn Bridge has carried more than 42,000 and the Manhattan Elevated more than 90,000 in one hour in one direction. The figures show a conservative daily average at the present time. They show that to carry all these people with an average of 500 persons a train would require 500 trains. To carry them in trolley cars, with an average of fifty persons to each car, would require 5,000 cars. To handle this enormous multitude in an hour by steam and electric roads combined is a feat unparalleled in the history of transportation the world over. The significant feature of the figures is that 56.8 per cent. of this travel goes to the northward, and this fact should be remembered in connection with the creation of the proposed additional transit facilities. The detailed figures, which are not given here, show that the north-and-south travel is divided almost evenly between lines on the east and west sides of the city.

The average traveler has no idea of the variety and extent of the hourly interruptions to traffic of a great city railway. If one could spend a few hours by the side of the manager of one of the great systems, and read the reports of the blockades and delays, seemingly almost beyond human foresight to control, as they are telephoned from over the entire city to central headquarters, he would wonder at the regularity of the service. On the surface lines of Manhattan from December 1 to 18, 1902, inclusive, there was a daily average of twenty-four serious detentions averaging eighteen minutes each. The delays of less than five minutes, of which there were seventy-five daily, are not taken into account. None of the serious delays reported were caused by failures of equipment or power or by anything that could be controlled by the management, but were all caused by street vehicle traffic and other obstructions. On December 27, 1902, in the hour from 11 A. M. to 12 noon, the number of vehicles crossing the surface railway tracks at the triangular street intersections of Broadway, Twenty-third Street and Fifth Avenue, by actual count, was 1,910 vehicles. The interruptions from the unregulated vehicle traffic alone have become so great in New York, Chicago, Boston, Philadelphia and other large cities that the electric surface cars, with a possible speed of twenty to twenty-five miles per hour, are reduced in congested streets to the horse speed of five or six miles an hour. Some

adequate provision should be made for regulation of vehicle traffic. It is probable that in future years the people, in self-defense, will demand that all heavy trucking be taken off Broadway and other congested streets in other cities, and that the receiving and discharging of goods from shops, freight stations, warehouses and stores be conducted so as not to block the sidewalks and not to interfere with passenger movement. The endless procession of vehicles getting in the way of one another and in the way of cars, all moving like a funeral procession, makes it certain that the long-distance rider never patronizes the surface lines from choice, but from necessity. The limitations upon the elevated roads force a considerable portion of the long-haul traffic upon the surface lines, greatly to the discomfort of the people and against the wishes of the railway managers, who have been powerless to prevent it.

The problem of collecting and distributing the enormous passenger traffic of New York has grown vastly more difficult in recent years. There has been some increase in track mileage in the outlying districts, but none of any account in Manhattan within the last decade, in which the passenger travel doubled. The effect of density of population upon railway traffic, while understood in a general way, is seldom considered in comparing the transit facilities of one city with another. The following figures show that unless density of population be considered comparisons are of little value:

POPULATION AND TRAFFIC PER MILE OF TRACK, YEAR 1901.

Surface lines only.	Miles of Track	Pop. per mile of track	Car miles per mile of track	Gross receipts per mile of track
Manhattan	299.62	6,174	197,293	\$65,983
Chicago	518.11	3,927	118,000	25,784
Philadelphia	457.37	2,829	125,676	29,586

The population and traffic density in Manhattan, as will be seen, are far beyond those of any other large city. It is instructive to look back and discover that in Manhattan there have been no really great additions to the transit facilities within the past quarter of a century beyond the building of the Brooklyn Bridge and the elevated roads. With travel increasing 100 per cent. every ten years and no additions to the track mileage worthy of mention, there was bound to come a time when the existing lines, notwithstanding the application of electric traction with

larger cars and longer trains, would reach the limit of their capacity. That time has now arrived. The problem now is not only to make provision for present needs, but for the future. And such a strenuous future it bids fair to be! With a population ten years hence of 6,000,000 and a possible daily passenger travel in the metropolitan district of 8,000,000, it is probable that the number of people seeking exit from the business district between five and six o'clock each evening will be 500,000 instead of half that number as now. To look forward and try to comprehend the significance of an increase of 100 per cent. in passenger movement within the next decade ought to be sufficient inspiration to make New York wake to the situation.

The last few years, however, have been noteworthy for what has been planned. The next five years, in which many of the plans will reach completion, must always be memorable in the transit development of the city. The problems presented a few years ago to the very excellent Board of Rapid Transit Commissioners and the city authorities were:

First. To annihilate the river barriers on the east and west and furnish a more ready means of intercourse between all the boroughs of the greater city as well as with the tributary New Jersey territory and the mainland beyond.

Second. To provide a system of subways and add to the facilities of the existing lines so as to give the greatest possible accommodation to the north-and-south traffic.

Third. To provide suitable terminal arrangements and furnish a means of distributing the passengers brought into Manhattan by the new bridges and tunnels from the east and west, so that the local Manhattan lines, already overcrowded, will not have the burden of distribution.

Fourth. So to arrange the additional transit facilities that the local traffic, with many stops, will not retard the long-haul traffic, with few stops, and that the traffic of one line shall not cross at grade the traffic of another line.

To work out the problems, in addition to what has been done by the Board of Rapid Transit Commissioners and the municipal authorities, private enterprise has planned and is executing works of great magnitude. Greater New York is now on the verge of a gigantic transformation. The plans for addi-

tional transit facilities itemized below call for the expenditure of the almost inconceivable sum of more than \$160,000,000 within the next five or six years.

STATEMENT OF ADDITIONAL TRANSIT FACILITIES AUTHORIZED AND THEIR PROBABLE TRAFFIC CAPACITY IN ONE DIRECTION.

	Hourly capacity, number of passengers.
Manhattan Bridge No. 2, East River, eight tracks	92,600
Williamsburg Bridge No. 3, East River, six tracks	63,800
Blackwell's Island Bridge No. 4, East River, six tracks	63,800
Municipal Rapid Transit Tunnel, East River, two tracks	19,200
Pennsylvania-Long Island R. R. Tunnel, East River, four tracks	38,400
East River Total	277,800
	Hourly capacity, number of passengers.
Pennsylvania-Long Island R. R. Tunnel, Hudson River, two tracks	19,200
New York and New Jersey Tunnel, Hudson River, two tracks	19,200
Hudson River Total	38,400
	Hourly capacity, number of passengers.
Municipal Rapid Transit Subway No. 1, four tracks, south of Forty-second Street	43,000

In addition to the facilities already authorized, there is now before the Rapid Transit Commission from its chief engineer, Mr. Parsons, a proposal to increase the Manhattan elevated railroad facilities by the addition of five new tracks on the several divisions downtown, also a proposal to build Subway No. 2, with two tracks, from a connection with the West Side branch of Subway No. 1 at Forty-second Street, through Broadway, University Place, Wooster and Church Streets, to the Battery; also a proposal that the New York Central remove its present freight tracks from the surface of Tenth and Eleventh Avenues and other streets between Fifty-ninth Street and Houston Street and construct an elevated road along the same route with four tracks, two of which should be for passenger service, and be extended by way of West Street to the Battery. There are also proposals for the construction of an East Side branch of Subway No. 1 running north from Forty-second Street under Lexington Avenue to and beyond the Harlem River, and for other branches connecting the trunk subways at various points.

But the real problem of transit relief relates primarily to the lower end of Manhattan. With the exception of the few bridges and tunnels which deliver the east-and-west



THE MORNING CROWD ON A FERRY-BOAT

travel direct to the business district, it is certain that the swarms of people from the other bridges and tunnels will be thrown upon the local Manhattan lines for distribution. The travel from the Blackwell's Island bridge, the Pennsylvania-Long Island railroad tunnel and the New York and New Jersey tunnel will be dumped upon the south-bound lines in the morning and upon the north-bound lines in the evening at the height of the rush hour.

The electrical development of the Hudson, Harlem and Putnam divisions of the New York Central, and the main line of the New Haven road for a distance of twenty to thirty-five miles to the northward, the building of the new Portchester road, the extension of the elevated and subway routes to various parts of the Bronx and Westchester to the north, will certainly make a great increase in the number of long-distance passengers seeking through train service to and from the business district. According to the plans now before the Rapid Transit Commission, the

increased facilities make a total of nine additional tracks. This does not include the four tracks in Subway No. 7 now nearing completion, which, it is admitted, will be crowded to the maximum limit as soon as operation begins. Accessible data now at hand show that,



WHEN THE CROWD SPREADS OUT INTO THE BUSINESS DISTRICT

Coming down from the Elevated Railroad



CONTRASTS IN STREET-CAR SERVICE

The electric cars rounding "Dead Man's Curve" at Union Square, New York, and the antiquated horse-cars on a crosstown line



LONG LINES OF CARS FORM IN A FEW MINUTES

The only break in stalled cars is at cross streets, where drays and teams crowd through and add to the confusion

assuming high-speed operation, the maximum capacity of Subway No. 1 will probably reach 540 cars an hour in one direction, or perhaps 43,000 passengers, seated and standing. By the time of the completion of the subway, in 1904, the north and south traffic will probably average 160,000 in the rush hour, of which at least one-half will have to stand. The subway, therefore, will be unable to furnish seats for any considerable number of the passengers, and its trains in the rush hour will witness the same scenes of packing and jamming with which New Yorkers are, unfortunately, too familiar, after much unpleasant experience.

If the nine additional tracks proposed by Engineer Parsons were to be completed at the same time as Subway No. 1 in 1904, there would undoubtedly be felt an adequate sense of relief; but they are not yet authorized, and it will require from three to five years for their completion. Within five years it is probable that the present traffic will have increased



CLEARING THE WAY

The indispensable snow-plow and sweeper at work

50 per cent. By that time the new bridges and tunnels to the east and west will have



CARTS HEMMED IN BY THE CARS

The side streets are filled with wagons either getting away from the crowded thoroughfare or held back by the lines of cars

TRANSPORTING NEW YORK'S MILLIONS



A SNOW-STORM—WHEN CROWDS AND DIFFICULTIES INCREASE



A CLOSELY PACKED AFTERNOON CAR

Often both rear and front platforms as well as the standing room inside are crowded full



THE TERMINAL AT BROOKLYN BRIDGE

Where mobs literally fight for conveyance during the rush hours

begun to pour their mighty volume of people upon the north and south lines for distribution, and there will be a continued increase in the demand for north and south transit. For every yearly increase of 100,000 in population there is a corresponding increase of 300,000 in passengers carried. The new facilities will be insufficient to give adequate accommodation. And the direction of the city's future great expansion will depend almost entirely upon the sufficiency of the transit facilities.

The additional bridges and tunnels pointing toward Long Island, already authorized and under construction, will be completed in 1907 or 1908. They provide for thirty tracks where now there are but four—an increase of twenty-six direct rapid transit

highways connecting with Long Island. The maximum carrying capacity of the twenty-six additional tracks in one direction in one hour will be approximately 277,800, and, with the four tracks of the present bridge added, it is 317,800. The present daily travel coming from Long Island to Manhattan is approximately 269,000 passengers. It therefore becomes evident that when there are thirty tracks instead of four connecting Long Island with Manhattan, the entire travel of one day could cross the river with comfort by rail in an hour. When we remember that the twenty-six additional tracks are being provided for a traffic which now averages only 64,000 in the rush hour (or 25 per cent. of the total rush-hour traffic to the business district), and that only four

additional tracks have been actually authorized (and nine proposed) for a traffic which now amounts to 142,000 in the rush hour (or 56 per cent. of the total to the business district), the relative proportions of these provisions appear almost ridiculous. The contrast comes about largely from the fact that a bridge in the open air and light with six or eight tracks has a vastly greater traffic capacity than a dark tunnel underground with two or four tracks. However, it seems

transportation facilities to enable it to enter upon an era of growth and prosperity hitherto little dreamed of.

The present travel coming to Manhattan from New Jersey in one day is approximately 150,000 people, and the same number returning, handled exclusively by the ferries. The travel in one direction at the hour of maximum traffic is about 32,000. The two tunnels between Manhattan and New Jersey will have a maximum



WAITING FOR AN ALREADY CROWDED ELEVATED TRAIN

certain, if the north and south lines of Manhattan are to be always overcrowded, while the transit facilities toward Long Island are to be more than ample, that the population will be forced along these lines of least resistance. Those who have an eye to the future appreciate the fact that, with its cheap suburban homes, Long Island is only awaiting the completion of these splendid

hourly capacity in one direction of 38,400 passengers. These facilities will not compare in magnitude with those toward Long Island. The advantage which suburban Long Island and Brooklyn will enjoy becomes all the more striking. In planning and executing such a splendid system of direct communication with Long Island, the municipal authorities have looked not only



STALLED CARS ON NARROW BROADWAY, NEW YORK
A frequent sight



THE FIFTH AVENUE STAGE
The last of the old stage lines



WHERE THE CROWDS MEET

Those leaving the elevated trains at City Hall, New York, find another mass of people awaiting them, and the two crowds elbow their way through each other within narrow limits

to the present but to the future. They have planned largely and broadly and according to an enlightened policy, and future years will furnish ample testimony to their far-sighted enterprise. Unless all signs of the times are at fault, they distinctly point to an immediate overflow toward Long Island, increasing with the succeeding years, of the hundreds of thousands now unwillingly crowded into the tenements and flat-houses of Manhattan. Peering through the haze of the future, one perceives with uncompromising clearness the vision of a magnificent city on Long Island whose startlingly rapid growth within a few years will overshadow Manhattan and carry

with it the centre of population of Greater New York.

The dispersing of the condensation of resident population from lower Manhattan toward Long Island, New Jersey and the Bronx does not mean that there will be fewer people coming to business in Manhattan. It means that there will be more. The concentration in the business district will continue, and there will be need of still greater transit facilities than any yet planned for Manhattan. The most that can be hoped for is that the concentration in one place will not become materially increased, but that future growth will spread the business district



WHERE FERRIES LAND THE CROWDS FROM THE SUBURBS

Along the West Side water-front



MR. HERBERT H. VREELAND

Photographed at the Burr McIntosh Studio

PRESIDENT OF THE INTERURBAN STREET RAILWAY COMPANY, NEW YORK, WHO, CONSIDERING HIS PROBLEM, HAS BROUGHT STREET RAILWAY TRANSIT TO A REMARKABLY HIGH POINT OF EFFICIENCY

over a larger area. This will afford larger opportunity for additional rapid transit expansion in all directions. If the slow horse-cars, the time-destroying ferry service and the poor suburban car service have confined the population within the limits of a narrow circle, it is certain that real rapid transit with ample accommodations will remove the radius of the circle farther and farther into the country districts. Not the least of the benefits will be that the men with the dinner-pail, as well as the men with the check-book, may enjoy the waving grass, the fruitful orchards, the green hills, the woodland and the shore. Freshened and strengthened by their closer contact with nature, they will come back to

their work each morning to renew the struggle for existence or supremacy in the most intense city in the world. Truly we shall have within a few years a Greater New York—greater in many ways than we could have foreseen twenty years ago, and perhaps the greatest centre of population and commerce the world has ever known. In its transit facilities, unless its citizens blunder fatally, it will progress in unison with its other achievements. Its bridges and tunnels over and under the rivers, and its subways through the solid rock under the city, will be marvels of their kind, not only in their construction, but in their daily operation in moving quickly and safely the increasing millions of population.



THE CROWDED BUSINESS DISTRICT AT WINTER MIDDAY
Broadway, New York, between the Post Office and the old Astor House



BUILDING TOWNS TO ORDER

THE METHODS OF SUBURBAN PROMOTERS—THE AUCTIONEER'S ELOQUENCE, FREE RAILROAD TICKETS, SANDWICHES, AND A BRASS BAND—HOW HOME BUILDING IS REALLY FURTHERED BY ENTERPRISING AND EVEN SENSATIONAL METHODS

BY

HENRY HARRISON LEWIS

Illustrated in part from photographs taken by the author

ONLY the very poor and the very rich are content in these days to have city homes; the middle classes go to the suburbs. And with the modern tendency toward colossal enterprises has arisen from this movement to the country the trade of manufacturing towns "to order." It goes on daily near all our large cities, employing armies of men and millions of dollars. Dissatisfied with cramped apartment houses, thousands of home seekers are spreading out from Boston, New York, Chicago and Philadelphia to find in all directions newly built towns prepared for them by realty companies. Rural surroundings, well-kept streets, green lawns, shade trees, large plots of ground, better air, areas wherein shops are forbidden, are the inducements of the company promoters and agents.

"Brookview!" bawled the brakeman, as the long train slowly came to a stop in front

of the little kiosk-like station. Heads disappeared from the windows and, following a tall man in a frock coat and a silk hat, old



WHERE A TOWN WILL SOON BE BUILT

men, young men, women, children, and even babies crowded upon the station platform.

It was an hour before noon, and the mid-summer heat was oppressive. The only shade visible was a fringe of trees and underbrush a quarter of a mile away. A road, newly macadamized and with the raw earth still apparent at the edges, stretched its ugly length from the station to the leafy fringe. Out in the roadway were half a dozen

that rise of land just this side of the big rock?" he asked. "That's the site of the First Methodist church, and over beyond is the new schoolhouse. The plans are all made, and we expect to begin building next month. See that roof just within the trees ahead of us? That's Colonel William P. Briggs's house. He's the big lawyer in Nassau Street, you know. Going to Congress next year, I hear. Colonel Briggs thinks Brookview the finest suburban



THE SITE OF A BUILT-TO-ORDER TOWN IN NOVEMBER



THE SAME SPOT THE FOLLOWING SUMMER

Taken from a different point of view

stages, each gaily decorated with bunting and bearing long muslin signs reading:

"The Brookview Realty Company. Welcome to Brookview."

One of the stages received the band, and presently the strains of a popular march filled the sultry air.

"This way, friends," shouted the man with the frock coat. But, as there was an overflow, even after the stages were filled to the doors, he and a score of others walked. "See

town within thirty miles of the city. He bought five more lots last week. Going to build on them this spring."

Presently the procession, after passing a number of partly laid out streets, some paved and others merely outlined in the fields, reached the grove. Here were several tents, a large one, open at the sides, showing a number of rows of benches and a tall pulpit. In one of the smaller tents rested a number of mysterious boxes and packages and a quan-

tity of crockery. There were also a few kegs and a huge coffee urn. The crowd, good-natured despite the warm ride, scattered about the grove.

The man in the frock coat, whom several had designated as "the auctioneer," bustled here and there dispensing jokes and gay pleasantries, especially assiduous to the women, in a familiar but respectful way. He knew that the majority of the women were married and held money intended for purchasing. Together with several assistants, he marshaled the crowd and led them into the large tent.



A REMINDER OF A LAND-BOOM WHICH FAILED

"Now, friends," he cried, mopping his perspiring face, "you're all welcome to eat and to drink as much as you please. It doesn't make any difference whether you buy lots or not. There's plenty of everything. The lunch is as free as the beautiful air here in Brookview, and you'll really do us a favor if you'll pitch right in. The day is a trifle warm, but have you noticed how much cooler it is here than in the city?"

He paused impressively. A slight breeze rustled the foliage and set the banners fluttering, but out beyond the shelter of the grove



AN ABANDONED TOWN-SITE

the sun still beat down from a cloudless sky and the newly disturbed earth flanking the rows of macadamized streets was dry and caked with the heat. Still the country was inviting by contrast with the uninteresting, sober city thoroughfares these people had left that morning.

"Now while you are eating," he resumed, "I'll just make a few remarks; then, when you



SIGNS OF STREETS THAT WERE NEVER LAID OUT



VISITORS EXAMINING THE PROPERTY

The road not yet graded

are through, we'll go out and look over the advantages of Brookview as a home."

There were bread and butter, boiled eggs, beans, cold corned beef and thin slices of ham,

possessed a peculiar fascination for the men: the sound of popping corks came from within.

The "few remarks" took the form of a



THE FIRST STEP IN IMPROVEMENT

Grading the road

cheese and crackers, cake, and both tea and coffee. A huge can of milk was served to the children, and ice-cream was passed around in heaping saucers. One of the small tents

realistic description of the property. With a long pointed stick he indicated certain parts upon a large map hanging from a pole near his platform. The audience listened in-



ROADS GRADED AND EVERYTHING IN READINESS FOR BUILDING



THE SITE OF A NEW YORK SUBURBAN TOWN BEFORE IMPROVEMENTS BEGAN

tently. Some of the men took notes of lot numbers.

"I want to tell you a story," he said. "It's about a young fellow who had an ambition to live in his own home. His parents were in fairly moderate circumstances, but they paid

rent from the time they were married and seemed content to spend their days in a stuffy little flat on one of the side streets uptown. The young fellow, their only son, grew up and got married. Before the knot was tied, however, he bought with his savings



THE SAME SPOT WHEN THE TOWN WAS FINISHED



THE REFRESHMENT TENT AT A SALE OF LOTS

a lot in a suburban addition. His parents said he was foolish, but he said he'd risk it.

"Well, he paid fifty dollars down on a twenty-five-foot lot and the realty company built a house for him, embodying all the personal likings and ideas of the young couple. Shortly after he had made his tenth monthly payment of thirty dollars he met with an accident which partially blinded him. As his work was that of a proof-reader on one of the great city dailies, he lost his job and was

compelled to scrape along on what he had laid by. That was five months ago. He still owed something like \$1,400 on his house, with no prospect of paying it. The poor fellow's heart was nearly broken, especially as a baby had come and he did want a home for his family."

The auctioneer pointed with his stick toward a neat little cottage embowered in trees at the edge of the town site.

"Pretty home, isn't it?" he continued,



HOW THE HOME SEEKERS ARE RECEIVED

reflectively. "Any of you, if you owned it, would hate to lose that, eh? Well, the young fellow I have told you about lives there. He didn't lose it. It's his to keep. The Brookview Realty Company released the mortgage. And I want to add right here," raising his voice, "this corporation has got a soul, and it won't see any of its customers suffer."

The band broke into a lively air, the auctioneer smiled benevolently, and, descending from the platform, led the way from the tent. Presently he was asking for bids.

"This elegant piece of property on the corner of Bellville Avenue and Evergreen Street is my first offering," he shouted. "Just look it over. Slopes up from the sidewalk and has all the natural advantages. It's within easy walking distance of the station and fronts Harmony Park—that's the park between the rows of young trees. What am I offered? The lot is a fifty-footer and it's easily worth ten dollars a foot. Now, really I— Hundred, did you say? No, I won't even start— Hundred and fifty! That's better. One hundred and— Make it seventy-five? Thank you."

The bidding soon ran up to two hundred and fifty, and then, after a strenuous effort to increase the price, the lot was sold at that figure. And so it went. Parcel after parcel of land passed under the hammer until at last, when the bidding and even the interest failed, a return was made to the train.

"A fairly good day," remarked the auctioneer to a companion, as he boarded a coach, "ninety-eight lots at an average price of a hundred and ten. A few more sales like this and Brookview will be comfortably started."

As the train steamed away from the lonely little station there was much rustling of maps and careful inspection of deeds upon which the ink was but newly dried. The purchasers of Brookview property seemed happy.

There are few cities of any size in the United States in which such business as this is not carried on. Everybody knows the announcements of suburban additions. But long before the advertising begins which paves the way to the auction sales, shrewd buying must be done and also economical building. Like all successful businesses, suburban developing has its own systematic detail. A capitalist ignorant of the trade could not successfully promote a suburban addition. He might know an ideal location,

but the proper preparation and floating of the enterprise would be foreign to him. The selling of lots comes only after much preliminary work and a large expenditure.

The land is usually a farm or farms or a private estate near the city. The cost depends entirely on the ability of the promoter to drive a sharp bargain or to make his purchases under cover. It is seldom that land is bought directly by the promoter, especially if the selected plot belongs to more than one owner. A small part is bought here under one excuse and there under another. Different men make the bargains under different names, and every effort is put forth to conceal the real reason of the deals. In the case of one town within a few miles of Brooklyn, as in others, negotiations were carried on for half a decade before the entire plot was finally secured.

In another instance, also within a short distance of Brooklyn, the promoters of a new suburban town found themselves balked after securing options on all except two acres of the territory necessary to their plans. The amount of land involved was not large, but it unfortunately happened to occupy a spot directly in the centre of the proposed suburb. It was owned by a man who thought more of his little old ramshackle home than of the money offered for it. The promoters exhausted their ingenuity and then offered a price many times more than the property was worth, but all to no purpose.

In despair the promoters improved the rest of the plot, and altered their plans so as to provide for a wide boulevard through the centre of the two acres directly where the house stood. The thoroughfares were turned over to the city authorities and the disputed land condemned and sold under the usual rules. It cost heavily, however. Several years ago a suburban promoter operating near Philadelphia bought a dozen small farms consisting of about 140 acres, for which he paid a total of \$182,000. He gave \$2,800 toward the construction of an ornamental railroad station, constructed an electric line from the city to his property at a cost of \$66,000, and expended in grading streets, planting trees, etc., about \$60,000. This was an investment of more than \$300,000, and that without a house or a sale to show for it.

After thoroughly completing all preparations, he began to advertise, using the news-

papers to the extent of \$30,000. Prizes were offered in various ways, excursions conducted, and within a year after the completion of the improvements the suburb was a thriving and prosperous town. At the end of the third year the money originally invested had come back, and now, it is said, the promoter has secured a very comfortable profit.

But most important of the methods of promoting suburbs is advertising. It is said that one company which does business in several of the largest cities, and which has an invested capital of more than \$5,000,000, annually spends hundreds of thousands of dollars in "booming" its suburban enterprises. The company has been in business almost twenty years and its policy is to exploit from three to five new towns each year. Its net earnings during its career have approximated at least seven per cent. on its investment. It was this company which originated the "free ticket, free refreshments and free music" excursion which has been so generally adopted.

"More suburban lots," said one promoter, "have been sold on a sandwich and a little poor music than in any other way. Let the people feel that they are getting something for nothing."

The principal feature of suburban town promoting, however, is the building and delivering of a modern home in a modern city on practically what would be one's customary monthly rent. All the advertising of the companies contains the same attractive suggestions: a "beautiful house, superior to any flat, on a lot highly restricted, amidst hundreds of other beautiful homes, built and building," for ten dollars down, "balance to suit your convenience"; "pure and invigorating air, combined with relief from the noise and dirt of the city, which will add years to your life and give your children an opportunity to grow up to be strong and healthy men and women," and all this in "a most healthy locality"; "new public schools, churches of various denominations; the town well sewerred; good water from high surface; restricted property, fully improved, with stone sidewalks, gas and electric light; no assessments," all offered on easy terms, with small cash payments.

This alluring advertisement is based very largely on fact. There are fraudulent schemes, of course, and more than one suburban enter-

prise literally built upon sand, but the majority really possess the advantages offered. For proof one need only pay a visit to the many beautiful and well-populated towns in the suburbs of the large cities. The best promoters make provision for parks, sites for churches, schools, libraries and clubs, and in many instances the realty companies have established funds from which money is appropriated for commendable public enterprises, such as the establishing of volunteer fire companies, or athletic fields. Another inducement to purchasers is the "insuring clause." To every person who will buy a lot and live on it is given an insurance on his life sufficient to meet the remaining cost of the house and land in case of the purchaser's death—a practical assurance that the widow or children will not lose the home. Usually, too, every suburban town promoter has several houses ready for occupancy. These are of various sizes and contain all the modern improvements, such as nickel plumbing, tiled bath-rooms, hardwood floors, gas or electric ranges and steam heat. The prices run from \$1,800 to \$5,000, including the land.

To take an example of a very good house: a plot of land containing a modern built dwelling of from twelve to fourteen rooms can be purchased for \$4,500. That amount of money need not be paid at once, but arrangements can be made approximately as follows:

Cost of house and land, . . .	\$4,500
Cash, first payment [10%]. . .	450
	<hr/>
Balance due	\$4,050

A six per cent. mortgage is taken on this amount, and a stipulated sum, say forty dollars, is paid monthly on both principal and interest, until the total claim is settled. Some companies refund a part of the interest or use it for a specified purpose directly benefiting the holder.

And yet, despite the many apparently successful companies engaged in suburban town developing, there are a number of tracts of land in the vicinity of such cities as New York, Chicago and Boston that did not realize the anticipations of promoters. At least five undoubted failures can be found within a radius of fifteen miles from New York.

In one of these enterprises \$250,000 was sunk. But for every such failure there have been twenty successes. The steady flow of city dwellers countryward is irresistible.

THE BUSINESS "ENGINEER"

THE SCIENTIFIC METHODS OF REORGANIZING INDUSTRIES TO MAKE THEM MOST EFFICIENT—A MANUFACTURER WHO INCREASED HIS BUSINESS BY \$500,000 AND HIS PROFITS BY ONLY \$8 AND WHO WAS TAUGHT BY AN EXPERT HOW TO MAKE MONEY—HOW A PRODUCTION ENGINEER DISCOVERS THE ACCURATE COST OF MANUFACTURING AND MAKES COMPETITION INTELLIGENT

BY

RAYMOND STEVENS

A STRIKING feature of the march of American prosperity since the Spanish war has been the quite modern innovation of reforming business from a rule-of-thumb activity into a science. A manufacturer, for example, who started two years ago along the industrial path which men follow in prosperity—leading often in the end to the disasters of depression—recently found himself compelled to make a thorough reorganization of his business simply because it grew so fast.

"Last year," he said, "I did \$500,000 worth more business than the year before. Everything was booming, prices were holding up, and I felt already rich. And how much do you suppose my profits had really increased? I found at the end of the year—just \$8.08."

"What did you do?" he was asked.

"I stopped guessing about the business," he said. "I called a business 'engineer' to systematize my plant, and now, instead of guessing, I *know*."

If this were true, it merited investigation. One, of course, had heard of business experts and "production engineers"—men credited with having the ability to master quickly the details of any business. Indeed, it was matter of report in a restricted circle that certain great captains of industry—wise in "using men cleverer than themselves," as Mr. Carnegie has put it—had called in experts to introduce better organization and methods than they and their subordinates had worked out—in short, that the economy and efficiency of some of our greatest business enterprises are due to scientific methods applied by outsiders. But exactly how these pioneers of a new profession work out and apply these methods; just how a man who, during one week, had shown an

iron-master how to improve a plant the efficiency of which was the pride of its owner, could next reorganize a paper mill and then turn to systematizing a publishing house, the layman could only wonder dubiously.

An investigation showed the methods. Study of experts at work in eastern cities and in Chicago gave one an illuminating idea of the change in business from the old order to a comparatively exact science: it showed how the business engineer is making the modern business man more efficient.

Experts vary from the man with a new trick in book-keeping or a new way or appliance for filing records to save clerk hire to the production engineer who reorganizes departments, factory processes and the whole accounting system of an industry, welding the three into a compact, efficient unit, like a military battalion. The most interesting and important part of any expert's work, however, is in devising systems and methods of ascertaining the actual cost of production. Of course, the balance of any proper set of books will show the cost of the product of an industry as a whole; and there are various ways of estimating the cost of specific articles or classes of articles. Paper profits are easy to figure, and depend on very obvious large items of expense; actual profits are generally derived from minute savings on small details. What the manufacturer of today wants to know and is willing to pay liberally to get is an actual cost of each thing he makes, not at the end of a year, but while it is in the process of making. Such knowledge is of immense help in cutting down expenses. It also does away with the blind competition that has ruined many business men, for it gives an accurate basis for fixing selling prices.

One of the largest manufacturers of agri-

cultural implements in the country, after years of prosperous business, found increasing competition so keen that his profits disappeared. He called in an expert. "I manufacture," he said, "thirteen different classes of articles such as plows, harrows, cultivators and so on. My price-list shows more than 3,000 finished parts and complete machines. Now I want to know just how much each article costs me to make and just what my profits or losses are every month in each class in each different territory where I sell my goods. My competition varies in different States, and if there is no money to be made in my business or any part of it the sooner I know it the better." The expert spent two weeks examining the plant and watching the processes of the work. Then he devised and installed a system of collecting, just as they actually occurred, all the items of cost on each article. All raw material and factory supplies were kept in stock-rooms and a special stock account was kept. No one could draw material without filling out a card, called a material-requisition card, showing the amount wanted and the particular article or order that it was needed for. Every employee was made a clerk to the extent of keeping a record of his own time, of the work he accomplished, and of the particular order or article he worked on, all set down on a card called a time-card. Each time-card had only one item; if a man worked on four different orders he made out four cards. All these cards were collected daily and arranged by order numbers.

At the completion of any order, the material, requisition and time cards were added. This gave the cost of direct expenses. The indirect expenses, such as general factory supplies, office expenses, labor of foremen or any employees whose work on orders was in so small amounts that it was impracticable to record it, were distributed over each separate order by finding the ratio between the total cost of direct labor for all articles for a payroll period and the total of each different class of indirect expenses for the same period. This was done by departments. For instance, suppose that in a paint-shop this ratio was as 4 to 1, then to the cost of direct labor in the paint-shop for each article 25 per cent. of itself was added. Besides giving the most accurate practical way of distributing indirect expenses, this method shows carefully the

fluctuations of the indirect cost of production where waste is most likely to occur. To find the profits and losses by classes of product and by territory meant the keeping of a separate account for each class in each State.

A monthly balance of the general books and of the cost accounts gave an accurate statement not only of the general condition of the business but of the net earnings for each month. The amount of assets in partly finished product was ascertained without an actual inventory—a difficult and expensive undertaking—by merely deducting from the total of all cost items the cost of all completed work.

It cost nearly \$10,000 a year for the cost-accounting department, but the accurate knowledge acquired put the business on a profitable basis. The results showed several kinds of product that were sold at a loss everywhere. These were immediately discontinued. Some were unprofitable only in certain States where competition was keenest. These articles were no longer sent to such States. The price-list for finished parts had to be completely revised. Not long after the expert had installed this system he was asked to look over the plant of a rival house, but he refused to do so without the first client's consent. "Go ahead," said that gentleman; "I was really at the bottom of their coming to you. They're my worst competitors and I know I can manufacture just as cheaply as they can. They've been cutting into my profits by selling below cost, and I know it and they don't. I want you to show them as much about their costs as you showed me about mine and then we can both make more money."

In carrying out a reorganization of this kind, the first act of an expert is to make an actual study of a plant before forming plans or declaring what he can do. I followed one in a day's examination of a factory the superintendent of which wanted an accurate cost system. He began at the place where the raw material came into the factory and followed each step in the process of production to the shipment of the completed article. A trained eye and a quick tongue rapidly got the important facts in each department.

"What do you do with that scrap?" the expert asked a workman, pointing to a heap of ends and pieces of boards.

"We burn most of it; some of it we can use on small jobs," he replied.

"Could you keep track of the amount you use?"

"Why, yes, if I had to. I can tell pretty nearly the number of feet in a piece by looking at it."

"How would you keep account of that?" the expert asked me.

I confessed I saw no way.

"I will tell you later," he said with a laugh. "It's simple enough when you see it."

A foreman in one room was very sure it was impossible to keep any record of different orders.

"You see," he explained, "the orders come in here all broken up—a few on this and a few on that."

"Yes," said the expert, "but that is just one of the things that will have to be changed."

And so it went from department to department. When we came out he outlined to me even in detail just what he thought could be done.

"That sounds very easy," I said, "but wait and see what the directors say to it."

When he touched on the question of accounting for the waste lumber used on other orders, one director broke in—"I don't see any way to account for that practically."

"It's too small a thing to bother with," said another.

"Nothing's too small to omit if you can do it easily," replied the expert imperturbably. "I think the value of scrap ought to be credited to the cost, and it can be done by simply deducting it from the general expenses of the carpenter room."

And after an hour's discussion and suave, sound arguments a contract for devising and installing the system was signed.

It is the installation of a system that demands tact, patience and personal enthusiasm. Employees are generally averse to changing the methods; and to make any system go needs the active coöperation of all. Continual objections have to be answered and a repetition of explanations made *ad nauseam*.

"I don't like this system at all," said a young woman in an accounting department.

"Why?" asked the expert.

"Because you have to be so awfully accurate," was the reply.

The keeping of stock-rooms and a stock

account makes a monthly balance possible without taking an inventory. Moreover, it affords an easy, almost automatic way of always keeping the proper amount of stock on hand without overstocking. The manager fixes a minimum below which any kind of stock shall not go and a maximum over which it shall not go. The stock-clerk is directed, whenever the balance of the stock-book shows that the minimum is approached, to order enough to bring the amount on hand up to the maximum. A business expert always arranges thus to "make things take care of themselves," as one factory employee remarked to me.

With an increase in any business always comes a necessity for more complex organization and for subdivisions of responsibilities. The duty of attending to details must be given over to subordinates. Less and less as American industries grow can the executive heads keep in touch with the daily course of the work. But a cost system properly handled gives them a way of closely watching details. A certain iron company which had an elaborate cost system called in an expert just for the purpose of organizing the vast amount of detailed cost-items that were collected each month. "Look at that," said the vice-president, pointing to a hundred pages of minute statistics. "Once a month I get one of those. From it I am supposed to know just how things are going, but as a matter of fact I can't see the forest on account of the trees. I want a report that will show me any unusual increases in expenses or any unusual saving, and I don't want to dig it out of that mass." The expert carefully studied the reports covering many months, and in each class of expenses decided what was an average or normal expenditure. Each week the clerks who footed up the expenses merely indicated on the report (by the use of certain characters) the amount of the variation from the standard. A report organized this way covered only fourteen pages. A mere glance showed the particular places in need of special investigation.

Some of the most remarkable achievements of production engineers, to turn to another phase of their work, have been in gathering and systematizing data for fixing the price of piece-work. The great difficulty with this theoretically ideal plan of remuneration has been a lack of accurate information on which

to base a satisfactory standard. The price has been generally set by estimates of the time it should take a workman to do the work. If some men increased their output largely, the employer almost invariably cut down the price, feeling that the estimate for time required had been too high. This has happened so often that labor-unions are generally opposed to the system, and often put a limit on the amount any man may turn out. A certain expert, one of the first of production engineers, in reorganizing a steel plant, had the workmen in one department timed on absolutely every step of their work. Even the time taken to lift a piece of iron from the floor and place it on the planing-table was kept. For a year and a half these data were collected on all kinds of iron and under different rates, and then a final system of payment was fixed, based on the average. The management were certain that they knew the exact time in which a good man could do the work, and if any employee could shorten it he was welcome to the extra pay. Consequently there was no restraint on effort. A year's trial showed an increase over the production under the daily wage system of 7 per cent. and an increase in wages of 18 per cent.

This astonishing result is still more striking when compared with another mill of the same plant that simultaneously went upon the piece-work system with the price based on estimates. The foreman thought the expert's plan was too hair-splitting. The increase here was only 8 per cent. in production and 16 per cent. in wages. This mill, too, is now in the process of reorganization. This is, of course, an extreme case; most American industries are so well managed that no new system would make an extraordinary improvement. And as a rule it is not firms or corporations that are behind in the industrial race or tottering on the verge of bankruptcy that employ an expert, but prosperous, ambitious institutions that aim at being not merely good, or even better, but best.

It is easy for men accustomed to doing work in certain ways to overlook their disadvantages. It often requires some extra bracing up to induce a manufacturer to expend large sums for new devices and appliances for saving time and labor. The expert often gives just this necessary stimu-

lus. From wide experience and observation he knows about nearly all inventions and mechanical devices. In a certain wholesale hardware house the goods to fill orders were assembled in the stock-room, carried on trucks to an elevator and then down to the shipping-room. An expert spent half a day, watch in hand, keeping the number of minutes the employees wasted waiting for the elevator. "You lose too much time there," he said to the owner. He devised a slanting chute from the stock-room to the shipping-room, and turned a section of the floor into a moving platform leading directly into the chute. A bundle dropped anywhere on the platform was carried to the chute and the force of gravity did the rest. An iron company in Ohio built a new mill in which to finish the rough product of their original plant. There was a hill between the two buildings, so that for years all material was carried back and forth by teams. At the first view of the plant an expert said: "Grade down that hill and put in a railroad." The manager admitted that this plan had been spoken of, but on account of the great initial expense it had always been put off. An accurate calculation showed that the saving in expense would amount to \$8,000 a year—enough to pay all the original cost in less than three years.

While talking one day with the general manager of a Chicago company who are business printers and manufacturers of loose-leaf ledgers as well as expert devisers of business systems, I saw a clerk lay on his desk several orders that were nearly due. Mr. — called up the superintendent of the factory by telephone. "What is being done on order No. —?" In less than five minutes came the answer that order No. — had gone to the pressroom two days before and would be ready for shipment the next day.

"Your superintendent must know his business," I said.

"He's a good man," replied Mr. —, "but it was system that did that. He never left his office to find out about that order. You'll see how it was done when you visit the factory."

And I did. Each factory order had attached to it a series of tags, one for each department through which the work would have to go. The foreman of each room

tore off his tag when he received the order and placed it in a box bearing the number of the machine to which the work was assigned. As soon as it was completed, the tag was returned to the office and entry made on the duplicate copy of the order. The superintendent, by merely looking at these copies of orders, could see exactly in what stage of completion the work was. For more minute information he telephoned to the foreman of the room where the order was, and the foreman, knowing the machine on which the work was being done, could immediately learn from the workman just how much had to be done on it. This is a typical example of the sort of system a business expert introduces into any industry. Even minute odd details receive attention. A small country manufacturer, for example, complained that his local competitors followed his shipments to the freight depot and stole the names of his customers. He did not want to ship the goods to his own order. The expert drew up a tag in the shape of an envelope, having inside the name of the customer and his address. Outside was a notice to the freight agent at the town of destination to open the tag as soon as the goods arrived.

The successful experts of today are all men who gained their experience in business and who grew gradually to be real experts. They are men materially endowed with an eye for organization, for cutting short corners, and for seeing facts that other men's eyes are

too much dulled by custom to see. They realize the value of a minute. While I was dining one day with an expert at the Auditorium Hotel in Chicago he suddenly flashed this question at me: "Have you any idea how many miles our waiter has to walk to serve us?"

I had not.

"Well, I have," he said, "and if the man who built this hotel had known, he would have arranged his kitchen and storeroom and the shape of this dining-room differently. A short time ago I figured out exactly how far a waiter traveled to serve one dinner—it was a little more than two miles and a half. That's just the way we go at a factory for physical reorganization. We plot the whole thing and figure it down to feet and inches and minutes and seconds." Experts solve large problems by just this science of the minute and the mastery of details. They have blazed out the way for a new profession, the principles of which can be taught. Most of them have many young men under them whom they are training. One company give each man who enters their employ a month's instruction by lectures before he goes out with their trained men to see and help in actual work. The Massachusetts Institute of Technology has opened a course in industrial management. Young men can now fit themselves for business in the same way that a man fits himself for law or medicine. Modern business has become a science-

THE UNITED STATES A NATION OF INVENTORS

THE WORKINGS OF THE AMERICAN PATENT SYSTEM—NEARLY AS MANY PATENTS ISSUED AS IN GREAT BRITAIN, FRANCE AND GERMANY—THE COMMERCIAL SUCCESS OF PATENTS—ODD INVENTIONS

BY

CHARLES D. DAVIS

SPEAKING in the Senate, in 1884, Senator Platt, of Connecticut, paid this splendid tribute to the United States patent system: "To my mind, the passage of the act of 1836, creating the Patent Office, marks the most important

epoch in the history of our development—I think the most important event in the history of our Government from the Constitution until the Civil War."

A few years ago Japan sent to the United States a special commissioner to investigate

our patent laws, and when asked by one of the official examiners in the Patent Office, Mr. P. B. Pierce, why Japan wanted a patent system, he replied: "I will tell you. You know it is only since Commodore Perry, in 1854, opened the ports of Japan to foreign commerce that the Japanese have been trying to become a great nation, and we have looked about us to see what nations are the greatest, so that we could do like them; and we said, 'There is the United States, not much more than a hundred years old; what is it that makes the United States such a great nation?' And we investigated and we found it was patents, and we will have patents."

In the last census, for the first time, a special report was prepared by Mr. Story B. Ladd upon the relation of patents to manufactures, which shows not only that manufactures have grown approximately as patents have grown, but also that with each succeeding decade the quantity of material handled and the quantity of products turned out per wage-earner have increased. In referring to the clause in the Constitution on which the patent laws are based, Mr. Ladd said: "The germinating principle of this clause of the Constitution has vitalized the nation, expanded its powers beyond the wildest dreams of its fathers, and from it more than any other one cause has grown the magnificent manufacturing and industrial development which we today present to the world." And in 1895 Commissioner of Patents Seymour declared, "It is a satisfaction to note that the American patent system is generally conceded to be the most perfect in the world." Opinions and statistics, such as the foregoing, backed up, as they are, by the fact that nearly all the great nations are closely patterning after our system, put it beyond doubt that our patent system has performed a most extraordinary part in aiding this country to gain the primacy of the world in the industrial arts.

The writer is convinced that our patent laws have played a more important part in the development of the industrial arts than even protective tariffs, since not only do the patent laws promote investment but *invention* as well, and it is mechanical invention that is obviously at the bottom of all our industrial progress. Furthermore, there has been a practically steady increase in the number of patents granted and in industrial investments since the establishment of the system more

than a hundred years ago, whereas there have been violent fluctuations in the tariff in that period.

It is a mistake to believe, however, that the giving of inventions to the public free of royalty, is wise. It is to the last degree detrimental to the public. It defeats the very purpose of the donor, for there is no better way to kill an unexploited invention than to make it everybody's business to exploit it. New inventions, if they are successful at all, generally have to be actually forced on the public, and no man will invest capital thus to test its commercial value and create a market unless he has an assurance of a monopoly to pay him both for the outlay and for the risk. Mr. Astor, by dedicating his patent for marine steam-turbine to the public, took the best course possible to retard or forever postpone its commercial development, and in that way lost to this country the advantage it would have gained from the immediate exploitation of his engine. No more dire disaster could happen to this country than that its unexploited inventions should become public property.

It is true that the other great manufacturing nations have patent systems, but they have never fully realized the important function of a patent system. All important foreign nations seem to have been especially careful to impose just those conditions on the grant of patents as would be most certain to render the system unpopular with the masses, forgetting, seemingly, that the function of a patent system is primarily to encourage inventions, and that inventive or creative minds are just as apt to be found among the masses as among the well-to-do. These conditions consist usually of annual taxes and requirements as to working the patents within short periods after granting, and they have been found so onerous that only in rare instances will you find the poorer inventors abroad with courage enough to invest in patents. They, or some inventor they have heard about, have tried it before and have been compelled to permit their patents to lapse because unable to comply with the conditions of their grants before capitalists could be obtained to exploit their inventions; and so these foreign systems have become so unpopular with a large portion of the inventing public that a vast amount of embryo creative talent is wasted for the lack of encouragement.

On the other hand, the United States grants patents without requiring the performance of any conditions afterward, and as a consequence our patent laws have the approval of all classes, this popularity even extending to foreign countries, as is evidenced by the fact that the number of patents taken out here by foreigners is steadily increasing. About 12½ per cent. of the patents granted in 1902 were taken out by aliens. Of course, in the operation of every large branch of government machinery there is certain to be some severe criticism of its workings, but the critics of the patent system are exceedingly few in comparison with the scope of its field of work, and these few are mostly confined to those disappointed inventors who have displayed poor business ability in employing unskilled patent solicitors or in making bad contracts for the exploitation of their inventions.

It is this increasing importance of the patent system that renders the work done at the Patent Office at Washington of wide public interest. All applications for patents must be filed in this bureau and be passed on by one of the thirty-eight division-chiefs therein. To realize the enormous amount of work done by the Patent Office a mere glance at some general statistics is sufficient. In 1902 there were filed nearly 50,000 applications for patents. Each one of these applications was scrutinized with great care, and a search of prior patents and publications was made in order to pass upon the question of operativeness and novelty, for under our system only novel and useful inventions can be patented. The total patents granted last year was 27,776, and the total granted since the institution of the system up to January 1, 1903, was 727,477. This total is about one-third of all the patents issued in the world, nearly as many as in Great Britain, France and Germany together, and more than four and a half times as many as in Germany, the only one of our near competitors which makes "novelty searches" before granting patents.

It is plain from the foregoing figures that the industrial pulse, not only of the United States, but in reality of the entire world, may be felt at the Patent Office at Washington, for practically all important inventions pertaining to the industrial arts are disclosed to the Patent Office examiners before they are

made public, and the examiners can therefore tell the direction and extent of improvements long before the public can. Activity in any line of manufacture is immediately made manifest by the increased number of applications in that line, and, on the other hand, no one knows sooner than the patent examiners when a craze or fad is on the wane. For example, no sooner had the application for bicycle improvements fallen off than the motor vehicle applications began to come in with a rush. The records of the Patent Office show a continuous sequence of just such pulsations. But in spite of these pulsations, there has been a steady increase in the annual number of patents granted, and, most significant of all, a steady increase of those granted to foreigners. Not only has the financial centre of the world crossed the water, but the industrial centre also.

Those unacquainted with the workings of the patent system can have no adequate idea of the effect of the stimulus it affords to the inventive genius of the country. It has converted the country into a veritable hot-bed of invention. There is hardly a cross-roads town in the country without its inventor, and the thing is on the increase—in fact, has only just begun. The system has so developed the talents of a large number of men that they have adopted inventing as a *profession*. Their creative faculties have become so highly sensitive that they have but to concentrate their attention upon a mechanical problem to obtain a more or less perfect solution of it. Many expert inventors have obtained an extraordinary number of patents. Thomas A. Edison is no doubt the most prolific inventor the world has ever known, having so far obtained nearly 800 patents for as many independent inventions. Francis H. Richards has secured nearly 700, and the lists of Elihu Thompson, George Westinghouse, Edward Weston, Charles J. VanDepeole and others run into the hundreds.

The patent laws of the United States are founded upon the clause in the Constitution which gives Congress the power to promote the progress of the useful arts by securing to inventors for limited periods a monopoly of their inventions. The law requires that a full, detailed drawing of the invention, where it is susceptible of illustration, and a full and peculiarly arranged and worded specification

shall be filed in the Patent Office, together with an affidavit to the effect that the applicant is the first and sole inventor of the device sought to be protected, that the invention has not been in public use or on sale in the United States for more than two years prior to his application, and that the invention shall not have been patented or described in any printed publication in this or any foreign country for more than two years prior to the filing of his application. There are other less important conditions which need not be referred to here. When this complete application reaches the examiner having charge of the particular art to which it pertains, he makes a "novelty search" through such prior patents and publications as are available, and if he finds the invention novel and properly defined he allows the patent. The total government fees are \$35, and the patent is granted unconditionally for seventeen years, at the end of which the invention becomes public property. These seventeen-year patents are known as mechanical or utility patents. There is another class of patents, which are granted for shorter and variable terms, known as "design" patents, but these are of minor importance, as their function is to protect merely ornamental devices or patterns, and they therefore partake more of the nature of copyrights than of patents.

It happens frequently that the applications of rival inventors meet in the Patent Office. In these cases the Patent Office institutes "interference" proceedings for the purpose of ascertaining which of the rival inventors is the first inventor. This proceeding is carried on exactly as a case in court, in that the parties to the contest are given opportunity to present evidence upon the question of priority. A large number of these contests are constantly being fought out by inventors who have independently conceived and developed the same invention. It is a curious psychological fact that inventors in different parts of the world should frequently not only conceive the same idea, but actually embody it in mechanical structures practically identical; but these strange conflicts are of such common occurrence at the Patent Office that the officials have ceased to wonder at them. In some cases the similarity even goes to the minor details of a comparatively complicated structure, and in some instances there is but

the difference of a day or two in the dates of conception and reduction to practice. When an art is especially active, as in the case today with motor vehicles and space telegraphy, as many as a dozen applicants will often be fighting for the same thing.

There is now going on a priority contest in which the three contestants reside respectively in Germany, Maine and California—so far apart that there can be no question as to the independence of their conceptions. The invention is a unique form of rotary engine involving a very radical departure from previous forms, so that the invention can in no sense be said to be the expected or necessary step in the evolution of the art.

Of course, in all this immense grist there must be some grit. Just what proportion of patents "pay" it can never be practical to ascertain. The writer has for years been considering how to obtain statistics as to what proportion of the granted patents cover successful devices, but the vagueness of the subject precludes satisfactory results. It is difficult at the outset to define "success" when applied to patents. Many confuse it with operativeness or mechanical success, and others have such an exalted idea that only those patents which make fortunes for their owners are successful. It is not fair, it would seem, to say that only those inventions which are put on the market in paying quantities are successful, because the successful exploitation of a new thing requires more than a need for it; it requires also much expensive work to create a demand for it. It would seem, therefore, that it is but fair to say that an invention is successful if tests demonstrate beyond a reasonable doubt that, if backed by capital to an amount commensurate with its nature and by reasonable energy, it would pay to push it.

There is no doubt that much labor and money are wasted in inventing and patenting things that are chimerical and impractical, but this evil is fast being lessened with the spread of knowledge. The Patent Office officials see fewer and fewer perpetual-motion and aerial-navigation "cranks" as the years go by, and it is probable that in not many decades from now a real crank will be a curiosity even at the Patent Office. But even when the crop of cranks was greatest, which was probably in the '70's and '80's, the waste resulting from their harmless

vagaries was infinitesimal compared with the wonderful work wrought by American inventors.

Although the Patent Office uniformly winnows out the inventions which lack utility, it very sensibly makes a distinction between mechanical utility and commercial utility, and solves all doubt in favor of the applicants. Consequently a few queer patents that a layman would consider useless have necessarily been allowed. One of these is a patent numbered 541,409, which is for a gallows so constructed that the weight of the victim on the trap automatically sets in motion devices which spring the trap after a suitable interval, thus causing the culprit to execute himself. Two other curious patents are devices for making rain by exploding bombs high in the air; another is for a hat-tipping device which automatically raises and tips the hat when the wearer bows; another is a mechanical appliance for putting on overcoats, and there is another for automatically letting down a latch-key from an upper story at a predetermined time in the morning to enable the milkman to deposit the milk indoors, the key being automatically raised when the milkman departs. But these odd and commercially useless patents are so few that they can safely be ignored.

In addition to its economic value, the patent system is really a great uplifting force—it develops *men* as well as industries, for no man can consciously bring into existence a new thing and not be the better for it—and the result is that by reason of the peculiarly democratic nature of our system in comparison with foreign systems, this civilizing force affects all classes. In fact, it would appear that the system is especially adapted for reaching the very class it is most desirable to help, as by far the larger number of inventors are men of modest position in life. The psychological explanation for this would appear to be that invention is purely the product of the subconscious mind, and strongly subconscious individuals notoriously lack those qualities that make for success in the regular lines of modern business.

There are today many thousands of inventors throughout this country devoting almost all their time to pondering over inventions, and as they see their creations develop, as they see one difficulty after another overcome under the operation of their

creative faculties, and new things that never existed before come into being, they derive an exquisite mental pleasure which only genius knows—a pleasure of that higher kind which has not *ennui* for its aftermath, and which enables them to get more out of life than almost any other class of workers.

It is a fact of common knowledge that a very large majority of our famous inventors began life in a modest way, if not in actual poverty. Edison and Bell were poor young men; now they are wealthy and have worldwide fame and prestige. Mergenthaler, inventor of the linotype machine, started poor and died a short while ago with as much means as any man can reasonably need. Berliner, inventor of the transmitter and the disk phonograph, began his career as clerk in a Washington store; now he has means and prestige. The list could be extended indefinitely. The writer knows a young man who started his career as machinist in the Brooklyn Navy-Yard; now he is an expert in match machinery, having made many inventions in such machinery and obtained about thirty patents in the past three years. He is now organizing a \$3,000,000 company to manufacture matches by his improved methods, and he will undoubtedly “get there.”

The evidence as to this developing and educative influence of the patent system is overwhelming. Aside from the fact that there are a large number of men throughout the country who have raised themselves spiritually, intellectually and financially, the Patent Office records show that women also have been reached. About 3,500 patents have been granted to them, and the annual number is on the increase. And, further, a considerable number of patents have been granted to Negroes, a race which for thousands of years before it came under our democratic institutions did nothing in the way of advancing the arts. The number of patents granted to this race cannot be ascertained without exhaustive inquiry, as applicants for patents are not required to state race; but a partial inquiry some years ago resulted in finding between four and five hundred Negro patentees.

It is the universality of our patent system that makes it preëminent. If it be properly handled, it will enable us to keep the primacy in the industrial arts for a long time to come.

AMERICAN OPPORTUNITIES IN AN INTIMATE KNOWLEDGE OF CHINA

WHY TRADE REQUIRES AN INTIMATE KNOWLEDGE OF THE THOUGHT AND THE CIVILIZATION OF THE CHINESE PEOPLE—THE ADVANTAGES POSSESSED BY THE JAPANESE—WHY AMERICANS SHOULD STUDY THE CHINESE LANGUAGE AND ACQUIRE THE CHINESE POINT OF VIEW

BY

DR. FRIEDRICH HIRTH

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EUROPE and the United States have spent millions on a campaign to open free intercourse with a nation whose population constitutes more than one-fourth of the population of the inhabited world. Now China has declared her willingness, following the example of Japan, to reform her government and to adopt the formerly abhorred civilization of the West. The rate at which progress in government and military and civil life in China has set in has no precedent in history.

What the world expects from this movement is benefit on both sides—commercial benefit based upon the political advantages each party may succeed in wrenching peacefully from its rival. The clamor of arms is a matter of the past and a friendly war has begun in the arena of trade.

It would be a grave mistake if western nations, conscious of their superiority in civilization, should think that they could rest on their laurels and calmly watch events in the Far East. For on the battle-field of commercial competition he will come off victorious who has joined battle best prepared.

No observer who has closely watched events in the Far East since the return of the Court from Si-an-fu will deny that the reform of public life has long ceased to be a mere phrase. China is determined to imitate the example of her neighbor. Japan, within a few decades, by similar efforts, has, from what used to be looked upon as a nonentity, grown into a power to be reckoned with, a valuable ally of her friends, an opponent to be feared by her foes, and a serious rival to Europe and the United States in the field

of commerce. Whether China will succeed in becoming the equal of her eastern rival remains to be seen. What nobody can doubt is that she is making serious efforts to reach a position similar to that of Japan.

Japan holds a position in China which it will be most difficult for other foreign nations to compete with. The superior political power wielded by other foreign governments at home may go far in strengthening the position of ministers in Peking, but it is more than counterbalanced by the local advantages awaiting Japanese enterprise in China. Close neighborhood probably plays a conspicuous part, as with Russia; but the backbone of Japanese influence, which sooner or later will throw us all out of the field, is the fact that, in spite of all the recent changes, the civilization of Japan has, from the outset, stood on the shoulders of that of China. It is hardly necessary to recall that the greater part of Japanese philosophy as a science is built up on Chinese thought of the past, and that with it most of the other branches of this interesting civilization, such as art and industry, are derived from the Chinese. In the great change which public life has undergone in Japan one important fact must be noted: Japan has adopted western civilization, it is true, but she has not, for all that, discarded Chinese education. The kindred feeling which has for centuries past united the two nations will continue to influence generations to come. If we study the latest organization of the educational system in Japan, we are bound to be struck by the remarkable feature that, far from blotting out old methods, the new organization makes

the study of Chinese literature even obligatory in the colleges. I look upon this as much more than a compromise with old traditions. The legislator who placed on the shoulders of students what at first sight might be declared a useless burden, the toilsome study of Chinese literature, probably had good reasons for doing so, and must have been aware of the benefit accruing from it to his people. The superior command of the language places the Japanese, whether merchant or diplomat, at a great advantage, when compared with his foreign rivals. But more than this: every educated Japanese is regularly imbued with ideas derived from Chinese literature. This gives him quite a different standing in the eyes of the Chinese when compared to other foreigners, who have to work without such knowledge. Nothing proves the correctness of this view more than the events of recent years. At the present moment China is in a state of compromise between her past and her future life. She has placed the education of future generations not in the hands of Americans or Europeans, but of those who are most likely to teach them new things without destroying the old—the Japanese. The great National University of Peking, the creation of the Emperor Kuang-sü, is destined to be the model of the several educational institutes all over the empire, and it is a matter of course that its constitution is of the greatest importance for the future of the educated classes in China. What these future generations will be must necessarily depend upon the talent, the character and the good-will of their teachers. It is a melancholy fact that the European staff, who have for many decades done excellent service in connection with the University, have been summarily dismissed. Their places will be chiefly taken by Japanese. The Chinese Government has thereby declared its future policy as regards education, and the reëmployment of some of the European educators in the provincial high schools, though a slight proof of good-will in some quarters, cannot make up for the elementary influence bound to emanate, in the long run, from the official model in Peking.

There can be little doubt that the causes of this declaration are connected with the superior intimacy of Japanese teachers with the Chinese language and literature. Any

European government which would have been in the position merely to point to some fifty scholars thoroughly familiar with the Chinese language spoken and written, would have had a great advantage at the present moment by being able to furnish men who could compete with Japanese instructors. The moral influence of any foreign power in China could have been materially increased in this direction. Guns and ironclads are good in times of war; when peace prevails, they may be shown by way of threat; but the safer means of obtaining political advantages seems to consist in the perfection of the peaceful instruments by which a nation may assert her superiority. Among these there is none greater than the possession of a large number of individuals who, similarly prepared as the rival instructors of Japan, can commend themselves as teachers in the several military and civil branches, a knowledge of which China is now so eager to solicit. The Chinese Government has quite recently appointed a Japanese professor to draw up the new code of law for the Chinese Empire. Why not an American, a Frenchman or a German? There can be no doubt that authorities fully as competent might have been secured in other countries; but men who are both willing and capable of making due allowance for traditional prejudices will never arise from a country where the study of Chinese institutions is so much in its infancy as with all of us, except Japan.

The next ten years will see thousands of intelligent Chinese well-versed in foreign languages. This gives China an advantage over the foreign world at large which it did not possess formerly. What have foreigners done so far to be the equals of those with whom they will have so much business to transact? Every Chinese who has a command of the English language calls for a citizen of the United States or Great Britain who has equal command of the Chinese language. But it appears that what should have been done a generation ago is at last recognized as a necessity in different parts of the western world. Satisfied with training the most necessary material for interpreters' work in legations and consulates, foreign governments have formerly paid but little attention to this question.

The totally different position now occupied by us through our relations with China

in public life has made itself felt in a movement favoring the study of Chinese language and civilization far beyond government purposes. The general public begins to realize that a good knowledge of Chinese may be turned to excellent use in many ways in China. Governments, commercial guilds and individuals have shown their patriotism by providing the means for establishing university chairs, where such were not in existence before, and strenuous efforts are being made to increase the opportunities of studying in the Oriental colleges already existing for that purpose. Russia has established an Oriental college chiefly devoted to Chinese studies in Vladivostock. The Chair of Chinese, of traditional fame, has been recently filled again by a competent scholar in St. Petersburg. In Germany, Chinese is taught in two universities, and is, moreover, equally well represented at the college known as the Oriental Seminar in Berlin. England has four university chairs, at Cambridge, Oxford, London and Liverpool, and a college in London. In Italy, Chinese is taught in the Universities of Rome and Florence and at a special college in Naples. The Netherlands have a Chinese chair at Heiden, and, up to a short time ago, sinology was represented in Louvain, Belgium. France, which may well claim to have furnished the cradle of our science, has perhaps been the most active among the foreign powers in appointing her best Chinese scholars at her university chair in the Collège de France and in her Oriental schools in Paris and Lyons, and in furthering with great assiduity Chinese studies in her colonies in Tungking. In Austria, Chinese is taught at the Oriental Academy of Vienna, and the United States has followed suit with several chairs within its dominions. To many these seats of Chinese learning may seem more than is necessary for what, in their eyes, is an occult science of little value. The politician who looks into the future will think otherwise. The time is approaching, and is sure to come, when we shall not have enough men to answer the calls for Chinese work. For Chinese work, done by men well trained to do it, will be required in that general competition that will accompany our intercourse with China. To be able to furnish teachers of western civilization in any shape will secure a valuable privilege to every western nation undertaking the work

of training them. But trained they must be in order to compete with their Japanese rivals. The Chinese are fully aware that the first authorities in every branch of public life and of science are to be found in Europe and the United States. Why, then, do they give the preference to the Japanese instructors who, in their turn, are merely the pupils of the former? The answer is, that to be of any use in attempting to spread foreign knowledge among the Chinese it is not sufficient to be an authority on the subject, but one has to know the language of the pupil that is to be. "Language" should be understood in its broadest sense. For any one wishing to pose as a teacher in China it is far from sufficient to be familiar with the spoken language as an art which may be learned in a mechanical way. The teacher must not only know what he is about to teach; he must also know, to a certain extent, the old doctrines which his new method is destined to replace. He who undertakes to teach the future mandarin the methods of foreign government must be well acquainted with the old methods of Chinese government and the history of its development. The missionary desirous to argue about the superiority of Christian thought can double the utility of his work by rendering himself familiar with the study of Chinese philosophy. New ideas cannot be brought home in our own colleges, even to an intelligent mind, without being illustrated by comparison, example and observations of every-day life, and whoever wishes to make use of this valuable help in China has to be thoroughly acquainted with Chinese life, literature and history. For these are the indispensable means of rendering a European familiar with the peculiar run of thought of a Chinese. Moreover, a Chinese will have twice the confidence in a man, and look up to him with double respect, if he knows that his friend has learned to think well of what has always been and will ever be dear to him, his native literature. This is one of the main reasons why the Japanese will exercise a much greater influence on the new development of spiritual life in China than any of the rival nations, and this is the point in which, in order to secure full success, we should imitate them as much as our means will permit.

Private individuals who may try to seek their fortunes in China will all find that it

pays them to add to their natural gifts a sound home preparation. The time is long past when travelers set out on long journeys to unknown and distant lands with nothing but personal pluck and love of adventure. The traveler who wishes to bring home results worth looking at has to be well prepared in the art of making observations, geographical, geological and historical. It would be looked upon as a false start if any one were to set out on a serious journey with the idea that he could study his work while on the way. A student of Chinese may learn a great deal in China, and yet, if he be left to himself, it will be very little when compared to the rate of his progress that may be secured by methodical preparation at home. Let a man start as an engineer, or as a merchant, or as an intending official, he will seldom succeed in turning whatever good qualities he may possess to the best account without a good knowledge of the language. On the other hand, a man thoroughly familiar with the speech, thought and literature of the Chinese may set out almost without that letter of introduction which is to secure him a position. He is sure to find one through his competency. Other conditions being equal, the man who has the advantage of a command of language and literature has decidedly more claim to success than he who has not.

This last remark applies especially to that class of workers in China who, more than all others, may contribute toward increasing the prestige of their co-nationalists, the diplomatic and consular representatives of the several treaty-powers. I do not wish to cast the slightest slur on the work of officials to whom hitherto the responsible duties of national representation have been entrusted by their several governments; individual talent and general experience in diplomatic work, coupled with the personal confidence placed in the business capacities of the consul or minister that is to be, should, of course, stand chief among the reasons for his being selected. But the events of recent years call for increased attention to the subject of education, not only in the case of government interpreters, but also of the higher officials expected to study and report upon that most complicated institution, the Chinese Government. It is well known that Great Britain and France select their consuls

and occasionally also their ministers and secretaries of legation out of the rank and file of the Interpreters' Service. I am inclined to think that this is the natural result of the greater responsibility felt by these governments in connection with Chinese matters. Great Britain has always enjoyed and continues to have the lion's share in the foreign trade of China, and France is assiduously bent on increasing her prestige in the southwest. A great number among their officials are prominent Chinese scholars. Men like Sir Harry Parkes, Sir Thomas Wade, Sir Robert Hart, J. McLeavy Brown, W. F. Mayers, Chaloner Alabaster and others, whose names have become household words in Chinese politics, would not have become what they were and are but for their primary education in Chinese linguistics. If others, who did not enjoy this advantage, have done prominent work, they have been assisted by natural gifts which placed them in the position to grasp with an intuitive eye what many will not realize but after years of laborious study; but who can say what *they* might have attained, had they been brought up as experts from the outset?

The several nations whom we may call rivals in the Far Eastern trade have each begun on a still modest scale to provide for the technical education of such students. Results will not come forward all at once. But let a number of years pass and the effect of such opportunities being given will show itself in the *personnel* at the disposal of governments in their Chinese services. Patriotic citizens of the United States may contribute very materially toward the future good relations between the two nations by furnishing the means of establishing Chinese chairs at as many universities as possible. Chinese studies are nowadays much more closely connected with actual politics than Sanscrit literature; and yet, how few universities have ever thought of opening their doors to the devotees of that great, still-unworked mine of Asiatic information, the literature of China, whereas none is considered complete as a seat of learning which has not its chair of Sanscrit! If political reasons must furnish the pretext for sacrifices brought in this direction, as some authorities seem to hold, they certainly cannot be said to be wanting in answering the question, why to study Chinese.

THE EARNESTNESS THAT WINS WEALTH

A PICTURE OF THE START AND THE RISE OF THE NEWLY ARRIVED JEWS IN NEW YORK—THEIR DESPERATE EAGERNESS TO GET ON AND THEIR JOY IN A LAND WHERE THEY ARE FREE TO TRADE—A STUDY IN THE MAKING OF AMERICANS

BY

HUTCHINS HAPGOOD

IT was not so very long ago—in the eighties—that the Jews in the City of New York were comparatively few, even on Hester Street and the vicinity where they are now simply multitudinous. The Irish were then conspicuous in that part of the city, and they deeply resented the intrusion of the Jews. One of the first synagogues was at what is now 101 Hester Street. The Jewish place of worship was on the first floor, and the basement was occupied by a saloon kept by an Irishman, a resort of pickpockets who fervently desired to drive out the Jews from the synagogue in order to make room for a faro game on the first floor. They therefore made a most horrible din whenever the Jews gathered for worship. But it did not succeed, and it was the Jews who finally drove out the thieves. In those days, too, there stood at the corner of Allen and Hester Streets a building which served as the headquarters of a well-known Irish politician. Occupying that place now is a Jewish shop.

It is not only the Irish who, in that part of the city, have gone down before the march of Israel, but all the other races of the unchosen. It is the story of the advancing Jews and the fleeing Gentiles. There is a certain block on Cherry Street, however, that does not contain, it is said, the home of a single Jew: it is an Irish stronghold.

Hester and Ludlow Streets, east Canal and east Grand Streets, and twenty other downtown streets, are now almost exclusively the home of the Jews. And it does not stop with downtown. Go away up to Ninety-eighth Street and beyond, along Madison Avenue; indeed, anywhere on the upper East Side, and the same tendency is noticeable. Almost anywhere on the East Side from

Harlem to the Battery this strange people are much in evidence. Go even to the West Side and walk up Sixth Avenue through the shopping districts in the middle of the town and look narrowly at the street merchants, at the men who are selling shoe-strings, neckties, sausages, candy and a thousand and one other things—look at them closely, or ask them questions in bad German, and you will generally find they are Jews, and, for the most part, Russian Jews. There are, to be sure, many Italians, too, and some Greeks, but they sell very little except fruit. The Jews and the Italians have a virtual monopoly of the peddling business. In two respects the Italians more than hold their own against the Jews. They almost entirely monopolize the fruit-peddling business and they practically entirely monopolize boot-blackening. Again walk up Broadway and look at the names of the big clothing houses and other large business concerns and you will wonder if anybody but the Jews are in business.

When the Jewish immigrants arrive in the United States an immense amount of energy is let loose. Shut up for generations in their orthodox country communities in Russia, Galicia or Rumania, with no opportunity to expand in any way, they come to the land of freedom literally loaded down with stored vitality and ambition. Sensitive to the American environment, they rapidly take up the great American interests and pursue them with greater energy than the native-born Americans themselves.

Go to the great push-cart markets in Hester and Ludlow Streets where they join at the northwest corner of Rutgers Square, shown by our illustrations, and study the people you see there. You will see strange types, but

you will also see how strangely Americanized they are becoming, impelled by keen interest and ambition. When you notice that practically everybody is in business, you will understand why practically everybody is, to a greater or less degree, in spirit an American. For what is there that is distinctive in the American character if it is not the spirit of expansion in practical affairs, the optimistic,

too, the quality of the Yiddish dialect itself is quickly affected by our environment. Those Jews who know the dialect thoroughly tell me that they can perceive how long an immigrant has been in the country by the quality of his Yiddish alone.

The Americanized rabbi is one of the most entertaining products of the conditions in this country. Many of these interpreters of



THE PUSH-CART MARKET IN THE NEW YORK GHETTO
At the corner of Hester and Essex Streets

whole-souled, almost religious passion for business?

Under this compelling influence even the instinctive Yiddish of the Russian-Jewish immigrant falls off, after a few short weeks in this country, from its native purity. The old orthodox Jew, devoted to the Talmud and to prayer, is in America only a short time before he begins to sprinkle his Yiddish with a few English words, badly pronounced, one of the first of which is "business." Then,

the holy law remain steadfast, but there are others who become so thoroughly American in spirit that they are stigmatized in the quarter as "rabbis for business only," and as such are frequently satirized on the popular Yiddish stage.

So, too, with the old woman of orthodox faith. Wearing no hat in the old country, she has not been in New York a month before she begins to make compromises. A volume might be written on the evolution of the



STREET VENDERS IN THE SHOPPING DISTRICT

Jewish woman's hat in America. Throughout the crowded streets you will notice these

old people—all eagerly engaged in business, the old man bargaining, perhaps, over his push-cart bananas, the old woman busily trying to sell her fish; both strangely eager, strangely alive, for people who have been recently dug up from the quiet and pious life of some little Russian village.

You will see, too, eager boys and girls tending push-carts, running errands, selling little articles, beginning their career as merchants—ambitious little Americans, knowing English thoroughly, and distancing their parents in keenness for “business.” After the little fellows have served their apprenticeship by selling shoe-strings, perhaps, on Hester Street, they go a step higher—to Canal Street, then peddle on Sixth Avenue, extend their business gradually until they become, perhaps, great merchants on Broadway. The interesting thing about it all is, that the elements of their success are before our very eyes, on the streets. There we can all see what they are doing, how they are doing it, and how inevitable an indefinite extension of their commercial operations is.



WHERE THE FOREIGNERS OF THE EAST SIDE BUY THEIR KITCHEN WARE



WHERE LIVE AND DRESSED POULTRY IS SOLD
Gansevoort Poultry Market

The dominant effect of the life on one of these crowded downtown streets is that of business—eager, militant business, expressing itself in eternal haggling over a thousand kinds of diminutive articles. How all-absorbing this spirit of the Ghetto street is is shown by the way all the Jewish classes—no matter how unbusinesslike they naturally are—are drawn into it. In the crowds shown by our illustrations are not only the men, women and children who are exclusively merchants. A close inspection will reveal types of the scholar, the socialist, the poet, the literary man, the artist, on the one hand; and, on the other hand, the young pick-

pocket of twenty, the sweat-shop girl, the agent for the "reliever" business—a business which consists in buying a poor man's new suit in exchange for a very old suit and a bit of ready cash.

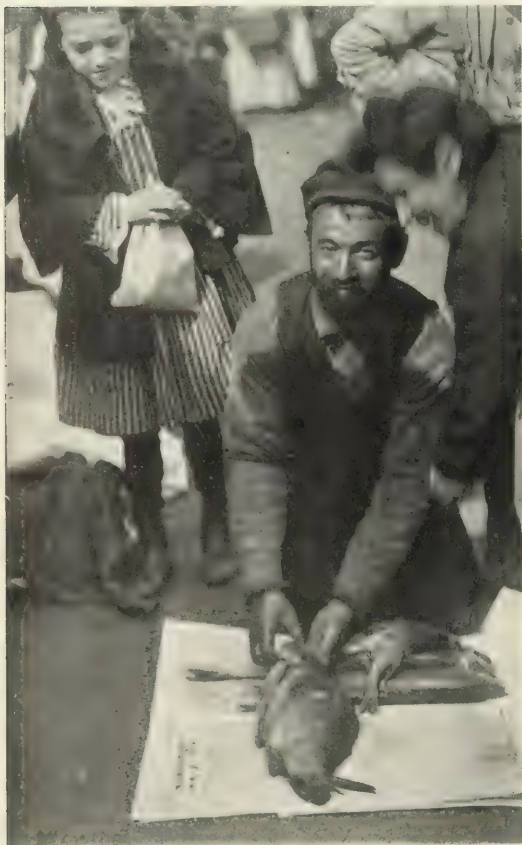
The old man peddling from door to door, or tending his push-cart in the crowd, may be a poet or a scholar, with the spirit of universal brotherhood or an impassioned love of the Talmud in his soul. Some of the young women in the crowd may be fervent socialists, strike-leaders and exhorters. Complex, indeed, is this mass of human beings, representing many civilizations and many conflicting tendencies, but united—and this is the



FARMERS SELLING PRODUCE TO GROCERS AND VENDERS AT GANSEVOORT MARKET
The Poultry Market in the background

point—in one great absorbing spirit—the spirit of business; the thing that is rapidly making of them American citizens in fact as well as in name.

How persuasive is that spirit of business! If you will allow yourself to be stopped by some eager-faced Jew who wants to sell you a “reliever”—(he thinks, perhaps, that you are a young fellow who has come to the city on a spree, has spent his money and needs some



A HESTER STREET FISH DEALER

ready cash to return home)—you will be (if not annoyed) charmed by his eloquence, delivered in bad English. I was once literally forced—very much against my will—to sell all my old clothes, practically for nothing, to a Jew whose appealing accents, whose serious, impassioned argument, at once poetic and logical, highly figurative and keenly unanswerable, got so firm a grip on me that he did whatever he desired. This Jew haggler seemed to me almost the youngest, most eager and most enthusiastic thing in my experience.



BUYING SLIPPERS ON SIXTH AVENUE

Certainly few of us can feel as keen a joy as falls daily to the lot of the picayune merchant of Hester Street who feels himself about to rise in the exciting world of America, and sees the old limitations of his race removed, and, behind the old barriers, a broad, fascinating field of commercial activity!

To the casual observer these push-cart scenes may seem to represent sordid poverty



ITALIAN WOMEN SELLING NEEDLEWORK



POULTRY IN GANSEVOORT MARKET

and misery. In the background, indeed, one feels the tenement-house, the sweat-shop, the poor, crowded home. When the crowd on the street disperses, most of the people will return to such homes. And yet, the eager spirit of business, incarnate in the street, is rapidly changing the condition of these homes. The poor-looking pedler you may meet in Hester Street or Sixth Avenue may live

astonishingly well. He may have—generally has, indeed—money in the bank, constantly increasing in amount. Able as he and his family are to live on very little, he is not unlikely to be really better off than you or I, who, with far higher ideals of comfort, have correspondingly heavier burdens. These proletarian-looking people are “getting on” very rapidly, already enjoy far greater comforts than they did in the old country, and spend more money for amusements.

The seething activity of these transplanted people expresses itself not only in ways which on the whole make for good, but also very strongly in the ways of evil.

But there is at least one reason which may



ONE OF MANY VENDERS OF CALIFORNIA FRUIT

A SIXTH AVENUE SHOPPER STOPPING TO BUY
COUGH DROPS

be given for the extremeness of vice noticeable in certain aspects of Yiddish New York. The Jews in this country are, and feel themselves to be, freer than they have ever been before: freer in two ways. Many of them have thrown off their orthodox religion, which prescribes very carefully the manner of life, and have no religious or ethical substitute. Freedom from religion and tradition causes in many of them an atheistic and disillusioned frame of mind, breeds anarchists in theory and practice, and tends to remove the barriers from instincts which, in such a vigorous people, may lead to uncommon vice. They are also freer politically and commercially than ever before, and the ethics of some of



A WEST SIDE CANDY DEALER

them is not strong enough to bear the removal of all kinds of inherited restraints. Sudden freedom with the Jews, as with others, brings

its attendant evils. Free of trammels, the enormous vitality of the Jews carries them far in the direction of vice, just as it does in the direction of business and other good and commendable things.

In these great push-cart markets we have, as I have said, all these types and tendencies represented. Follow the people from the highway and you will be introduced mainly to the sweat-shop, the tenement-house and the respectable though crowded home. Follow others—comparatively few—and they will lead you to the anarchist café, the solitary room of the Ghetto dreamer, the thief's club, or to darker and nameless resorts of untrammelled vice.

On the north of Rutgers Square, overlooking the great push-cart market, is a Ghetto artist's studio—a bare room from which the artist looks at the crowds beneath and selects his types and scenes. Nothing in itself represents the spirit of business less



A MARKETING DAY IN THE GHETTO

than the picture on a canvas. The artist's work is contemplative: the atmosphere of repose envelops it. And yet, if you will look at this Ghetto artist's pictures, you will see in them primarily the quality I have described—an idealized activity. The people he pictures are intent on their jobs, but the business instinct which shines in their faces is not cold and calculating. It is the expression of a naive, intense interest in life. As in the other occupations of the Ghetto Jews, there is, even in business, an element of the ideal.

Rutgers Square is, indeed, an interesting place. In the centre is a boys' open-air gymnasium where young Jews are becoming Americans in an athletic sense; on the north is the great push-cart market; in the south and east are Ghetto newspaper offices from which issue sheets which tend rapidly to educate and Americanize the newly arrived immigrant; on the south, also, are socialist and anarchist cafés which express some of the more doubtful influences at work on the

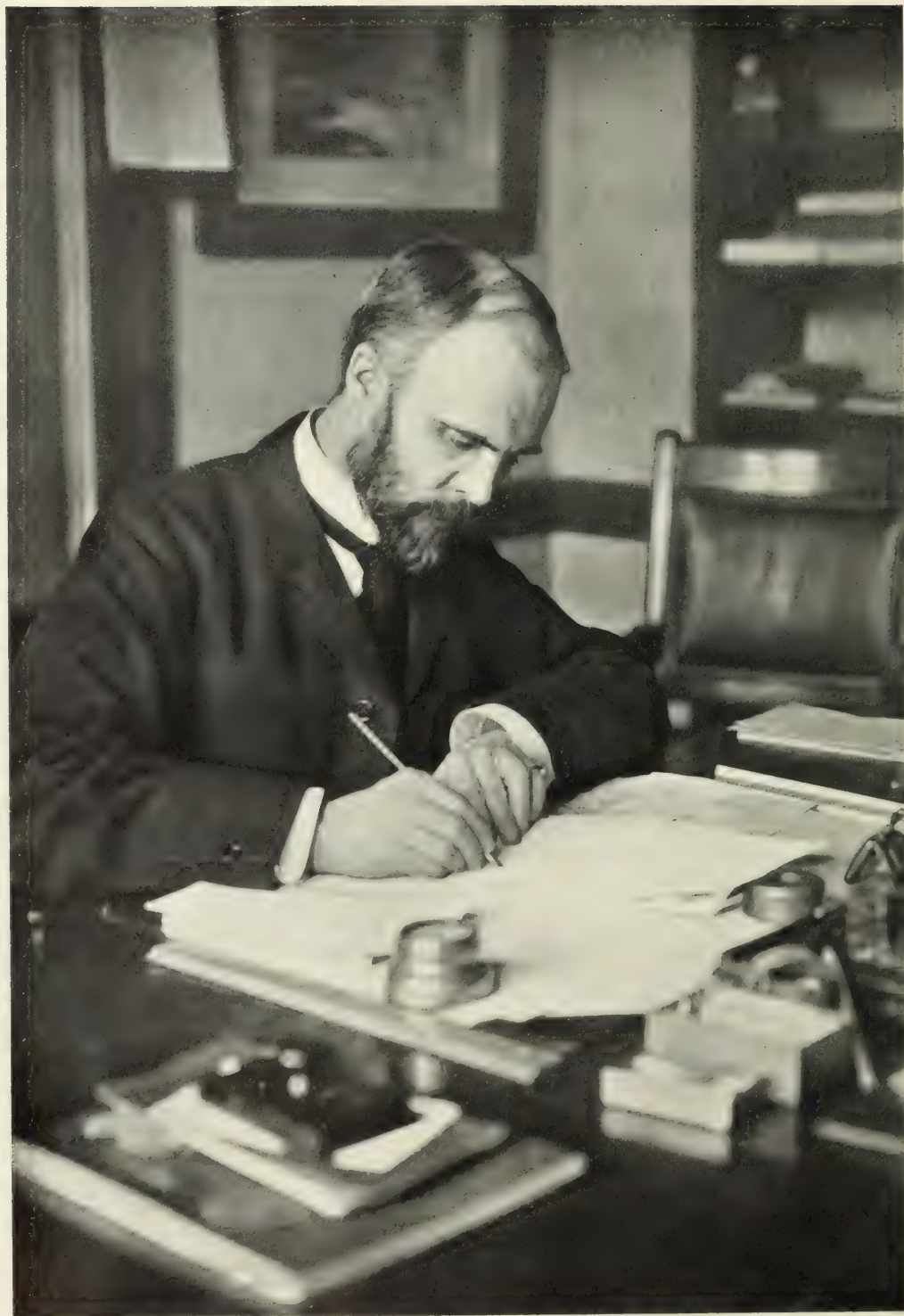


FRUIT IS SOLD EVERYWHERE

Ghetto boy; near by is the Educational Alliance on the one hand and the East Side plant of the District Attorney on the other! Really, Rutgers Square is not only the most picturesque, but in many ways it is symbolic of the most significant things in our country.



THE MARKET PLACE OF A DOZEN NATIONALITIES



Photographed by A. R. Dugmore

CHIEF ENGINEER WILLIAM BARCLAY PARSONS

UNDER WHOSE DIRECTION NEW YORK IS SOLVING ONE OF THE MOST DIFFICULT TRANSPORTATION
PROBLEMS IN THE WORLD

WILLIAM BARCLAY PARSONS

THE CHIEF ENGINEER OF THE GREAT SUBWAY SYSTEM IN
NEW YORK CITY—HIS PERSONALITY AND METHOD OF WORK

BY

ARTHUR GOODRICH

A WELL-KNOWN "Captain of Industry," when asked some time ago to tell something of his methods of work, said after a moment's thought:

"When I squeeze lemons, what I'm after is lemon-juice. My method is to get all the juice out of each lemon before I tackle the next one."

The man who knows Mr. William Barclay Parsons well, and who, for example, lunches with him in the midst of a busy day, is not surprised if Mr. Parsons, who perhaps, in a lull in the conversation, is glancing hurriedly over the last edition of one of the daily papers, suddenly drops the sheet and looks intently into space. His gaze reaches far beyond the walls of the building. Perhaps they see some puzzling problem of a subway station at 135th Street; perhaps they see a conference of the Rapid Transit Board, and the brain back of them is busy with some terse sentence that will sum up an important plan; perhaps they are seeing an addition to the great system of rapid transit he has planned and is carrying out, or suddenly they catch a glimpse of some diplomatic way by which a great corporation may be made to help the immense scheme he is giving the best part of his life to carry out. All at once he takes a pencil from his pocket and jots down a note. "There, that's done," he says with a sigh of relief, and he is back with his friend in the restaurant again. An "infinite capacity for taking pains," concentration of effort, eternal thoroughness; these form one of the most characteristic reasons for the success of the man who has done more than any one else to make rapid transit a practical achievement in New York. In a Founder's Day address at Cornell he drove home this same idea with the words of St. Paul, "This *one* thing I do." Nothing left half baked; no plan half worked out; every lemon squeezed dry before the next one is cut—this is the way his results have been achieved.

When he entered Columbia College in the fall of 1875, after a period of preparatory education in England, he was an overgrown boy of sixteen. But he was immediately chosen class president. He was immediately and actively interested in every side of healthy college life. He captained the tug-of-war team and stroked the crew. Columbia men of that time still tell the story of how young Parsons, in an open eight-oared race on the Harlem River, pulled the Columbia crew together after an accident that had put them behind, and with indomitable pluck stroked them almost to victory against impossible odds. All this athletic training undoubtedly developed and made solid for tireless labor his big-boned, stalwart physique. After his graduation from college he entered the School of Mines in an engineering course. The subject absorbed his interest, and he took his engineering degree after making the highest general percentage in scholarship on record in the institution. He had spent his summer vacations in practical mining and railway work, and on leaving the School of Mines in 1882 he took a subordinate position in the office of the division superintendent of the Erie Railroad at Port Jervis. So quickly did he grasp the practice of his craft that in 1883 he published a little work entitled "Turnouts" that was adopted—and is still used—as a text-book in the School of Mines from which he had graduated the year before. In 1884 he wrote a practical treatise on maintenance of way, a sort of trackman's *vade mecum*, which is even now considered a standard.

From Port Jervis he was transferred to the Rochester Division, and at once he began the reconstruction of a wretched stretch of road-bed. While he was at this work, his father, from whom he probably inherited much of his calmness and self-possession, came to see him. Mr. Parsons, Sr., accompanied his son on a trip over the division, and when the

young supervisor told him about the bad condition of the track, he said frankly that he thought it remarkably smooth and solid.

"Oh, but this is the part I have rebuilt," his son explained. "We'll come to the end of it in a minute and then you'll notice the difference."

Before his father had time to reply, the train was thrown from the track by the breaking of a driving-wheel of the locomotive and landed upside down at the bottom of a fourteen-foot embankment. Father and son found themselves seated opposite each other, unhurt, on the ceiling of the car.

"There, what did I tell you?" remarked young Parsons quietly.

"Yes, son, it is rougher," his father admitted readily.

After two years of further railway construction work Mr. Parsons decided, in 1886, to go to New York, and he opened an office there as a consulting engineer with Mr. S. A. Reed, his brother-in-law. Mr. Reed had advised him to make this change because the Arcade Railroad Company planned to build a tunnel the entire length of Broadway, and there would be interesting things for engineers to watch and to do.

This was the turning point, and the decision he made has meant much to Mr. Parsons and infinitely more to the metropolis. Once his mind was interested in underground construction and in the rapid transit problem, he concentrated a large part of his time upon a careful study of it. The Arcade Railroad Company failed, and when the District Railroad Company was organized Mr. Parsons became a member of its engineering staff. The City Railroad Company replaced the District Company after it had done much hard work to no purpose, and it, in turn, went no further than Mr. Parsons's plans, which he is probably glad were never perpetuated in iron and concrete. Through all this succession of failures he was learning all about every foot of land on Manhattan Island and the foundation was being laid for his achievement. At the same time he was actively interested in practical railroad construction in many parts of the country.

In 1891, under the leadership of Mayor Hewitt, the city began to take an interest in the rapid transit idea. Already congestion was common in the rush hours, and there

were demands for a practical solution of the problem. Mr. Parsons drew up an elaborate and comprehensive plan and submitted it to the first Rapid Transit Commission. He was shortly afterward appointed Deputy Chief Engineer. But no bids were received when the franchise was offered for sale, and the Commission disbanded in 1893. Then came the appointment of a new commission, and for two or three years difficulty after difficulty blocked the way of final achievement. The question of route, of expense, of objections from property holders and many others seemed impossible to solve. Mr. Parsons was now Chief Engineer to the Commission. An incident which, it is said, had much to do with his appointment is characteristic. He was put on the witness stand at one of the court hearings and the opposing lawyers put questions to him which they were certain he would be unable to answer. But he met every query immediately, and told them the exact condition of particular localities all along the route, the number and character of the sewer-pipes, the water-drains, the exact measures necessary to carry out the plan proposed, all in a tense, quiet way which proved him a thorough master of the thing he was to do.

He was only thirty-five years old when he became Engineer-in-Chief to the Commission, and many veterans of the profession said openly that his appointment was a mistake; but the Commission wanted a young man—no one but a young man could possibly complete the inevitably immense plan they were beginning,—and no engineer seemed to know the ground or to have such thoroughly practical plans as Mr. Parsons. And he impressed them, as he had his college mates, with an instinctive belief in his leadership. During one of the disheartening periods after the plans for a subway up Broadway had been finally rejected, the Commission had almost given up the entire scheme as impracticable. But Mr. Parsons would not quit. He stood practically alone behind the project, and voluntarily agreed to work out an entirely new set of plans that would meet the many requirements, if the members of the Commission would keep together. The original plan of the present Elm Street route was the result of this individual work, and this was finally approved in 1898. The consolidation of the borough into the greater

city, however, had so diminished the constitutional debt-incurring margin of the city that the practical achievement was again delayed.

At about this time came the war with Spain, and Mr. Parsons helped to organize a regiment of engineers from New York. He was appointed Chief of Engineers on Governor Black's staff with a rank of Brigadier General, and was placed in command of the State Camp at Peekskill, where the regiment was ordered for muster and instruction. Following this experience he was appointed Engineer-in-Chief of the Hankow-Canton Railroad. Hankow is the Chicago of the Chinese Empire, Canton its New York, and the crudest methods of transportation connected the two cities. With a few Americans and a motley crowd of Chinese Mr. Parsons tramped on foot through the closed province of Hu-nan, half again as large as New York State and containing 22,000,000 people. No foreigner had ever gone through it before. But, carefully untwisting miles of bureaucratic red tape, pushing ahead with indomitable will, making friends and admirers of men who were prepared to distrust and hate him, Mr. Parsons completed a preliminary survey, which many had prophesied could never be accomplished, in remarkably short time. As a member of the expedition described the task, "he did it on tact and absolute fairness of treatment to officials and peasantry alike. Prepared to fight, he never made the least show of willingness to do so, and we got through without friction, though often in much danger. Rapid transit requires generalship, of course, but it's the generalship of field maneuvers when compared with that thousand-mile march in a hostile country from Hankow to the sea. Sherman's march was nothing to it."

So successful was the result of Mr. Parsons's work in China that he not only received what is said to have been the largest fee ever paid for a preliminary railway survey, but he is now the president of the railroad company and the line is already well under way. Two gaily painted engines, decorated with Chinese hieroglyphics, now helping in the construction of the road, used to pull crowded trains of elevated cars in New York before the installation of electricity. Thus Mr. Parsons washes the left hand of his work in Asia with the right hand of his work in America.

When he arrived in New York the Rapid Transit Commission was ready for him. At last the great scheme at which he had been working for years was to begin. How badly it was needed only people familiar with New York can know. A comparison, which Mr. Parsons discovered recently, that the surface and elevated railways of New York City carry annually more passengers than all the steam railroads in both North and South America, including the suburban traffic of all the great cities, will give some idea of the great system which must be worked out to handle the daily passenger traffic of the city. These present roads carry more than a billion paying passengers yearly, to which may be added 250,000,000 for transfers. The traffic is increasing at the rate of six or seven per cent. a year. The subway cannot carry more than 250,000,000. Allowing, therefore, only three years to build a subway, it will then merely meet the natural growth in population.

This is the problem Mr. Parsons has been grappling with ever since he returned from China, every few months startling the people with added plans to meet increased congestion. Subways and tunnels and elevated roads have followed each other on paper in quick succession, and they will rapidly follow in steel and iron and concrete. A good example of the way in which Mr. Parsons plans for fixtures is his solution of the Brooklyn Bridge problem. The Board of Advising Engineers suggested an elevated railroad connecting the Brooklyn Bridge with the new East River Bridge. Such a plan might relieve congestion temporarily, but it would not increase carrying capacity, and the old bridge is already overloaded. Mr. Parsons's plan is to take the trolley tracks off the bridge and run the electric cars across on the cable tracks, leaving the roadway entirely to vehicles. All the other trolley lines he would send across the East River Bridge, thence across town and underground by a tunnel, and back to Brooklyn through the proposed Maiden Lane tunnel. Such a plan is made for the future and for permanency.

It has been said that Mr. Parsons is as thorough as a machine—that he concentrates to get one thing done at a time. If we follow him once through his daily routine the large facts of the man's character are as evident as his already great achievement. His kindly

eyes, his firm and heavy, almost threatening, jaw, his quiet but decisive voice suggest contrasts of character at the start. Here is a man whose rapid transit plans, the carrying out of which he will personally direct, already involve an expenditure of \$100,000,000, who is managing work today that is costing from \$1,000,000 to \$1,500,000 a month. He is, as some one has said, "the genius of the hole in the ground." When his estimates of the time and money necessary for the present subway were published many engineers ridiculed them. "Impossible" they said. "Absolutely impossible." But it has been done or will have been done in a few months. Mr. Parsons has until next March to complete the work. Most of the line will be in operation for the Christmas shopping. It was the same way in China. He made a schedule for the time needed for his survey. Every one laughed at his confidence, but he finished the task two days ahead of schedule.

If you sit in Mr. Parsons's office and look out of the big windows over the pulsing island city, the rivers on either side, the crowded narrow streets, the towering buildings, you will suddenly feel the immense sweep of this man's work, which is knitting together the parts of the greater city by traffic paths underground and elevated above it, by tunnels under rivers, by bridges over them—the most remarkable system of rapid transit plans ever proposed. He must have the imagination of creative genius. Go out through his offices and you will find room after room of hard-working engineers and draughtsmen, organized carefully and having splendid *esprit de corps*. These men work out the plans he creates. He does not allow himself to be swallowed up in detail, but often as he looks over the detailed plans he will put his finger upon many little flaws that have passed by the men who have made them. He checks the work carefully. The men who work with him all believe in him thoroughly both as engineer and man. A man who can command such a force of skilled employees must have remarkable executive ability.

"In all the three years of the work," said a member of his staff, speaking of Mr. Parsons, "there has never been the slightest friction or jar in the entire force. When lately, on his return from a short trip abroad, he found that the Civil Service Commission had amended its rules so as to require an additional exam-

ination for every advance of \$150 in salary even in the same grade, he at once went before the Commission and the Board and the action was recalled. You can imagine how ready his force is to cooperate with a man of that kind."

These engineers of his, however, are his easiest executive task. Follow him up and down the subway tunnel and realize that this man is personally directing the work of the contractor and his 10,000 men. Follow him to a meeting of the Rapid Transit Commission and you will find that he quietly and tactfully meets every objection, answers every question put to him about the work. Without doing all the work he yet knows all the work that is done. Go from there to a meeting with New York Central Railroad officials, and watch him prove to them the necessity of their connecting with the street lines, and from there go with him to a conference with the Brooklyn Rapid Transit Company over his plans for relieving the crush on Brooklyn Bridge. There has never been any considerable friction in any part of this gigantic work. Men come in angry and go away with a smile, though not a thing has been done for them. Such a man is a born general and diplomat.

A single incident told by a man who was associated with him at the time will show his ability to handle men. "A realty company was formed to buy private property under which the road would have to run and as far as possible where stations were to be built. They went to buy some property that they needed for a station. But the proprietor of a large department store asked them to hold off, as he was going to erect a big building. He would give the road every accommodation, he said. The realty company held off, and when the Commission wanted to arrange for a station they found that this man had bought up the property, and he made such hard terms with them that they almost decided to move the station. Mr. Parsons, looking over the ground, saw that it would help the city if the street above were to follow the course of the subway underneath. He proposed it to the Board of Street Opening, the property was condemned, the subway got its station at a proper valuation, and the city gets a fine open place that will greatly relieve the congestion of surface traffic."

Mr. Parsons saw the end of the puzzle he was to solve, and then, setting his heavy jaw and holding on with grim tenacity, he worked it out. That is what he will always do. It was what he did in China. When he reached Hankow for his famous survey he found none of the party which was to accompany him through the closed province. It was Tuesday. He was to start on Friday. One of the interpreters told him on Wednesday that the one hundred men he had been promised would scarcely be ready on Friday. Perhaps by the Wednesday or Friday of the next week they might start. Mr. Parsons sent word to the officials that he was going to start on Friday. Messages went back and forth, and finally on Thursday evening Mr. Parsons made it clearly understood that he would start Friday if he started alone. When he awoke the next morning his motley company of one hundred were awaiting him, and off they went, on time. At the first town they reached they were received pleasantly, and through interpreters the officials made it known to Mr. Parsons that he was to go down the course of a certain river and then in a southwesterly direction, and so on. Mr. Parsons thanked them kindly and told them that he was going straight across the hills. Word came back that he had better not do so. "He would find nothing but mountains and rivers," suggested the equivocal message, meaning difficulties, obstacles. Mr. Parsons merely affirmed that he would take that course, nevertheless. They were about to reiterate their suggestion of "mountains and rivers," when a Chinaman who had accompanied the party from Hankow broke in, shaking his head. "No good to talk to this man of 'mountains and rivers.' Talk to him only about plains."

And this quiet, unassuming bravery was shown only a year or two ago when in a railway accident he was thrown the entire length of the car and his head and face were dangerously cut. When they got him out, after a quarter of an hour or so, he told them to go ahead with the other people first; he was all right. And he held on with iron nerve until a fresh surgeon appeared.

In his little spare time many things occupy his mind. A man who did some private work for him remarked, "One day it was a railroad at Pittsburg, the next the

Chinese railroad, the next some work for an encyclopedia." He is gratuitously helping London engineers with their rapid transit problem. He has done a good deal of writing and has made a number of important public addresses. A man who knew him well said that Mr. Parsons would never overwork or burden himself. His sense of humor would save him. There was abundant evidence of this quiet humor in a remark of his the other day: "Did you ever write a book? No? Well, don't. It's too expensive a luxury of labor."

He is a very genuine man and a genuinely kindly man. Not long ago he went to Europe on some matters of business and was received with considerable ceremony by many leaders of English progress. He had a dozen or more large plans to carry out, and yet, when an employee of his who went abroad for a rest some weeks after Mr. Parsons had gone, arrived at a London hotel six hours later than the time which had been scheduled, the man was astonished to find awaiting him an anxious wire from Mr. Parsons inquiring for his safe arrival. And the same thing happened later in Paris. He is a man who naturally likes people and enjoys showing that he likes them.

His home means more to him than his clubs, although he is a member of a number of the best ones. He is the youngest trustee of Columbia College and a vestryman of old Trinity Church, New York. He is fond of yachting, but he takes his recreation chiefly in varying work with other work.

A man with an imagination that plans great things, with thoroughness doing one thing at a time and that one thing well; with executive power and a genius for leading men; with the skill and tact of a trained diplomat, and with an unalterable determination that gets great plans, thoroughly handled by thousands of men under his direction, done on time; and a kindly man with a genial sense of humor; modest, as one man put it, "because he doesn't know any better"; not without faults, but seeming to lack any that might interfere with his highest efficiency. Such a man is William Barclay Parsons. The fact that he and men like him are doing the most important public service should brace up the weak backs of those who fear for the republic.

MAKING LOW FREIGHT RATES TO INCREASE BUSINESS

THE WORK OF A GENERAL FREIGHT DEPARTMENT—HOW THE RAILROADS COMBINE TO CLASSIFY FREIGHT AND HOW THE AGENTS THEN ESTABLISH RATES IN COMPETITION

BY

M. C. MILLER

A RAILROAD official testified before a Congressional commission some years ago in reply to a question of Roscoe Conkling regarding freight rates:

"Yes, we charge as much as the traffic will bear; it wouldn't be business if we didn't. But we charge a rate to make the traffic grow. We name the maximum rate on what we think is the potential maximum of traffic."

This, after all, is the secret of low American freight charges and of American railroad success. Rates have declined, but the increase in business that has followed reductions has maintained and even swelled the profits of the railroads. This is pretty widely known. The actual method of making the rates—the working out, in brief, of the greatest single business in the world—is still, popularly speaking, a matter of mystery. The public, as a rule, do not understand how the thing is done.

Naturally the broadest phases of the business are managed through an understanding that embraces all the railroads in the country—a gigantic combination for mutual benefit and assistance. By common consent among the railroads the United States has been divided into three great sections: one east of the Mississippi and north of the Ohio and Potomac rivers, one south of the Ohio and Potomac, and one west of the Mississippi. Long ago a committee of freight traffic officials in each of the sections classified freight in six or more graded classes. Now these classes are fairly permanently fixed and well understood, but each committee continues in existence to pass on exhaustive pleas from shippers to drop certain articles in lower classes and thus lower rates, and to classify articles hitherto unprovided for. Governed by the classifications, each

railroad charges whatever it thinks best to attract shippers and yet make a profit on every hundred pounds it carries. After fixing a rate, the railroad is compelled by the Interstate Commerce Law, when it does interstate business, to publish it. But, under competition, that rate is lowered according to exigencies, and even under ordinary circumstances a shipper sending goods by the carload can secure a better rate than if he sent the goods in smaller quantities. Carload lots are in reality classed lower than small lots. Moreover in certain territories for specific reasons a railroad may apply a rating called technically an "exception"—when goods are put into a higher or lower class than normally. Under this general system the freight of the country is assessed.

It would all be simple enough if goods always traveled by a single railroad. The fact that they travel sometimes over five or six is what makes a General Freight Agent's office a tremendous chessboard, with intricate computation always going on and with constant attention to a thousand details.

Arrangements must first be made by any railroad with the other roads with which it shares business. The matter is settled usually by correspondence and conferences. The usual arrangement is one in which each road over which the freight is carried—say from Chicago to Boston—receives a percentage of the total charge, based on the number of miles each carries it. The person who pays the freight usually decides over which roads it will travel, the railroad which takes it makes the rate, and then all the railroads taking part in transporting it share in the payment according to their mileage, unless there is a combination of local rates.

The matter, however, is not always so simple. Sometimes a railroad possesses such a business advantage that it can obtain from the other roads what is called a "constructive" mileage—that is, a railroad 300 miles long arbitrarily declares itself 500 miles long, and receives a percentage according to the longer distance. Further, such a state of affairs exists that if certain railroads running out of New York State send freight directly south instead of via some Ohio River gateway they do not receive the regular mileage percentage, but what is called a "specific"—a definite, unvarying sum on each class of freight. This is the profitable arrangement their strategic position has enabled them to enforce. Thus any increase in the through rate is gained, not by the road on which the freight starts, but by the other roads, and any decrease also falls on them alone. As a rule, all special charges in the way of terminal expenses are deducted before the percentage distribution is made. After the railroads have agreed to them, the percentages usually remain in force for a considerable time, and the regular class-rate tariffs are effective nearly as long. Each freight agent's office contains files of all rates and percentages to which his road is a party, so that a shipper can be readily told how much it will cost to send goods anywhere, and the freight agent naming the charge knows by a glance at his list how much of the whole his road will receive and how much will go to each of the others. Rates are made by the road that is to receive the goods and start them on their journey. The harmonious action, also, of the different railroads in such matters, for example, as defining the limits within which free lighterage delivery is made in New York harbor, helps to keep working smoothly a business that is peculiarly susceptible to disconcerting snarls.

Owing to ever-changing business conditions lower rates than the regular class-rate tariff necessarily have to be quoted on various articles. These are known as "commodity" rates—placed on special commodities. Applications for such rates are numerous and constant, and each has to be accorded careful consideration in order to deal fairly by the applicant and at the same time realize for the carrier as much revenue as the traffic will legitimately bear. The necessity for

according all patrons consistent treatment occasionally precludes granting an application for reduced rates or some other concession that, considered alone, could be properly made, since constant discretion has to be exercised to guard against creating precedents that, later on, might be embarrassing when quoted by another as a basis for a similar request.

Since the only incentive to move property is a prospective profit, transportation rates must be low enough to admit movement. If the rate is too high, business will stop. Moreover, the competition of markets must be recognized. For instance, potatoes, as every one knows, are raised in various places, and there is always more or less demand for them in the large cities. If they command a good price at New York, a shipper in eastern Maine will endeavor to market them there rather than in Boston or some other New England point where the supply may at the time exceed the demand; but if the freight rate is too high he will be unable to ship them there, and the potatoes will be forwarded to New York from some other section where the rates are more favorable, thus obliging the shipper in Maine either to hold his stock an indefinite time, for a possible advance in the market, or sell at the lower price prevailing in Boston. Again, lime is manufactured in New England and in Ohio, as well as other places. A consumer at Syracuse or Rochester, N. Y., will buy at the point enjoying the most favorable freight rate, assuming the price of lime to be the same at either shipping point, free on board cars. As against lime that can be sent to Boston or New York City by water, say from Maine, it is necessary for manufacturers in Vermont, Massachusetts or Connecticut to have reasonable all-rail rates, otherwise they would be unable to compete; and, if unable to dispose of their output satisfactorily elsewhere, a cessation of production would ensue, causing a loss of revenue to the carriers as well as a larger loss to the manufacturers. At Birmingham, Ala., Chicago, Ills., and Pittsburg, Pa., iron and its products are manufactured, while Louisville, Ky., and Cincinnati, Ohio, are common markets, so that any reduction in the freight rate from Pittsburg would compel a corresponding reduction from Birmingham and Chicago, and many similar examples could be cited. Unlike the passen-

ger business, it is not the question of a single fare, but of providing rates to cover all kinds of property, ranging from pianos or silk to iron ore or sand; so that dealing with all these problems is much more of a Chinese puzzle than the general public has any idea of. All these complicated problems the General Freight Agent's office must work out.

Of course, there is no one location for a manufacturer that will enable him to reach all points of consumption to the disadvantage of others, although it is the endeavor of the Traffic Department of each road to let all industries on their lines reach as much territory as possible at favorable rates, since their interests are mutual. It has been shown how dependent manufacturing and other interests are upon the railroads, while the railroads are similarly dependent upon productive industries.

At times, conditions may warrant naming rather low rates, as, for instance, on iron ore, when coal cars of great capacity can be utilized that would otherwise be returning empty. On the other hand, the special fast movement required for the transportation of milk, berries, fruit or vegetables, in refrigerator or other cars, justifies a higher schedule of rates than is charged for ordinary service. The movement of freight over the road is controlled by the Transportation Department; but, as the results of the service are reported by patrons to the Traffic Department, the officer in charge of the latter frequently confers with the Superintendent, recommending such changes as seem desirable, both to retain old business and to secure as much additional traffic as possible.

Requests are more or less frequent for the privilege of stopping a car in transit for partial unloading, or of stopping a partly loaded car to finish loading, or of reconsigning or diverting cars already in transit. Occasionally, through error or oversight, a shipment may be misrouted and require an adjustment of rate and divisions en route, if possible, to avoid overcharging the consignee at destination. When it is impossible to do this, the apparent overcharge has to be dealt with in the shape of a claim. The adjustment of freight claims may or may not be under the immediate supervision of the General Freight Agent, but vouchers drawn in settlement are examined and approved by him before payment,

thus making him generally responsible for such disbursements.

If an original bill of lading becomes lost or destroyed, a satisfactory bond of indemnity has to be prepared before a local agent will deliver the property. Then, if some one later makes a demand for the goods, exhibiting the lost bill of lading, the railroad is protected against loss, if it be proved that it delivered the freight to persons who had no right to it.

In the conduct of so large a business, it sometimes happens that, even with the best of care, property is delayed in transit by reason of erroneous loading at initial or some transfer station, or fails to arrive for some other reason. In such cases the office staff makes all speed to locate it by means of a tracer, telegraphing if the case is sufficiently urgent.

A curious case of lost freight occurred a few years ago. Two carloads of grain were forwarded to a corporation in one of our largest cities and placed, in due course, with numerous others, on a storage track in the suburbs, waiting for the consignee to order them placed where they were to be unloaded. The freight agent in due course received the usual order, which called for the entire quantity in one car, the arrival notice having been so made out, because the way-bill from the shipping point showed the weight and charges for both cars in one item, just as if the consignment were actually all in one car. The switching crew, having an order for but one car, did not take the other, and, upon delivery, the representative of the consignee evidently thought he had the total quantity, as he signed the usual receipt for it without question. A year later, an observing employee, having seen the other car at various times on a back track, opened the door and reported to the agent what it contained. Inquiry of the Car Accountant then revealed the last movement the car had made under load, and, from the date of that movement, the agent at the forwarding station furnished the billing reference that cleared the case up. As the consignee was found to have failed in the meantime, and a receiver was winding up the business, the property was sold by the railroad to the best advantage and the proceeds turned over to the receiver, thus releasing the car after probably one of the longest detentions, under load, on record.

The successful General Freight Agent is a

man who possesses a good address, has executive ability, is thoroughly conversant with all the natural resources and manufacturing industries located on the line he represents, is a close observer of general business conditions and also knows what other roads in his territory are doing for patrons, in order to deal with the numerous problems continually being presented and to outline the policy for his staff to pursue. When he sends his agents out to solicit business they must know just what terms they can offer, and be prepared to answer all kinds of inquiries, such as time in transit, delivery facilities, and so on.

The annual reports of United States railroads show that the receipts from freight transportation are in almost every instance in

excess of passenger traffic earnings; and thus it can very readily be seen that in the conduct of so vast a business, involving so many interests, the railroads require the services of the brightest and ablest men they can secure. The remark was once made that "the contempt of the Operating Department for the Traffic Department is only exceeded by the contempt of the Legal Department for both," but there should be no such feeling. The importance of the Traffic Department should be fully realized and appreciated. As the transportation of passengers and freight yields nearly all the income a railroad receives, success and continued solvency depend in no small measure upon the results achieved by the officers in charge of that department and their subordinates.

THE BOOKS READ BY THE CHILDREN OF THE GHETTO

THE FONDNESS OF GIRLS FOR MOURNFUL STORIES—AMBITIOUS YOUNG PEOPLE WHO PREPARE THEMSELVES FOR COLLEGE—STORIES READ ALOUD BY CHILDREN TO THEIR PARENTS

BY

GRACE LOUISE PHILLIPS

FORMERLY LIBRARIAN AT THE UNIVERSITY SETTLEMENT LIBRARY IN NEW YORK CITY

IN the heart of New York's East Side is the Ghetto, where they estimate 4,000 inhabitants to each square block—the densest population in the world. In the heart of the Ghetto is a public library connected with a social settlement. All day it is filled with eager, dark-eyed children, chiefly Jews, busily reading or rummaging; and older people haunt it in the evening. The result is, that well-meaning people who enter the East Side to do volunteer educational work in the Ghetto, sometimes find that their earnest pupils know as much in history and literature as their teachers.

The reading of the younger children naturally runs to fairy tales, but the children do not monopolize such books. Little Yetta returns with a story to say that she read it to her father and mother, in their tenement kitchen, translating into Yiddish as she went along. And very probably Yetta's small or large brother has borrowed a fairy tale, too.

In general, however, the taste of the boys is healthier than that of the girls. Two girls will come into the library and one will say, "I want a sad book, please," and the other will say, "And I want a very sad book, too," and their faces will show the mournful delight they are anticipating in being "harrowed." The girls, too, often ask for the "Elsie" books, but, contrary to the reports from some localities, they do not leave the library because these books are not forthcoming. Given one by Meade, or Alcott, or Richards, they seldom repeat the request for the righteous but unnatural Elsie and her progeny.

The librarian always looks at the book a child desires to draw—the children make their own selections from open shelves—and if the book seems unsuitable another is recommended. Often the children ask the librarian in the first place to choose for them. Thus there is guidance in right directions.

When the boys want the Alger books, they have never yet left in disgust because Alger was not on the shelves. An introduction to Trowbridge, Otis, Twain or Tomlinson would usually suffice. One boy did threaten to leave because Henty could not write fast enough for him, but he was persuaded to try *Ivanhoe* and the crisis was safely passed. One boy asked for "Strawberry Finn"; later, this request was told to the genial author of "Huckleberry" and it pleased him so much that he sent an entire set of his works to this same library. Stories from American history by Stratemeyer, Otis, Tomlinson, and several others are favorites. Indian stories, too, are eagerly read, and from Ellis to Cooper is found to be only a step.

Some of the more typically East Side boys want detective stories, and some even stipulate that there must be a murder on the first page or the book is "no good." Sometimes boys come into the reading-room with their own special brand of "literature." They are always invited in to look over the shelves for more desirable books, and they are very easily led to one of Doyle's or Greene's, and if they cannot be induced to join the library, these books are kept for them to read whenever they come in, which is usually every evening when once they start. One boy came to me and volunteered the information that he "wa'n't readin' the other kind no more."

"Have youse anything about pirates?" is sometimes asked, but the request for the life of Lincoln, or Longfellow's poems, comes much more often.

Literature, American history and biography are the three classes most in demand. To these Jewish children poetry especially appeals. They read it understandingly. Longfellow, Whittier, Bryant and the Carys are the favorites. "Thanatopsis" is often asked for and copied. One little boy of ten, however, a daily visitor to the library, writes his own poetry. Now and then he comes hurrying in "in a fine frenzy," his eyes sparkling and his cheeks burning, and asks for a piece of paper to write his "poem" on. Within ten minutes he presents the library with the finished production.

Lamb's Tales from Shakspeare are in great demand, though they are sometimes disguised under the title of "The Story of Shakspeare and the Lamb."

The fondness these children show for American history is good evidence that, though aliens by birth, they are good Americans at heart. They like especially stories of New York City, and many of them belong to the City History Club. The lives of great men seem to fascinate them, with Lincoln as their favorite. They feel a personal interest and pride in his achievements against such tremendous odds.

Most ludicrous mistakes are made by the younger children when they come to exchange books for their older brothers and sisters—a common habit. "My brother wants 'The Three Mosquitoes' by 'Dummas,' said one little fellow on one occasion, while on others "Cæsar Almighty" ("Seats of the Mighty"), "Uncle Tom's Cabbage," "Enoch's Garden" and "Somebody's Plural Wives" ("Plutarch's Lives") have been demanded. One boy recently asked for Shakspeare's "Omelette."

"Uncle Tom's Cabin" is very popular. It is translated into Hebrew and into the Yiddish dialect and is read and loved by hundreds.

One day a little girl with a large book and a troubled face came into the library and said to the person in charge, "Jaky is sick and I have brang his book in." In answer to the usual query, she went on: "No, it ain't catching. He has much pain, and we think he ate something that didn't become him."

The older readers are mainly young men and women, from eighteen to twenty-five years old, who are either attending high school, the City College, or some other educational institution, or are working. Of the latter class, at least eight out of ten either attend evening school or are studying by themselves for the Regents' examination. One youth who for a long time worked and read in the library is now a student at Harvard. To these readers, the great objection that librarians are raising against the circulation of so much fiction does not apply. Their first choice is quite likely to be non-fiction in the first place, and in the second place the fiction which they do read is the kind which the modern young person generally leaves unnoticed. The inherent Jewish trait of "getting their money's worth," getting value received for everything, is applied to their reading. The little time they have to spend in reading for recreation is too valuable to be wasted on books not worth while. This may be one reason for

the high standard of fiction which they demand, but there is more than this commercial spirit which governs their selection. They have a natural literary instinct which leads them to choose well.

Dickens is the most widely read writer of fiction on the East Side. Thackeray, Scott, Tolstoi, Zangwill, Kingsley, Dumas, George Eliot and Hugo are all great favorites. New books are asked for, to be sure, and the various critical magazines are consulted for reviews and notices of these books, but among the books reserved are more often to be found "Ivanhoe," "Daniel Deronda" and "Vanity Fair" than "The Master Christian," "Lazarre" or "Dorothy Vernon."

Oddly, certain stories are enjoyed because of their beautiful descriptions of nature and their out-of-door tone. The breathing space and unlimited view which the readers get from "The Virginian," and from some of Hamlin Garland's and Bret Harte's western stories, are a relief to their cramped lungs and narrow sight, and "Audrey" has been returned many times with the remark that the word-pictures of the Virginia country constituted its chief charm.

Although the tastes of these readers incline toward the dramatic and tragic, still the sense

of humor is not lacking. Stockton's stories are widely read, and those of Mark Twain, Jerome K. Jerome and John Kendrick Bangs are seldom on the shelves.

Now and then a young girl demands a book with "lots of conversation and some love," or "a book where the girl goes to parties and wears pretty clothes." But poetry and the drama, essays and literature in general come first. The librarian consults with teachers in the neighborhood, and sets forth on a bulletin board a list of books bearing on subjects under study in various classes. On such an occasion, too, as a great man's anniversary, the bulletin recommends appropriate reading. Almost every child who enters reads the bulletin carefully before going to the shelves, while there is often much quiet discussion as to choice of books.

Among the older readers there is in almost every case a *purpose* underlying the reading. And for indomitable perseverance, continued and earnest effort, commend me to these young people of the East Side. They are preparing themselves for the battle of life, and, if we can judge by the books they read, they are imbibing from books the culture and refinement so hopelessly lacking in their narrow and sordid surroundings.

"J. P. M."

PERSONAL REMINISCENCES OF THE AUTHOR OF "A JOURNEY TO NATURE," ETC.

BY

EDGAR MAYHEW BACON

[A man who gives himself to newspaper work till middle life seldom—in fact, one may say never—carries out the plans of doing the larger and more sustained literary work that had formed a part of his life's plan. The most remarkable exception to the almost universal rule that journalism swallows its workers was the late Mr. Andrew C. Wheeler. He lived out and worked out two journalistic careers. Then, when he had almost reached sixty—a time of life when journalism has worn most of its writers out—he disappeared, as far as the reading world knew. He moved to his country home in Rockland County, New York, and retired to do his own work in his own way; and, although he had already reached the age when many men become old, he began a new career. He took a new

name. He became "J. P. M." The reading public accepted him as a new writer. He wrote nothing that suggested the work of his former periods—his periods of journalistic writing. He produced "A Journey to Nature," "The Building of a Country Home" and two novels, "Tangled Up in Beulah Land" and "The Conquering of Kate."

The following reminiscences of this remarkable man are written by his friend, Mr. Edgar Mayhew Bacon.]

HIS breaking away from the old environment was very gradual—it could not possibly have been otherwise. It was not so much a voluntary letting go, as the relaxing of outgrown tendrils on the

one side and the development of strong roots upon the other. It was interesting to observe in one who had already accomplished nearly threescore of the allotted years of man's life, a slow but complete change of base. One very important question involved in this change will be appreciated by every man of letters who lives by his pen. To give up his journalistic work meant to give up his emoluments with his market; in other words, to commence life afresh. For possibly the first time in his life this man must become acquainted with the keen disappointment and self-distrust that are so frequently enclosed with rejected manuscripts. The readjustment could not be accomplished in a day or a year. That it was accomplished at all seems little short of the miraculous.

At one time he wrote, "When I leave my own wilderness I leave all that is new and plunge into all that is stale, flat and unprofitable." Then, after a winter season in the city, came this protest: "I have been so harried with cross purposes that I don't know what I shall do. I have just signed a contract for a play which must be done by September. . . . So I suppose the middle of April will see us back on the ranch—I don't know, all sorts of things turn up, but if I can manage to get the time out of other work to do the play this summer, I hope to have some leisure ever after." Then he adds, "This isn't a chirp, as you demanded, but a kind of gasp."

Then came a season of resolute isolation, the city forsworn, and in the spring a lusting after the flesh pots, expressed in very vigorous English:

"Hibernation is played out. I have chewed more or less on my own vitals this winter. Solitude may make a man a philosopher, but it puts too high a premium on the grave. There is such a thing as erecting meditations into a mausoleum. I may go out this spring better equipped with reflections, but they are not negotiable—I have got to that intellectual point where I want to hit somebody with a pen, and not a fountain pen either. I have piled up a lot of 'copy' this winter, and I am beginning to suspect that I have piled it up where moths do not corrupt and thieves break not through and steal—that is to say, the thieves do not want it. However, the sap is running in the maple trees—why not in the hibernating scribbler?"

In October, the autumnal splendor of the woods and fields about his home inspired this

passage: "We are buried in old gold here now. Never was the opulence of October so inexpressibly yellow. The very air is esoteric with the mellow 'beyond' of life." Then there came a contented chuckle from behind the snowdrifts: "We are sealed up here by the storm, as you can imagine, but the Lord has been good to us, and we are doing the 'rug-in-a-bug' business placidly. You shall think of me in lines of poesy only:

"Beneath dread winter's weary waste of snow
The sweet, nutritious turnip deigns to grow."

When the drifts had melted he noted "Some signs of spring in the way of bluebirds, influenza and skunk cabbage."

In his very last letter to me, dictated in the room where he passed the last hours of his life, is the plaint—almost the only one melancholy note in all the many pages I received from him, "The weather here is insufferably gray and moody, and from my prison window the old world looks outworn."

His inability to tell a story or explain a situation or to state even an abstract proposition without violent gesticulation was well known to his friends. Frequently he has commenced to outline the plot of a story or play, hatched in a moment, born of some passing event, or suggested by a picture or a passage in a book, and before long has been going from scene to scene, from situation to situation, working up to a dramatic climax, during the whole recital hardly at rest for a moment. Every movement must be illustrated by some concurrent gesture on the part of the narrator.

In speaking of his withdrawal from the scenes of his former activity and his retirement to the quiet of a country home, I would not be understood as suggesting that he became in the slightest degree morose or unsocial. His real interest in men seemed to strengthen and become deeper, and he was more apt to look for what was finest and appreciate what was sweetest in character and thought. Almost his latest utterance was this, "It must be an awfully lonesome world to those men who outgrow everybody in it, and I honestly think that when a man reaches that distressing point of development he ought to be looking for a leasehold in some other world."

Though introspective to a degree, in common with most analytic minds, he was not

morbid, nor could he tolerate morbidity in others, yet he learned to cherish a very tender sympathy for “sweet and candid souls” who were not entirely free from the sensitiveness of invalidism. In my copy of “Amiel’s Journal” I find this, in his handwriting: “Here was a great soul lowering buckets into his own consciousness all his life. They came up brimming and sparkling, but the man never got away from the winch. You will hear its little squeak occasionally. Sometimes his faith gets tired of trying to lift itself in this way and he wants to lie down and rest himself.”

He was sedulous, even to the end of his life, to conceal his assumption of a new pen name, and cared nothing for the personal applause that must have accompanied the fame won in a new field of work at an age when most men are content to wear the laurels already achieved. The reception of “J. P. M.” by the public was almost as much a surprise to the author of “A Journey to Nature” as the appearance of its first chapters was to the readers of the *New York Evening Post*, in which it first appeared. These letters, which were gathered into this book, were the outgrowth of a departure already accomplished. No one can read them without being convinced that they are the expression of a soul that had found itself, the result of mature convictions and deep reflection. He came with the refreshing tonic of something to say.

He was an artist, not a naturalist, and his study of nature was comprehensive rather than minute. To his eye the succession of the seasons was a fascinating pageant; to his thought the everchanging, overwelling tide of nature an inspiration. Touching the delicate fringes of a gentian with caressing fingers, solacing his heart with the serenity of summer woods, or exulting in the blazonry of a sunset, I know that his delight was more in the ideal suggestion than in the thing itself.

There was no phase of the question of man’s relations with the unseen world that did not arouse in him instant attention and earnest interest. It would be impossible to make even the briefest analysis of his personality and neglect to notice the strong and increasing tendency of his mind to speculate upon religious and theological subjects, and it was the dream of his later years—unhappily

unrealized—to write a great religious story. This idea took definite shape several years ago as we worked jointly upon a history, not yet completed, of the great, romantic pioneer work of the “saddle-bag” Methodist preachers in the South and West during the first half of the nineteenth century. He looked upon the world-struggle between rationalism and evangelicalism as the most important of the great questions that engage the attention of the world.

“The fight is on,” he writes, “between what for want of a better name can be called evangelicalism on one side and a pietistic rationalism on the other. The gravity of this fight to my eye is in the fact that all the orthodox traditions are shifting their ground under a world pressure. . . . The vital point of departure (and this is the gravamen of the whole business) is in the lapse from a belief in the supernatural element in Christianity . . . The whole efficacy of the M. E. Church rested on the witness of the spirit—a miracle that reached down from the day of Pentecost to our revivals in the backwoods.”

Again he wrote:

“By the way, the incessant hubbub that is making over Markham’s ‘Man With the Hoe’ suggest a gorgeous opportunity to write—‘The Man With the Sulky Plow.’ Markham’s poem disparages the earthworker. The poet has an undisguised contempt for the close contact with the soil, and he makes this mistake of seeing in the peasant of Millet a man degraded by primitive labor, whereas the man is degraded by tyranny, oppression, human wrongs and social helplessness. America has answered all that problem. The man with the hoe in this country has done more than any other to make it. Every State has given us a Cincinnatus who had blisters on his hands, but died with garlands on his brow. Winslow Homer, some years ago, painted a picture which he called ‘The American Farmer.’ It was a superb New England man standing erect, looking into Heaven, with his hand on the plow. In him were all possibilities. His feet were in the furrow, but his eyes were on manifest destiny. I wish you could see that picture.”

I might go on indefinitely, quoting here and there from the good, friendly letters, seeing through them, and imagining that I could possibly make others see the many-sided man whose large thoughts leaped into words—whose words were delivered always shoulder-straight; but at the most I can give only an inadequate idea of him.



THE FASTEST STEAMSHIP EVER BUILT

GREAT, slow boats are all right, but for our motto you may write this, 'A broken record and a safe passage.' It may cost money, but it pays money, too; don't forget that."

This was the recently made remark of an officer of one of the German lines which has been noted for its swift ships—the *Fuerst Bismarck*, the *Kaiser Wilhelm der Grosse*, the *Deutschland* and the *Kronprinz Wilhelm*. These boats were all built in Germany; and now comes the fastest of them all, the *Kaiser Wilhelm II*. This remarkable vessel sailed from Bremen on April 14th, the largest and probably the fastest ocean steamship ever built.

The mere statistics of her dimensions are startling. In length she is 706½ feet—one foot and a half longer than the *Oceanic*—and her contract specifies 23½ knots. The Vulcan Shipbuilding Company at Stettin would not guarantee a greater speed, but there will be disappointment if she does not succeed in averaging from 24.45 to 25 knots an hour. If she does, the five-day boat—the dream of years—will have been realized. Her displacement is 20,000 tons, and her engines 40,000 horse-power. She is seventy-two feet broad and fifty-two feet six inches deep. There is a double bottom running the full length of the hull, divided into twenty-six compartments, while the hull itself has nineteen water-tight compartments. She has seven decks. The twin propellers have a diameter of twenty-two feet ten inches each.

Like the *Kronprinz* and *Grosse Kaiser*, she will have four funnels and three masts, and there are four sets of quadruple-expansion engines, two sets of engines working in each shoot. Although running at such a great speed, there will be no vibration, because the engines are set on principles involved in an invention known as the Schlick system, which obviates all motion on the bed-plates. The tubes in the condensers represent a length of forty-six and a half miles. The vessel has nineteen boilers and the steam

pressure is 213 pounds to the square inch. The coal-bunkers are equal to those of four of the largest battle-ships in the world. For pumping water out of the hold in event of emergency there are seventeen powerful steam-pumps capable of throwing up over 2,000,000 gallons of water an hour. The chain cables and hawsers are more than a mile in length.

For passenger accommodation there are two imperial sections with dining-room, drawing-room, bedroom and bath-room; eight state apartments with sitting-room, bedroom and bath-room; and eight state cabins with a bath-room in each. There are 290 first-class cabins and 107 second-class cabins. The first saloon will seat 554 passengers at one time and the second saloon 190 passengers. There are first-class and second-class smoking-rooms, libraries, music-rooms and the like; a children's saloon, typewriting room, post-office, two Vienna cafés and a safe-deposit department. There are four kitchens, capable of supplying meals for 800 first-cabin passengers, 400 second-class and 1,100 third-class. The crew numbers 600 men; the engine-room staff aggregates 237 men.

As the Germans put it, "She is conspicuous and interesting, and endowed with qualities that will be eloquent testimony to German enterprise and energy and skill."

BRITISH SHIP-OWNERS AWAKE

GERMANY'S increasingly superior ocean steamships have awakened English ship-owners. The Cunard line has decided to build twin ships that will dwarf everything now afloat or planned. These boats will be, it is understood, 730 feet in length, 70 feet beam, and will have a speed of twenty-five knots. The horse-power of the engines will reach 59,760; the engines themselves will be of the six-cylinder variety, and there will be three sets of them driving triple screws. There will be twelve decks, and the accommodations will provide for 900 first-class passengers, 500 second-class and 2,000 steerage.

From Queenstown these vessels should cross the Atlantic in about four and one-half days. These new boats are to be called, it is said, the *Britannia* and the *Columbia*, and each will cost about \$6,250,000. One of the conditions of the contract is interesting as showing what ship-owners are beginning to expect from ship-builders. It reads:

"If, at the end of a year's running, the vessels fail to achieve an average hourly speed of twenty-five knots an hour throughout a round trip from Queenstown to New York, they may be returned to their builders."

THE STARS AS ACCURATE GUIDES

THE stars have always been the guide-posts of the sea, but only recently has a device been invented by which they are accurately identified. In an overcast sky they will appear for a moment and then lose themselves behind a cloud. The mariner must by guess or by some diagram of his own work out his location from them.

The new invention consists of a star map over which swings a transparent scale, and it revolves from the point located on the map as the North Pole. On this scale are engraved the circles of altitude and the lines of bearing. From this map, by a slight calculation and by revolving the transparent scale until it is opposite certain figures indicated on the map, the ship's location can be instantly taken. The name of this particular star is obtained easily by reference to the nautical almanac by a guide on the chart.

This seemingly simple device is already in use on the American line and the Red Star line of steamers, and every new test reports success. It is the result of many years' study and hard labor on the part of Doctor Geissinger, whose idea it is. Even after the working model had been made and found satisfactory a difficulty arose. It seemed impossible to duplicate by any mechanical means the transparent indicator. No engraver could be found who was willing to undertake the work of reproducing exactly the fine lines and figures on this scale the use of which depended entirely on accuracy. The inventor immediately went at the task of planning a machine which would make the desired lines, and after infinite labor he constructed a mechanical device which engraves on the scale exactly the lines of his ingenious original model.

This new invention is likely to be an added preventative of accidents and delays in ocean travel. It bears the same relation to the latest collision bulthead that preventive medicines bear to those that cure.

NEW CAR EQUIPMENT THAT MEANS GREATER EFFICIENCY

COAL stood for days in the coal-yards, last winter, when every day's delay meant suffering, because the cars could not be unloaded rapidly enough. There was for this reason a dearth of cars in active service. In some yards, however, a new kind of coal-car was in use. A safety locking device, at the end of the car, instantly let loose the longitudinal doors extending from end to end below the bed-frame of the car, and in less than a minute after the car was in place its contents were dumped. With these cars there was no delay.

The old-style coal-cars, with cross-sectional openings for unloading, usually carry about thirty tons. These new cars, with swinging steel bottoms opening lengthwise from end to end over the trucks, will carry from sixty to seventy tons of either coal or coke—three times their weight; the coke racks being made of steel. These cars are of the usual length and height for large capacity. The largest share of increased capacity is at the bottom, where it is most needed; and because the centre of gravity is lower, the cars ride more steadily and can stand increased weight.

The old-time coal-cars carry their load of coal, unload it, and go back in long, rattling lines, dirty and empty. Their return trip is dead loss. A variation of the new coal-car is a steel box-car with a double bottom, one a coal-dumping floor, the other the usual level floor, placed directly above and made in sections that can be folded back against the sides and ends of the car. After a load of coal is dumped a man enters the car with a compressed-air hose and rapidly plays condensed air over the black, smudgy inside. In a few minutes it is as clean as it was on the day it first came from the shops. The upper flooring is dropped and the car is loaded with ordinary merchandise for its trip back toward the mines. The capacity of this car is nearly double that of the ordinary box-car.

As a manufacturer remarked recently: "The reason we're ready enough to show visiting foreigners our new inventions is that we'll have something newer and better before they reach home."

A COMPANY FOR EXPERIMENTAL MANUFACTURE

A COMMERCIAL organization formed to do nothing but experiment is a novelty, but it is one of the results of the chemical work done with the help of power from Niagara Falls. The Ampere Electro-Chemical Company, at Niagara, has nothing

to sell or to manufacture. Its business is to discover methods by which electro-chemistry can do present tasks more easily than they are being done, and to invent new processes of manufacture. Most of the important discoveries made with chemicals in the last few years have been happened upon in an electric furnace or bath, and well-equipped scientists working with this single end in view should make rapid progress in reducing to practical terms the chemistry already known. The financial return to the company for its labor will come in royalties upon its discoveries and inventions.

Among the men at work are Mr. Thurlow, who discovered the process of making artificial camphor, and Mr. Jacobs, who first learned the method of making artificial carborundum, and many other men as widely known for their practical experiments with chemicals.

The effect of the electro-chemical companies on the business of the country is evident everywhere. Methods of manufacture are changing. Chemical compounds which a short time ago were too costly to prepare are used now to make pig-iron and steel or to bleach cotton and woolen goods. The work of this experimental company should make the change more rapid and efficient.

EXPERIENCES WITH WIRELESS TELEGRAPHY ON MOVING TRAINS

TELEPHONES have been used on many fast trains, but no method has been found by which a traveler on a moving train can telephone to any one not on the train. A stop at a station is his only opportunity. There seems to be no reason, however, why by wireless telegraphy a passenger upon a train going a mile a minute may not communicate with a telegraph station and thence with whom he pleases.

During the winter a notable experiment was made with wireless telegraphy on trains. A special train on the Grand Trunk Railway was able to communicate with stations along its route by means of electric waves. With a comparatively simple apparatus persons on the train received messages from a transmitting station, St. Dominique, over a distance of from eight to ten miles. On the train, which was running at a rate of fifty miles an hour, the messages were received by collecting wires connected to a coherer of nickel and silver powder. These collecting wires ran through the guides for the train signal cord.

A long vertical wire would probably have been more successful. These wires, also,

were inside steel frame cars and yet definite signals were obtained. The vibration of the train undoubtedly jarred the sensitive adjustment of the relay. But in spite of all difficulties this pioneer experiment was successful. A better apparatus tried consecutively in careful tests is expected to obtain better results.

Wireless telegraphy overland has already been proved as successful and as practicable as over seas. It seems only a question of time when the railroads of the country will have apparatus so successful that a man on a train in Maine can talk comfortably with his friend in a New York business office.

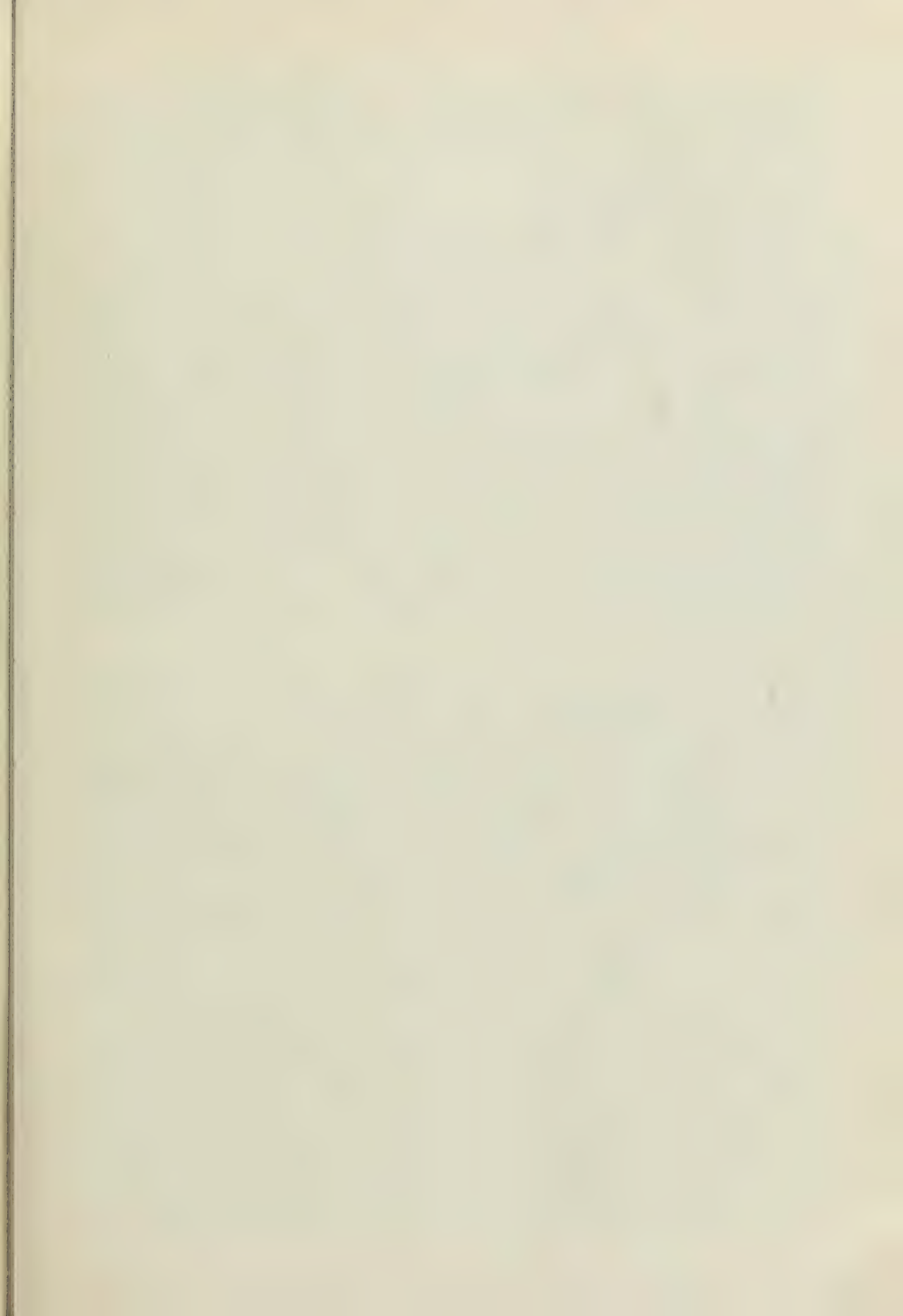
ADAPTING MANUFACTURES TO THE FOREIGN DEMAND

ONE reason why American machines often do not sell in foreign markets," said an exporter recently, "is that we make things for the domestic demand and then expect to sell them abroad without learning what the people really need over there. We make what they want in Kansas and expect it to meet the needs of the people in Austria."

A good example of the different conditions for which the manufacturer must prepare is evident in the making of grain separators. An American machine will thresh, fan and load upon wagons 2,000 bushels of wheat in a day. Five hundred bushels in a day is extraordinary in England or France or Germany. Their machines are modern and the average yield of wheat on their farms reaches thirty-eight bushels to an acre. But they will not buy a rapidly working American machine.

The reason is not far to seek. First of all, the European farmer prizes the straw, and in their separators the straw passes through as straight as it goes in. It is bound up afterward by American binders, but the steel cylinders with steel teeth in our machines make their use impossible. Besides this, in the European machine the grain is well cleaned, often ready for grinding. It is separated into different grades for different classes of buyers. If an American could add these two qualities to the speed of our machines there would be no difficulty in selling them abroad.

A manufacturer who has been very successful in his export trade said the other day: "The goods we sell in Germany are very different from those we sell in Italy. It's the old story of Mohammed and the mountain. You can't make the market to suit the goods; you must make the goods to suit the market."





Photographed by J. C. Hennemont

JOHN B. HERRESHOFF
THE DEFENDERS OF THE AMERICA'S CUP



Photographed by J. C. Hennemont
NATHANIEL HERRESHOFF (at the right)

THE HERRESHOFFS, WHO HAVE BUILT THE DEFENDERS OF THE AMERICA'S CUP

THE WORLD'S WORK

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NUMBER 2

The March of Events

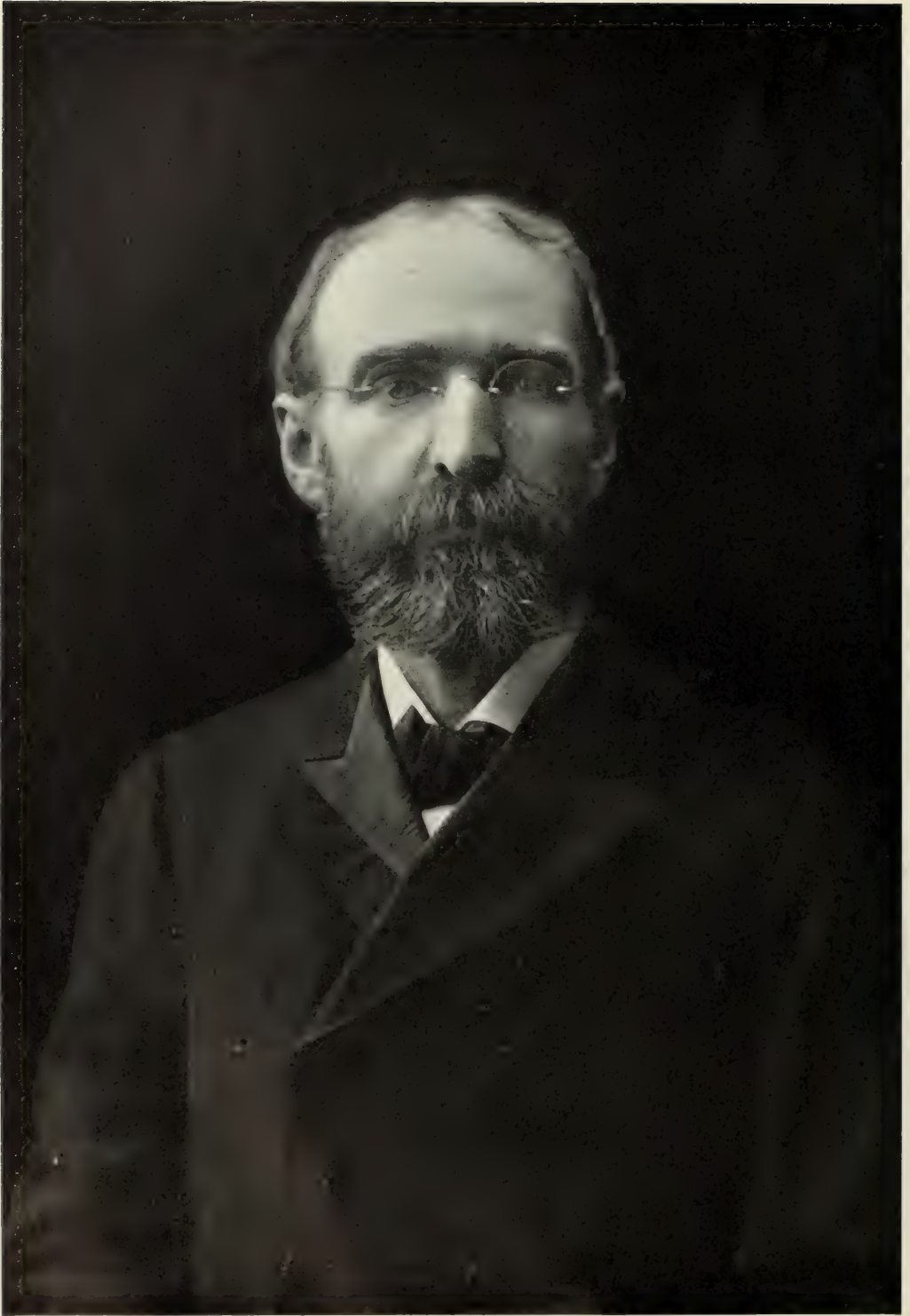
THE two subjects that have recently been most discussed, and most seriously discussed, in the United States are the restraint of trusts and the restriction of Negro suffrage. Upon both these, important and far-reaching decisions by the courts have now been delivered.

The decision of the United States Circuit Court, two months ago, in the case brought by the Attorney General of the United States against the Northern Securities Company, gave life to the long-dead anti-trust law. The "merger" of the Great Northern Railroad and the Northern Pacific Railroad companies into a "holding" company was declared a violation of the law, because it was in restraint of interstate commerce and in destruction of competition. It is not expected by the best legal opinion that the appeal to the United States Supreme Court will be successful.

But it is already clear that, even if the decree of the Circuit Court stands, it will not change the destinies of the human race nor bring havoc to business. At first a cry was raised that we had run into anarchy, that practically every "merger" of corporations was illegal, that all business organization was in peril, and that we should have to go back to the methods of the small days of individual enterprise. The truth is, the decision directly

affected nothing but this one colossal combination—the Northern Securities Company—but it will have the indirect effect of discouraging the indefinite merging of merged mergers; and that is well.

The chief effect is moral rather than directly commercial. The owners of these two competing roads will not be thwarted in their plan. They can, if they wish, maintain uniformity of rates without a merger, but they can not perhaps fix and fasten the unity of ownership of both roads so securely for an indefinite period. The decision has not checked legitimate business organization; for no decision and no law can do that. But, through this law and through this decision, public opinion has found expression—that there is a point somewhere beyond which combinations must stop. If it be little more than a warning, it is a serious warning. It will stand as a threat to practically endless consolidation. This decision means, then, that the Government can restrain corporations at some point in their otherwise unending combination; and this gives it significance. The anti-trust law may be changed so that legitimate combinations may not be at the mercy of litigants. But, since it has been proved that such an act can be enforced, it is not likely to be repealed.



DR. CHARLES R. VAN HISE

Photographed by Ford

THE NEW PRESIDENT OF THE UNIVERSITY OF WISCONSIN

(See "The March of Events")



Photographed by Frances Benjamin Johnston

DR. C. HART MERRIAM

CHIEF OF THE UNITED STATES BIOLOGICAL SURVEY

(See "The March of Events")

ANOTHER RESTRAINT ON CORPORATIONS

ANOTHER decision that has a similar moral effect was handed down by the New York Court of Appeals, which declared that a law taxing public franchises is constitutional. This decision reversed the decision of the lower court. In New York now, for the purposes of taxation, a franchise of a street railroad, of a gas company, of an electric company, etc., which uses the public streets, above ground or beneath it, becomes property as if it were real estate, and is taxable on its appraised valuation.

This is a new application of taxation. Not only will it bring an enormous addition to the revenue of New York City, but, more important still, it also (as the anti-trust law does) declares that corporations are within the power of the law. Like the great merger case, it has a moral value. This also will be appealed, but it is not thought that the decision will be reversed by the United States Supreme Court. It is doubtful whether the Supreme Court will find that it falls within its jurisdiction.

Public opinion in general approves both these important decisions. They are, in fact, the voice of public opinion speaking through the courts. Both the United States anti-trust law of 1900 and the New York franchise tax law were enacted in response to the public demand. But the enactment of the New York law and the enforcement of the United States law were both due to the personal earnestness and energy of Mr. Roosevelt. This New York law was his most conspicuous achievement as Governor; and the enforcement of the United States law is the result of his insistence as President. It has thus happened that both these checks to corporate power have been administered at his hands. One of them "shelved" him in the vice-presidency. The other also has won for him the opposition of what Mr. Bryan used to call the "capitalistic" class and press.

THE MORAL AND POLITICAL EFFECT OF RESTRAINTS ON CORPORATIONS

THE consolidation of corporations and their acquisition of free privileges have been going on at a rate that made thoughtful men as well as the larger public wonder what the final consequences would be. By the creation of "holding companies" and other ingenious devices, it seemed theoretically

possible that the transportation machinery and a large part of the mines and factories of the country might pass into the hands of a small group of great captains of organization. Worse than this, it seemed theoretically possible so to consolidate them that they might become fixed and remain almost as one property. The new processes of consolidation not only concentrated power in the hands of men now living, but, conceivably at least, made the consolidation so compact and permanent as to permit its transmission in unbroken bulk to succeeding owners.

At some time, therefore—far off, perhaps, but surely at some time—this question seemed sure to arise: Who owns the very foundations and instruments of prosperity, the people or a few great corporations controlled by a few men? When a time of depression came such a question was sure to be asked with greater earnestness than it has ever been asked hitherto. And in this direction lies the danger of something like State socialism.

It is this continuous merging of mergers, generally with more watered stock at every step in consolidation, that has made European financial opinion of us hesitant of approval in all quarters and critical in some. The process of consolidation must end in disaster at some time. A bad crop might precipitate it. Certainly some untoward event would bring a crash. Then radical legislation would follow. A public opinion which is quiescent in prosperous times would become savage and revolutionary in lean times; and the fall of artificial values would drag down real values.

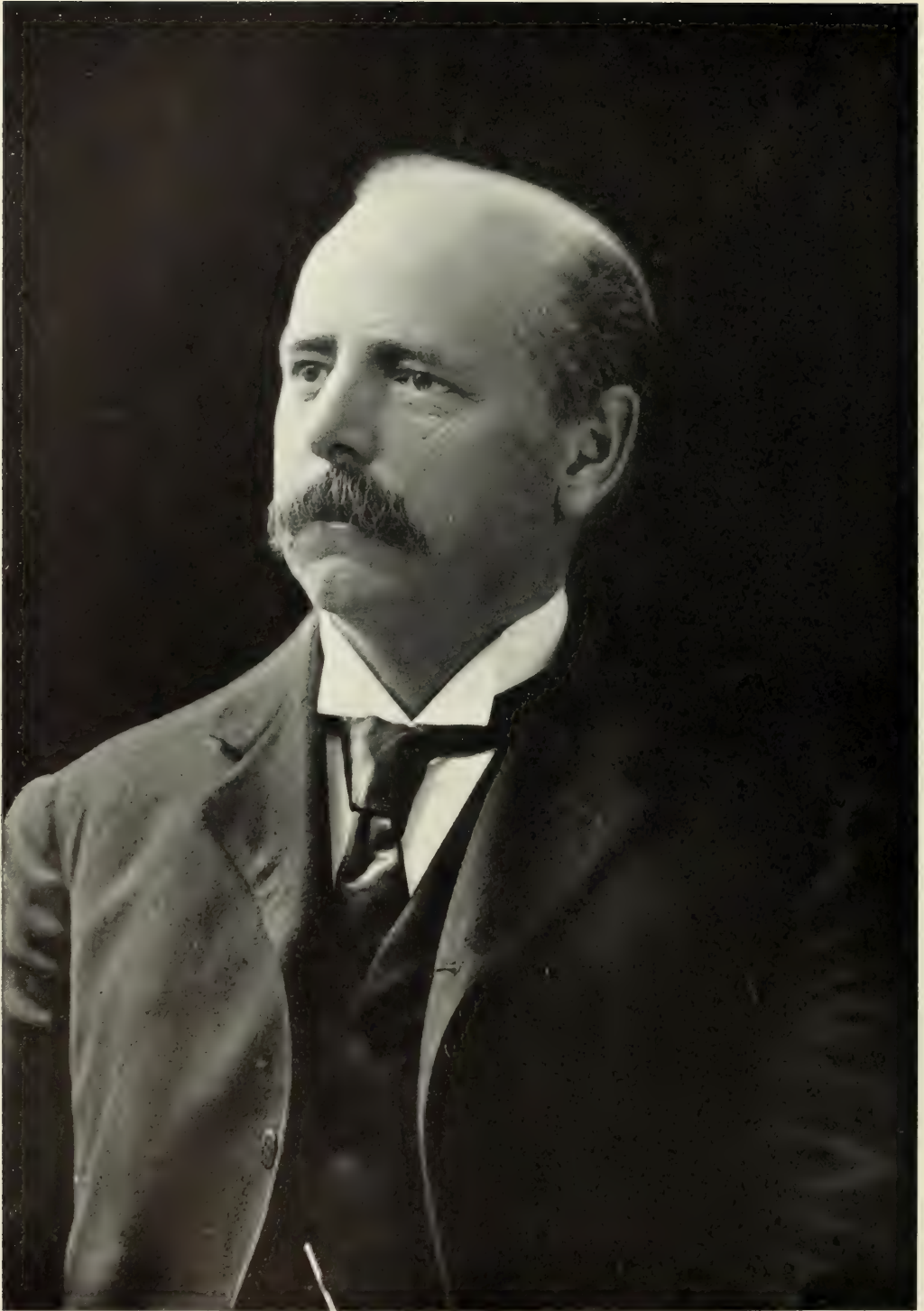
It is here that the good moral effect of these checks to corporations comes in. They are not destructive of business enterprise. They will not prevent any desirable railroad consolidation under other forms, nor will they do any hurt to legitimate organization. On "legitimate" corporations they will have little effect. But they will act as a conservative influence. For the salutary point is, they do make plain the power of the people to deal with corporations. They act on the corporations as a wholesome threat and on public opinion as a deterrent from more radical measures—at least, so long as the temper of public opinion is kept mild by prosperous conditions.

It is unnecessary to say that this subject will play an important part in next year's



M. J. J. JUSSERAND
FRENCH AMBASSADOR TO THE UNITED STATES

(See "The March of Events")



DR. WILLIAM T. COUNCILMAN

Photographed by Purdy

PROFESSOR OF PATHOLOGY IN THE HARVARD MEDICAL SCHOOL
AND THE DISCOVERER OF THE GERM OF SMALLPOX

(See "The March of Events")

presidential election. So far as public opinion may now be measured by guess, Mr. Roosevelt has won the displeasure of the "capitalistic" class without doing damage to business. The conservative business interests of the country, therefore, will be rather pleased than displeased. And he has won the approval of conservative public opinion in general. The radicals of both camps are dissatisfied—one because he has gone so far, the other because he has not gone further. One says that he has thrown business organization into chaos; the other, that he has merely tampered with the trusts rather than restrained them. From a political point of view, such a position is not without its dangers; but its advantages outweigh its disadvantages by much.

More important than the political is the scientific view of the subject. We are breaking new ground. We are making our way by experiment toward safeguarding the public welfare without checking legitimate business enterprise. From this point of view these decisions and all that they imply are positive but conservative steps forward.

THE SUPREME COURT AND NEGRO SUFFRAGE

THE decision of the Supreme Court of the United States, in the case brought with the hope of testing the constitutionality of the restriction of suffrage in Alabama, means this—that the Court found the subject, as it was brought before it, outside its jurisdiction. It is a political matter and belongs to the political department of the Government. In other words, the Court holds that the regulation of the suffrage is a subject for Congressional or State determination.

The well-known facts are these: The amendment to the constitution of Alabama whereby the suffrage is restricted is, in avowed intent and in effect, aimed at the Negro. If the restriction were a frank restriction based on either an educational or a tax-paying qualification, or on both (such as Massachusetts has), there would be no doubt of its constitutionality nor of its propriety and practical value. Enlightened public opinion in every part of the country is well nigh unanimous in favor of a frank restriction of the suffrage in the southern States made without reference to race. But the rub comes at the "grand-

father clause," whereby illiterate whites are admitted to the franchise and illiterate blacks are excluded. In other words, the suffrage is really restricted on race lines.

There is no doubt that this is a violation of the United States constitution, in spite of the ingenious form that it has taken to avoid the violation of its letter. A case was brought several years ago to test the corresponding clause of the Mississippi constitution, with a practically similar result; and another case is pending to test the new disfranchising constitution of Virginia.

The result probably foreshadowed by this decision in the Alabama case is that the Supreme Court will not overturn these disfranchising amendments to southern constitutions. The subject will be dealt with, if it be dealt with at all, by Congress. Congress can deal with it by refusing to seat southern members whose election it regards as secured by improper restriction of suffrage and by reducing southern representation. Whether Congress will do either of these things remains to be seen.

But whatever be done or whether anything be done, the South has practically disfranchised the Negro, and will keep him disfranchised for a long time to come. Dominant southern opinion is increasingly earnest in its insistence that he shall remain practically powerless at the polls whenever his vote threatens white supremacy. The South may be punished by Congress, but it will not recede from this position. It would suffer a reduction in its Congressional representation rather than restore the suffrage to the mass of the Negroes, or disfranchise illiterate whites.

The political status of the blacks may be regarded as fixed as, in fact, it has been fixed since the end of the reconstruction era. The Negro was practically disfranchised as soon as the carpet-bag governments were overthrown. Either he was frightened from the polls or his vote was counted out wherever he threatened to secure control, before these restrictive amendments to the suffrage took the ballot away from him under the form of law. The Fifteenth Amendment, therefore, has long been, is, and will indefinitely be a dead letter wherever the Negro is thought to threaten white control.

Even if the disfranchising amendments to these southern State constitutions were

declared unconstitutional, the ballot would not be restored to the Negro or he would not be permitted to use it on the same conditions as the white man has it; for, in those southern States that have no such amendments—Georgia, Tennessee and Florida, for examples—he is excluded from political power as effectively as in South Carolina and Mississippi and Louisiana. Military force, or the fear of it, and nothing less, put the Negro in the South for a time in full possession of the ballot, and nothing else can do it again, under present conditions.

THE FAILURE OF POLITICAL METHODS IN THE SOUTH

SO far as practical results are concerned, then, it matters little what the Supreme Court does or what Congress does. They touch the theory rather than the stubborn facts. The establishment of universal manhood suffrage in the South has been tried and it has failed. A restricted suffrage was a logical next step; but the restriction has been made so as to discriminate against the Negro. The South can be punished politically by reducing its representation in Congress, but its conduct cannot be changed by punishment. The ailment is too deep-seated for mere political treatment.

These States have never been real democracies. In reconstruction times, small groups of carpet-baggers held power by the help of the Negroes. Since then the whites have held power without reference to numerical strength. The problem is to make a democracy possible there. That task can be done only in one way, and that way is to train the people to a higher level of economic life. There is no other radical solution. A democracy must be based on economic efficiency and general intelligence. It cannot be superimposed on ignorant masses. The foremost patriotic duty of our time, therefore, is to educate the southern masses of both races to economic efficiency.

Efficient men who are economically strong are the only sort of material of which anything like a real democracy can be built. The fundamental need is the training of all the people.

THE SOUTHERN EDUCATIONAL CONFERENCE

THE strongest force for building up southern life to a democratic height of economic efficiency is the present active

southern education movement, which is gathering such force as few popular movements in our day have had. The annual conference, which was this year held at Richmond, Virginia, brought together a large body of the foremost men and women from all the southern States, and a group of noteworthy men and women from the North as well. The zeal they show in arousing public opinion to the necessity of educating the southern masses is as earnest as it is well-directed.

The most important institutions in the southern States, such as the universities of Virginia, of North Carolina, of Georgia, of Tennessee, of Mississippi, such universities as Vanderbilt at Nashville, and Tulane at New Orleans, and practically all the colleges under church control, were represented by their presidents; and the superintendent of public instruction from nearly every southern State was present. Business men and professional men, too, from every part of the South went. It was perhaps the most noteworthy gathering of southern men for a purely disinterested public purpose that has been held in many years. Some of the speeches were made by northern men of note, and the conference was held under the presidency of Mr. Robert C. Ogden, of New York, by whose remarkable organizing ability it has grown year by year; but its work and spirit and membership are southern. To further its ends every strong force in southern life is united to build up the people, by every kind of educational machinery, from the rural public school to the church colleges and the State universities.

They all grasp the philosophy of the situation—that untrained masses in a democracy are a menace, whether they be white or black; and that the training of all the people is the only safeguard of a democracy. Differences of method and local jealousies (if there be such differences and jealousies) are sunk in the common purpose. Old-time sectional differences are obliterated. Northern opinion and southern opinion agree on this—that proper universal training is a national patriotic duty. There is, perhaps, no other "movement," to call it such, that has such a volume or unanimity of moral enthusiasm behind it. The political, educational and social forces of the South are committed to it; and no section of opinion that has weight withholds

its support. These southern leaders have welded together every strong influence, and they have won the admiration, and they are entitled to the hearty coöperation, of the whole country—of men of all shades of political opinion.

Mr. Carnegie's gift of \$600,000 to the endowment fund of Tuskegee Institute is coöperation of the most helpful kind wisely bestowed. Many such gifts can be most helpfully used by institutions for whites and by institutions for blacks; and there is no better way to encourage such benefactions than by conferences like this one held at Richmond. The great leaders in Southern education can give a better direct return for money spent in furthering their work than any other class of men who are engaged in lifting the level of life in the republic.

LAYING THE FOUNDATIONS OF A DEMOCRACY

THE southern education conference touches neither political nor religious nor social nor race controversies, nor controversies of any sort whatever. But the ultimate relation of this educational revival to every southern problem is obvious. When there are no illiterate white men in the South there will be no need of laws discriminating in favor of white illiteracy. From whatever point of view the large subject be regarded, education—the proper, free, universal education of each race—is the only way out and upward. With the present large body of illiteracy and personal worthlessness, born of ignorance and a lack of training, the economic basis of life is necessarily low; and a low economic basis of life is the fertile soil of all sorts of problems and difficulties in a democracy. With training to a high economic efficiency, "problems" and difficulties will disappear.

It is for these reasons that what may in a comprehensive way be called the southern problem shows a more hopeful outlook now than it has shown before, in spite of the unpleasant obtrusion of its merely political aspects. These are, after all, not its fundamental aspects. Whatever were the political conditions, so long as there is a body of ignorance weighing down citizenship with its heavy burden there could be no radical cure of the ills that this generation has inherited from its predecessors. The teachers hold the key of the South's larger, fairer, better future;

and they show a moral earnestness that few other classes of workers among us can match. They are entitled to the gratitude of the country and to the coöperation of all patriotic men. They attack the problem in a radical way. Their work makes for the development, among the people themselves, of a real democracy. And they are southern men working in fact by the very plan that Jefferson himself laid down—a plan for universal education that was checked by the growth of slavery. This is the hope of the South and of the development of its people till they shall again contribute their full share to the intellectual, moral and economic character of the republic and become national in their thought and ambitions.

THE RUSSIAN DANGER TO PEACE IN ASIA

WAR between Japan and Russia may not be imminent, eager as the Japanese are for it; but it is one of the unhappy events to be feared in the future. Japan has never forgiven Russia for cheating her out of the fruits of her victory over China.

Russia's recent questionable conduct with regard to Manchuria has made the matter worse. It has, indeed, made the confidence of all nations in Russian frankness somewhat less, if any profound confidence in it were left. Russia occupied Manchuria when the Boxer outbreak occurred, and she has important interests in this great northern Chinese province. When all the allied powers agreed to abstain from taking Chinese territory and to keep the doors open to trade, Russia agreed to give up her virtual control of Manchuria. The evacuation was to be made of different parts of the province at stated intervals.

But the news was lately reported from Peking that Russia had made such demands of China as meant the retention, or practically complete control, of Manchuria. So violent a breach of the international agreement were these demands that most of the powers made inquiry about them. Thereupon Russia gave assurance to the United States among other powers that she had no intention of permanently occupying Manchuria except for police purposes; and it was declared that she had done nothing further than to make "inquiries" at Peking touching the acceptability of certain proposals to China—an explanation that is officially accepted but that is hardly convincing.

The most noteworthy thing, however, about this so-called "inquiry" is that it was made at a time when affairs in the Balkans had, because of Russia's clandestine incitement, assumed such dangerous aspects that the continental European powers were unable to pay even ordinary attention to affairs in the Far East.

If Russia secures permanent control of Manchuria—or, to express the thought more accurately, *when* Russia secures permanent control—the door will probably be closed to American, British and Japanese trade; and then will come the danger-point. There is no danger that our country will go further than remonstrance; but the smoldering hostility of Japan may break out, and England has a treaty with Japan which may possibly draw her into active trouble.

Russian and English conflicts of interest nearer British India are a constant source of uneasiness to British statesmen. If danger of a conflict between these two great powers should arise about Manchuria also, the settled peace of the world might suffer a disturbance that would bring the gravest consequences.

England has definitely announced that no other power shall establish a naval base or fortification on the Persian Gulf. This is a direct warning to Russia touching encroachments in this quarter of the world; for a naval base on the Persian Gulf would carry with it the possibility of attacking England's trade route to the East.

RUSSIA OR JAPAN TO CONTROL IN ASIA

RUSSIA is thus likely, perhaps certain, to break faith with the powers and sooner or later to make sure of her control of Manchuria, be the consequences what they may. Looked at from St. Petersburg, the subject takes a patriotic coloring. In the eyes of Russian diplomacy Manchuria is a necessity. The struggle is a struggle for access to the sea. The trans-Siberian railroad ends at Valdivostok, which is ice-bound during the winter. The branch road south to seaports that are open all winter runs through Manchuria; and it is for the security of this road and of these ports that Russia is earnest.

Here, then, are the elements of a race-struggle and a world-struggle. Russia, with Pacific ports open all the year and with

control of Manchuria, would, in time, push into other Chinese provinces; and she would keep Japan off the mainland. If Japan, on the other hand, were to get a secure footing in Manchuria, the Japanese ambition would be ultimately to lead the Chinese out of their isolation. It does not require a violent use of the imagination to see the possibilities of a struggle in this situation which will reach over a long period—a struggle for the mastery of countless hordes of Chinese. Under Japan's leadership it would be yellow men's leadership of yellow men. Under Russia it would be the yellow race under the leadership of the Slav.

The immediate question is the question of an open door for trade and of Russia's keeping faith with her allies who punished the Chinese for the Boxer atrocities. But the real question runs much further forward. It touches the control of a large part of Pacific Asia and the ultimate relative power of Russia and Japan.

There is, therefore, no more momentous subject in world politics than this; for it involves in a measure the one great question of the future—whether Russia is to dominate the Asiatic world. It involves also the future of Japan, and the future of Japan means this—whether any branch of the yellow race is really to come into great leadership.

The Japanese feel that they have fairly won a stronger place among the nations and that they have been cheated out of the chance for expansion. Expansion means a foothold on the Asiatic mainland. A foothold on the Asiatic mainland may mean ultimate control of a large section of China. It surely would mean a larger power than the empire can hope to have so long as its population is confined to its island. They now number 45,000,000.

When the Japanese-Chinese war ended with victory for Japan, the Japanese demanded a concession of a part of the mainland. China was powerless to resist and was even willing to get off so cheaply. It was then that Russia stepped in. Japan was in a mood to fight even Russia, but Germany and France also stood against her. It was a union of these great European powers against the ambition of the Japanese. At that time England could have turned the scale in favor of Japan by risking a war; but this Lord Salisbury's government was unwilling to do.

The Japanese, therefore, were denied the fruits of their victory.

Now, in this practical acquisition of Manchuria by Russia, Japan sees the next chapter in the deliberate plan to exclude her from the Asiatic mainland. Having fairly won by industry, by the arts, by governmental reforms, and by war a place among modern powers, she finds herself hindered from expanding in her own hemisphere by powers of the other half of the world—hindered by the nations whose civilization she has imitated from reaping the rewards of her ambition and power. This must seem to the Japanese mind an intolerable situation. War will come out of it at some time, for 45,000,000 of Japanese feel cheated and aggrieved.

THE GREAT NATIONS' TRADE GAINS IN THIRTY YEARS

THE Bureau of Statistics of the Treasury Department at Washington has issued the first part of its comprehensive history of the commerce of all the principal countries in the world. The most striking facts set forth are the rapid growth of the foreign trade of the United States, of Holland and of Japan during the last thirty years.

Our exports and imports are now more than \$2,250,000,000 a year—nearly three times what they were three decades ago. During the same period England's exports and imports have increased only 62 per cent. and Germany's 60 per cent. Holland shows an increase from \$340,000,000 to \$1,250,000,000; for her trade has been multiplied by four and one-half. Japan's foreign trade has been practically created within this period. In 1870 it was only \$40,000,000 and it is now more than \$250,000,000. Canada also has made a prodigious advance.

This comparison of the totals of exports and imports of countries is not an accurate measure of prosperity nor even of material growth. A large part of the imports into Great Britain, for instance, are breadstuffs, whereas a considerable part of the imports into the United States are raw materials that are used in manufactures. The economic meanings of these different sorts of imports are very different. But in a rough and general way these incomprehensible totals do indicate the large movements of commerce. They tell, for instance, an important story of the increasing interdependence of

nations. Great Britain, the United States, Germany and Holland thirty years ago had a foreign trade of \$4,708,000,000 (if anybody can comprehend that), and now they have \$9,600,000,000—an increase of about 100 per cent.

The three leading nations now stand in this order with respect to their total foreign trade:

The United Kingdom . . .	\$3,573,000,000
The United States	2,258,000,000
Germany	2,254,000,000

A more accurate indication of the prosperity and progress of any of these countries, especially of our own country, would be the volume of its internal trade. What we buy from one another and sell to one another tells the true tale of our wealth and activity.

SIDELIGHTS ON THE PEOPLE'S ENRICHMENT

IT is not only such large facts as the increase of our foreign trade that constantly surprise us. There are smaller measures of our physical progress that are amazing. The census office, for instance, has issued a report on the growth of street railroads during the last twelve years, which shows that the length of street-car lines has increased from less than 6,000 miles to more than 16,000; the length of single track from 8,000 miles to more than 22,000; and the number of passengers from 2,000,000,000 to nearly 5,000,000,000. Of course these years have been years of the natural extension of street railways because of the application of electric power. But these figures show a change of habit by a very considerable proportion of the population and have an important social significance. An amazing fact, for another reason, is that during these twelve years 1,216 persons have been killed by street-cars and 47,428 injured. Clearly we have not yet learned how to manage them—or how to keep out of their way.

Another sidelight on our prosperity and on the habits that it begets can be read between the lines in which these figures are printed: that thirteen new theatres are now in course of construction in New York City at a cost of more than \$8,000,000, and thirty-five or forty more in other cities in the United States at a cost of \$10,000,000. Since most of these will be devoted to mere diversion, and few to the dramatic art in its most

ambitious forms, these figures give a hint of our growing investments in one conventional relief from toil.

PERSONAL AND CORPORATE HONESTY

ONE man in New York is reported to be a member of sixty-nine boards of directors of corporations; and there are other men who approach this figurehead versatility. For, of course, the holding of seats in many of sixty-nine boards is a farce, whoever holds them; and the holding of so many directorships is a confession that directors do not direct.

It may be said in defense of boards so made up that such a man as this properly holds merely nominal directorships representing an investment in each corporation, with the understanding that the active managers of the corporations shall do all the work and that the directors shall simply hold such a relation to the business as to be able to become active at any time when their activity might become necessary. And many corporations are organized and conducted in this way. The directors are expected to be inactive except when new managers are required or when something goes wrong. And this is legitimate—provided the directors are also the real owners of the corporation.

But to read of men holding directorships in sixty-nine companies, or in fifty-nine, or in forty-nine, or even in thirty-three—and these are all real instances—is to understand at once why the development of corporate honesty has not kept pace with the development of individual honesty in business affairs. The increasingly effective organization of commerce has greatly reduced the cases of personal dishonesty. In dealings between individual and individual the world of business is much honester than it was a generation ago. A merchant who misrepresents his wares cannot so easily succeed as he once could, and the necessity of holding one's credit unimpaired has made for integrity.

But many a man who is scrupulous in all his personal dealings will permit the agents of a company in which he is a director, or a "syndicate" of which he is a member, to misrepresent facts about it. At any rate, many a man fails to regard it as his duty to see that no such misrepresentations are

made. Personal responsibility becomes weak. To permit some other person to lie in your behalf—or to fail to prevent his lying—is not regarded as quite the same thing as lying yourself. The growth of honesty, like the growth of any other quality, depends on the social pressure to make it a necessity. But what degree of responsibility could a man have for sixty-nine corporations, or what personal knowledge of their management?

These are very old-fashioned remarks. But if the investing public took the trouble to get the same careful knowledge of corporations before they bought shares that they get about a man before they will lend him money or give him credit, a very considerable percentage of corporations would go out of business before next year, as one thousand had their charters revoked a little while ago by the Governor of New Jersey because they had not paid the small taxes levied on them in that State.

THE DECREASE OF LYNCHINGS

SINCE no accurate official record is kept of lynchings, it is difficult to know in which direction we are going—toward their increasing frequency or toward freedom from them. It is a good service, therefore, that Mr. J. Elbert Cutler, a post-graduate student of Yale University, has done in tabulating all the lynchings that he could get verification of as having occurred during the last twenty-one years. Out of his study of the ghastly subject comes good reason for hope that they may become infrequent in time—a generation or two, perhaps.

In twenty-one years 1,872 Negroes have been lynched and 1,256 whites. Since the whites are about six times as numerous as the blacks, the proportion of Negroes lynched is, of course, very much higher than these figures indicate. Only 35 per cent. of these Negroes were lynched for the social crime that is usually associated in the mind with this method of punishment. Sixty-five per cent. were, therefore, for other offenses. Mr. Cutler's study of the subject leads to the hopeful conclusion that lynchings will continue to decrease even more rapidly in the future. Since 1892 they have continued to become fewer; and in those States where prisoners are promptly tried for crimes of violence they occur very seldom. These are the two cheerful facts that he presents.

REFUSING A PUBLIC TESTIMONIAL

MR. FOLK, the circuit attorney of St. Louis, who did such noteworthy public service in bringing the corrupt officials of that city to justice, has declined a testimonial offered by admiring citizens. A committee proposed to give him a residence as an evidence of the community's appreciation. It was a proper feeling that prompted such a plan, and it would be hypercritical to say that a man would do wrong to accept such an evidence of public appreciation. Yet it is with satisfaction that one reads of the polite refusal of the gift. It indicates a certain robustness of character that ought to give Mr. Folk's admirers a greater pride in him. He has not been discourteous to them, but he has saved himself from the possibility of feeling at some time that he is under obligations to some one for something that he did not earn. Public favor is fickle, too; and on occasions before this "testimonials" of such a kind have been regarded by the public as carrying with them some implied obligations of sentiment that caused embarrassment.

But it was not the thought of possible embarrassment in the future that caused Mr. Folk's declination so much as the instinctive feeling that no man deserves a special reward for doing his duty; and the giving and the receiving of special rewards lead away from robustness toward sentimentalism, which has no place in public life.

MR. CARNEGIE'S LATEST BENEFACTIONS

A TEMPLE of peace and a great law library at the Hague, a building for all the engineering societies in New York City, a large addition to the endowment of Tuskegee Institute for the training of colored youth, a help to Mr. George W. Cable's home-study society, the defraying of the expenses of fever-stricken students at Cornell University—these are some but not all the benevolent activities of Mr. Carnegie just before he sailed to deliver the presidential address of the British Iron and Steel Institute in London and to spend the summer in Scotland.

A great building at the Hague, as the home of the Court of Arbitration, to cost \$1,500,000, will be the most eloquent passage in all Mr. Carnegie's arguments for peace. The Government of Holland has accepted the offer,

subject, presumably, to the approval of the powers that organized the tribunal; and they can hardly afford to refuse it.

Mr. Carnegie is thus making some very interesting experiments in his effort to discover how a rich man may prepare to die poor. The wise giving of money seems easy to those who have none to give; but it is one of the most difficult tasks in the world. Do it as a man may, he will not escape criticism. These enterprises that he selected for help this year are all alike in this—emphasizing industry, peace and education, they are undertakings that must be done by gifts or not done at all.

THE INCREASING CLASS THAT RESTS

THE men who are at work are the men who make the noise that fills the newspapers. They rush to their labor and go furiously at it; they rush home again; and they rush to the theatre for amusement. Even in the summer their vacations are hurried or they are filled with other work and other plan-making. Thus we come to think of ourselves in terms of billions of trade, of continuous combinations of industry, of the noise that the most strenuous part of the population is forever making. Doubtless the conception of the typical American of our time—as a man absorbed in his struggle not so much for money as for success, is the right conception; for we are bringing things to pass at a break-health rate.

Yet there is a quieter part of the population that is discovered at this time of year by the busy when they go into the country. When the overworked man rushes away from the city for a season he encounters a neighbor who has led a quiet country life all winter long. The number of sane men who retire before physical infirmities overtake them is very rapidly increasing. Having earned a competence, they yield either to the impulse to see something of the world and they travel, or to the impulse to get close to Nature and they go to the country for permanent residence. The building of country homes in every attractive part of the land bears testimony to this tendency. The class that rests increases very rapidly every year of financial success.

It doubtless will be a long time before we have a large idle class in the sense that the rich summer colony at Newport is an idle class—a class that has more time than it has

sensible resources for diversion; but the quiet life has not been forgotten in our rush for material success. There is a saving quality in American common sense which pays heed to nerves when they become tired and to indigestion when it continues to assert itself; and the instinct of self-preservation is, after all, stronger than the ambition for wealth or power. It is from this well-to-do and well-balanced resting class that the strongest men and the loveliest women of the next generation will come. They will have the mixture of the country without the isolation of rural life of two generations ago.

THE PULLMAN-CAR DISEASE

THERE is an ignorant public that knows no better, there is a commonplace public that does not care, and there is an abject public that pays its fare and asks no questions—all together making a public that has submitted too long to the bad taste shown in the finishings and furnishings of Pullman cars. Those blue tassels that catch dirt and convey disease, those indescribable hangings that give one a feeling of suffocation—all these, when for less expense the beautifully polished wood, if left plainer, would give a sense both of cleanliness and of dignity.

Everybody goes in parlor cars or sleeping-cars at some time, and a railroad ride comes as near to being a time of meditation as many men and women get. They become accustomed to these absurd trappings. Many hotels take the cue; and, while you are away from home, you live with this same parlor-car scheme of things. You now even find on the furnishing counters of the department stores the same kinds of hangings and decorations. They look familiar to the thoughtless house-furnisher and they thus find their way into homes, especially into apartments. The parlor-car apartment is a well-recognized esthetic disease in most of our cities.

There is a heavy educational responsibility—a heavy public responsibility—resting on a great company like the Pullman Company. It could save much money and make its cars more beautiful by leaving off gold paint from places where it does not belong and by discarding tassels and fringes and much other out-of-place ornament.

And there is a worse chapter in this story than the chapter on Bad Taste, It

is the chapter on Death. Sleeping-cars in which consumptives travel are at some places required by law to be disinfected, but they are not so required at all places to which these unfortunates go, though the Pullman Company disinfects the cars on any suspicion that invalids have used them. And it is a proper question whether a consumptive ought to be allowed to travel in a sleeping-car with well persons.

AN INTERESTING GROUP OF CONTEMPORANEOUS MEN

IN a number of *THE WORLD'S WORK* in which much space is given to show the value and charm of vacation, it is proper that portraits should be published of the great yacht-builders, the Messrs. Herreshoff, who have the distinction of having carried excellence in their craft further than any other men in the world; and of Doctor C. Hart Merriam, the head of the United States Biological Survey, whose summer labors lay the foundation of such a knowledge of animal and botanical life on our continent as has never yet been made of any large part of the earth. A variety of interesting personalities now in the public attention are M. Jusserand, the French Ambassador to the United States, who is, by his graceful activities, making himself *persona grata* to the American people as well as to our Government; Doctor Van Hise, the newly chosen President of the University of Wisconsin, which, following the examples of Harvard, Yale, Johns Hopkins and Princeton, selected one of its own faculty; and Doctor Councilman, of the Harvard Medical School, who recently announced the discovery of the germ of smallpox.

A MODEL FINANCIAL CAREER

THE career of the late Mr. George G. Williams, for twenty-five years president of the Chemical National Bank in New York, is as good a model as can be found in the whole history of American finance or business. He entered the service of the bank as a boy in 1842—sixty-one years ago. He regarded his engagement as a career, not as a job. He spent his whole life in the service of this one institution, and under his direction and by reason of his character it became one of the foremost banks in the world. It is a distinction in the commercial world to have an account there; and so profitable has it

been that its stock is worth forty-five times its par value. It is one of the very few banks that has never paid interest on deposits. Mr. Williams had the distinction of being regarded as an "old-fashioned" banker—which is to say that he and the bank had such strength by reason of their character that they maintained their high place as other banks went up and down. This story of the way in which Mr. Williams drew accounts and kept them is typical of hundreds, perhaps thousands:

"When I started in business for myself," said the man who told the story, "I went to Mr. Williams with a mere formal note of introduction and I said to him: 'Mr. Williams, I have little money, but I have a good record. I am going into business for myself. I wish to identify myself with the Chemical Bank

because I want to be the kind of business man that you and the bank believe in. I shall need credit. Will you look up my career?'

"After some conversation Mr. Williams said: 'I think you will succeed. Open your account here and let me know when you need money. The best customers a bank can have are young, honest and intelligent business men, who, as they succeed, will stick to the bank that has helped them when they needed help. This bank has been built up by such men.' There was something in his manner that won me and made a friend for life. He was as good as his word. There was a man that believed in me from the start. He banked on my character and showed it in a way that was distinctly a good business policy." It showed that half a banker's task is to judge men well.

AMERICAN VERSUS ENGLISH WORKING CONDITIONS

THE REPORT OF THE MOSELY COMMISSION OF BRITISH WORKMEN TO THE UNITED STATES—WHEREIN THE AMERICAN ADVANTAGE CONSISTS

THE report of the Industrial Commission of twenty-three representatives of the principal English trades-unions which visited the United States and Canada last winter by the invitation and at the expense of Mr. Alfred Mosely is a volume which ought to be read by every employer of labor and every intelligent workman. Mr. Mosely rendered a distinct service by his idea of this commission and by the care and generosity with which he has carried it out. And every American reader will wish to see what reports most of these British workmen have produced. Several of them are of extraordinary interest, though among the number it is clear that some delegates did not possess the ability and that others did not take the trouble (one, for what cause is not stated, does not report at all) to avail themselves to the full of the opportunity afforded them.

It is impossible to summarize the opinions and information, covering a wide area and often highly technical, given by the delegates, but a few quotations upon the main questions

will serve to show the general conclusions. Mr. Mosely himself contributes an interesting and suggestive preface. He does not always agree with his delegates, but he has had at least equal opportunities with them of forming his opinions. We give some of these in his own words:

"The true-born American is a better educated, better housed, better fed, better clothed and more energetic man than his British brother, and infinitely more sober; as a natural consequence, he is more capable of using his brains as well as his hands. One of the principal reasons why the American workman is better than the Britisher is that he has received a sounder and better education, whereby he has been more thoroughly fitted for the struggles of after life.

"The manufacturers do not hesitate to put in the very latest machinery at whatever cost. A man in charge of a large department said to me, 'One of the reasons of our success is the readiness of all our men to drop existing modes of production as soon as it is demonstrated that there is something better.' Labor-saving machinery is widely used everywhere, and is encouraged by the unions

and welcomed by the men, because experience has shown them that in reality machinery is their best friend. It saves the workman enormous manual exertion, raises his wages, tends toward a higher standard of life, and, further, rather creates work than reduces the number of hands employed.

"I am convinced that British manufacturers, if they are to obtain the best efforts from their workmen, must come to an understanding with the unions as to a fair piece price, from which there shall be no 'cutting' when the men earn large wages. In many trades a joint committee of employers and employees meet periodically to settle rates for piece-work by mutual consent."

"That the American workman earns higher wages is beyond question. As a consequence the average married man owns the house he lives in, which not only gives him a stake in the country, but saves payment of rent, enabling him either to increase his savings or to purchase further comforts. Food is as cheap (if not cheaper) in the United States as in England, whilst general necessities may, I think, be put on the same level. Rent, clothes made to order, and a variety of things, including all luxuries, are considerably dearer.

"The American workman drinks but little, and his house is usually well furnished and fitted with luxuries in the way of bathrooms, laundries, hot-water and heating systems, and other items mostly unknown to the British workman.

"One of the points the delegates were invited to investigate was whether or not the workman in the United States 'wears out' faster than the Englishman. Personally, I think not. It is generally admitted that the American workman, in consequence of labor-saving machinery and the excellence of the factory organization, does not need to put forth any greater effort in his work than is the case here, if as much.

"In American factories, speaking generally great attention is paid to the necessities and comfort of the workers. It is not a question of philanthropy, but of practical business."

"Suggestions are welcomed (usually a box is provided for their reception), the more so because the American manufacturer has realized that it is not the man sitting in the counting-house or private office who is best able to judge where improvements can be made in machine or method, but he who attends that machine from morning to night. Hence the employer asks for suggestions for the general conduct of the business, as well as for improvements in machinery. These are freely offered and periodically examined, and, if entertained, the originator of them usually receives at once a small money gift, whilst for those found practical upon full trial and ultimately adopted he is given handsome remuneration in the shape of

a portion (or sometimes the whole) of the resulting profit, promotion, or purchase outright of the idea by the employer.

"In short, the man feels that the work of his brains will handsomely benefit himself. Is it any wonder, therefore, that American machinery is continually changing and improving, that the evolution of methods is ever and rapidly going on? Every hand in the factory, man or boy, woman or child, is constantly striving to discover some improvement upon the existing régime, simply because it means profit to themselves.

"Has such a system ever been tried here? Except in quite isolated cases, I think not. As a rule, the British employer hardly knows his men, seldom leaves his office for the workshop, delegates the bulk of his authority to a foreman, whose powers are arbitrary, and who, if any of the men under him show particular initiative, immediately becomes jealous, and fears he may be supplanted. Hence, as a rule, a workman making a suggestion to the foreman (the proprietor himself is usually not accessible at all) is met with a snub, asked, 'Are you running this shop or am I?' or told, 'If you know the business better than I do, you had better put on your coat and go.'"

"That already America has her eye on the export trade is plain to every one except the wilfully blind, but at present she is only getting ready. The acquisition of so large a portion of the Atlantic carrying trade is in itself an object lesson. When America wishes to export goods she intends to dictate freights, which she could not do if she had no mercantile marine of her own. The profits of the shipping business are to her quite a secondary consideration at present, compared with the ability to rule freights when it suits her to do so. It must be remembered that the American manufacturer or financier looks well ahead, and is prepared to make large present sacrifices for the sake of future gain."

To come now to the working-men's opinions—they are virtually unanimous upon many points—that many American workshops are ahead of the English in machinery; that the big employers seek the best machines at any cost; that employers and employed are on more familiar terms; that greater attention is paid to the comfort of the workmen; that the American workman drinks less; that he does not bet on horse-races; that, on the whole, he is better off as regards money, but that his home life is not so good as that of the best British workman, and, strangely enough, that he is not always the "hustler" he is usually believed to be. At the same time, they agree that he

works longer hours and gets more done. One of them writes:

"I have come to the conclusion that the American molder turns out something like 25 per cent. more work than the English molder; 10 per cent. may be said to be due to extra effort, and the other 15 per cent. to better facilities."

And another reports:

"It must be considered that all who were working in connection with machinery were working as hard as possible, not in the sense that one could see them sweating or straining, but the machinery was running at the highest speed, and the operators—to make use of a Yankeeism—had to keep their eyes skinned and their fingers at work. . . . The workers, in a general way, worked enormously hard, particularly the lasters and finishers. It may be that the atmosphere, which is very bright and exhilarating, as compared with our own, might have something to do with what I look upon as their natural rush."

A third says:

"There is little difference between them when they are employed under similar conditions, but the general go-ahead policy of the Americans enables them to make the most of their opportunities for earning good wages, especially when employed on piece work."

The following extracts from the reports of the delegates speak for themselves:

"There appears to be no expense spared in developing and training the young mind in the United States—every branch being taken of technical, scientific and commercial education, and the willingness to learn displayed by the student was a pleasure to see. The outlay must in the end give a grand return to the people of that country, and the example given might well be copied by the authorities of our own country, for, whatever may be said to the contrary, it cannot be denied that we are lacking in technical knowledge. If we are to be in the race for supremacy we shall have to be up and doing, and our young men will have to throw more energy into the subjects mentioned, or otherwise we shall soon be in the rear."

"The factory of the National Food Company, for splendor of design, attention to the needs of the work people and public spirit generally, excels anything I have seen elsewhere. The sanitary arrangements alone cost \$100,000; there are elaborate provisions for the education and recreation of the workers, and even congress halls for the use of visitors, all to be had free. There are also dining-halls for the workers, at which viands are served at cost price, under conditions as to cleanliness and

general surroundings equal to those of a high-class restaurant."

"On questions relating to the American trade and commerce I was surprised at the manner in which the press was used to boom information which was of a favorable character to American manufacturers and their work-people. The journalists make a practice of writing in an optimistic spirit about everything which is American, and thereby give encouragement to employers and work-people in their efforts to take the lead in the industrial race for supremacy."

"Much has been made of the statement that men are so rushed in American works that only the young and strong can stand the strain, and that only for a short time. No statement could be wider of the actual truth."

"It is quite a mistake to imagine that all the plants and methods of American production are up to date. It is equally untrue that they can ever be made up to date. Like many of our own mills, they will have to be 'scrap-heaped.' Even their tariff cannot save them, and they are looking forward with a concern more intense than our own manufacturers to that time when only the strong and provident can survive—though just at present the country needs all the iron and steel it can produce."

"The British employer has more to learn from America than the British workman."

"If employers having the means would speculate in laying down as perfect plants as those I saw in Grand Rapids I am sure we should hear less about American competition."

"If some of the employers of this country would pay a visit to some of the up-to-date factories of the States, I feel sure they would learn something that would compensate them for the expense incurred."

"So far as inquiries give result there is no manner of doubt that the working classes of America save more money and save it more easily than the working classes of England. The absence of gambling on horse-races and heavy drinking no doubt contribute to this result. The American working-man has not even the mildest interest in the former, and is certainly entirely against the latter; virtues which we hope the Atlantic will not forever keep on the other side."

"Against this some put the statement that the life of an American working-man is much shorter than it is with us. Upon what grounds this statement has been based I confess entire ignorance. It struck me that the balance of evidence was in favor of the American working-man living the longer, and unless there is some tangible proof to work upon I shall continue in that belief. Hard work, as it is understood in England, only finds a hiding-place in industrial America, and as soon as it is discovered a machine

is patented which drives it out. American capitalists do not want hard work, and if they do they know a machine will work harder and longer than a human being and cost less. Consequently, it seems to me that this early death tale wants strong confirmation. Neither do I believe the statement that workmen in America are driven out sooner than our own workmen; the probabilities are all in favor of America. If it is so, no doubt there are figures to prove it. With business men it may be true; with workmen I seriously doubt it."

"A concluding word to my fellow working-men—at whom nearly everybody has a kick, in discussing questions of work and wages, as the general scapegoat. The workmen who have helped to build up American industry and have made it what it is are largely British. I have had universal testimony to this fact. A leading manager, with not, I believe, a drop of English blood in his veins, generously and frankly said to me: 'Your workman is the best all-round fellow in the world. His only fault at home is that he is a bit too conservative in his work, but he comes here and takes his coat off, and soon lets everybody know the stuff he's made of.' That is

generally true. What an Englishman or Welshman can do in America, however, he can do here—anywhere. Make the most of your work for profit, and of your trade-union for protection. Remember that this trade question is your bread and cheese, and demands your best efforts and attention."

"Education with us has become the sport of politicians, and with the child left out there is room for much theorizing. The processes of industry are better understood, better carried on and better developed by educated and highly trained intelligent work-people than by ill-educated and ill-trained work-people. In this America is at least a quarter of a century ahead of us, and unless we wake up and fit the shoulders of our children for the burden which will inevitably fall upon them the day of hobbling senility will surely dawn for us."

"In conversation with some labor representatives, they expressed surprise at the conditions which obtain here in relation to education, their statement being that they considered it absolutely necessary for the best interests of a nation that education should be secular, free, and untrammelled by anything in the shape of religious controversy."

CAN I AFFORD AN AUTOMOBILE?

WHAT A GOOD MACHINE COSTS AND THE YEARLY EXPENSE OF MAINTENANCE—WHAT AN AUTOMOBILE SAVES

BY

HENRY NORMAN, M. P.

MY article, called "The Coming of the Automobile," in the April issue of this magazine, has been honored with an amount of notice that may dispose once for all of any doubt whether the general public is interested in the subject. An extraordinary fact is that almost every commentator seems prepared to accept my rather audacious prophecies as probably well-founded. The editor of *THE WORLD'S WORK* despatched a representative to count the two classes of vehicles at six typical New York and London street corners for five minutes at each. The figures were, in New York, 48 motors and 462 other vehicles, and in London, made in March, in a much less favorable time of year for automobiles, horse-drawn vehicles 270, motors 36, and the editor considered that this striking proportion lent much probability to my forecast that in ten years' time there will not, speaking generally, be a horse left in the streets of New York and London.

The statements in "The Coming of the Automobile" regarding the comparative cost of keeping an automobile and a horse and carriage have apparently set many people thinking, and I have received requests from many quarters to go more in detail into that aspect of the matter. As this is unquestionably the point of view from which most people will first approach the subject, it may be of general interest to do so, but I must preface my figures with the remark that no two writers upon automobiling are likely to agree upon statistics of cost. Indeed, no two people buying identical machines will keep them for the same yearly expenditure. One owner will keep no account, allow his driver to take the machine to a repair shop as often as he likes, make no attempt to understand it himself and bring his own more educated intelligence to bear upon its problems, let his accumulators be injured by running down, and his bearings worn by his oil-cups not

being kept full, pay thirty cents a gallon for his gasoline and \$1.75 a gallon for his lubricating oil, leave cuts unrepaired in his tires, and permit his machine to be left all night with the mud on.

The other will study his engine till he knows what it is doing and what should not be done to it, keep every want of his machine regularly supplied, find a keen pleasure in doing all trifling repairs at home, insist that its body and wheels shall be as scrupulously washed and leathered as those of the most costly brougham, pay twenty cents for his gasoline and \$1.25 for his oil, and generally act toward his property like a careful and sensible man. Naturally, at the end of a year these two owners will have disbursed very different sums, and moreover, the one, when he wishes to sell, will have to accept the price of a much depreciated piece of property, while the other—as I have just done—will find a purchaser happy to give him within a reasonable amount of what he paid for it, for a machine practically as good as new. Mine was running better the day I sold it than at any time during the first week I had it. And parenthetically, I may here remark, that the better class of makers do not appreciate, as might be supposed, the owner who runs up a big bill for repairs. They like the owner whose machine is never out of order. What they want to do is to sell new machines, not to tinker with old ones, and an automobile that is known of all men to be always ready to do what is asked of it is their best advertisement.

Let it be agreed, then, that there is no finality about figures of cost in the keeping of an automobile. Nobody will agree with anybody else's calculations. I have carefully considered the whole question since I last wrote, and I have worked out certain statistics which represent the cost as it appears to me and as it has come within my own experience. For the purpose of comparison I take two classes of machines: one, such as a man who has kept a horse, carriage and groom might think of adopting instead; the other, such as a man who has never kept a horse might consider within his means. The machine of the owner of a carriage and pair in town—still less the machine costing \$7,500—are outside my scope. These people can afford what they wish; they will not ask themselves the question at the head of this article.

The machine for the first of the two classes of owners I have mentioned may be taken as costing from \$1,500 to \$2,000. For this average sum a ten-horse-power, two-cylinder, four-seated, full leather-upholstered, smart-looking machine, capable of a maximum speed of from twenty-five to thirty miles an hour on the level, and an average all day of sixteen to eighteen miles, may be bought, some makes costing rather more, some rather less. Now, the first matter of cost—but the one most commonly overlooked—is depreciation. At what rate does an automobile depreciate in value? Truly a most difficult question to answer. Of course, the machine of a first-rate maker suffers less depreciation than one by a second-rate or third-rate firm. After much reflection I think it is fair to reckon that an automobile costing new, if bought at its lowest price, let us say \$1,750, will be worth after two years use, *if it has been carefully kept*, \$1,100. This would not have been correct in the past, as types were changing so fast and so many vital improvements being added, but we have now a practically permanent type of machine, of which this depreciation is not an underestimate. For purposes of calculation, then, I take it that the purchaser will keep his machine for two years and then wish to sell it and buy another—doubtless a bigger and a faster one. His depreciation account will, therefore, be \$325 per annum, and I am inclined to think this is a needlessly large estimate, for he may well keep it for four or five years and still sell it for a good sum. His tire bill is another puzzling item, and will depend both upon luck and upon good driving. If the roads in his district are very rough, and he likes, or permits his driver, to dash up to a door and stop short by clapping his brakes on hard, it will be more than if he enjoys smooth roads and keeps his brakes for emergencies. I think \$200—practically a complete new set of tires—a fair estimate for two years' use, the tires to be in good second-hand condition when he comes to sell the machine. Tires, therefore, figure in my estimate at \$100 per annum. The cost of gasoline depends upon the mileage. Probably 4,000 miles a year—eighty miles a week—is a reasonable average. In many summer weeks this will be greatly exceeded; during many winter weeks, on the other hand, the machine will hardly be taken out at all. At an average of twenty miles to

a gallon—it will soon be more—with gasoline costing twenty-two cents per gallon can, this item comes to \$44 a year. The other supplies—lubricating oil, kerosene (for the side lamps) carbide of calcium (for the acetylene headlight), and French chalk (for the inner tubes of the tires)—I put, without troubling the reader with details of the calculation, at \$75. Repairs and replacements, in which I include sparking-plugs and the various springs which perish, ought certainly, in the absence of accidents involving serious breakage, not to exceed \$50.

The owner I am describing will in most cases keep a driver. The wages of these men have hitherto been exorbitant, as there have been so few of them. This is naturally righting itself rapidly, and today a man should be got without difficulty, for town service, to board and lodge himself, for \$30 a week. In the country, where he will be fed and lodged without appreciably increasing the household expenditure, his wages will, of course, be much less. He will need a leather suit, cap, leggins, gloves, goggles and overalls, which can be bought for less than \$25. If the owner has nowhere to keep his automobile, a sum for part use of a coach-house must be added. Except for this last item, the total yearly cost thus calculated is \$2,179.

I have not yet seen any calculation of automobiling expense which does not overlook the obvious fact that there is something to be placed on the other side of the account. But an automobile not only costs money—it also saves money; the only question is, how much? When an automobile and driver are kept, the man of a family will frequently drive to his office in it; the lady will use it for calls and shopping; both will keep many social engagements together in it; they will doubtless use it to take them to the sea or the hills for their autumn holiday, and will constantly employ it at that time. It is doubtless impossible to make any exact calculation under this head, but I think it fair to estimate that the saving of hired carriage and railroad fares during twelve months will, in the case of an average well-to-do family, be at least \$50. When both husband and wife are economical in cab fares the saving may be less. Where the husband's business takes him about a good deal it will be much more. A doctor, for instance, will find it a far greater economy than I have reckoned. A country

doctor in good practice without an automobile will soon be hard to find. The medical man to whom I sold mine the other day calculates that it saves him four hours a day—an enormous gain of time, health and money. He writes of an important consultation at a distance, and adds: "This enabled me to travel forty-six miles, see my patient, and be back in my house in less than three hours. Today I have a round of sixty miles before me." And as regards people living in the country a further important economy exists—for the present, at any rate: by owning an automobile they can live much farther from a railway station and therefore effect a considerable saving in rent.

I now come to the second typical class chosen for purposes of illustration—the family who would not keep a horse. They will buy a two-seated automobile. It may be propelled by either steam or gasoline, but I take the latter in order to secure parallel figures of expenditure. The machine will be a graceful, good-looking vehicle, of five or six horsepower, with pneumatic tires, upholstered in leather, capable of climbing any reasonable hill on its low speed, and of running from twenty to twenty-five miles an hour on its higher speed on the level. Some of the lightest machines are not to be recommended, but there are many good ones on the market, and they cost from \$650 to \$1,000. Nothing could be simpler than their management, and a man who cannot learn in a month all that need be known about the mechanism and care of the engine ought to push a perambulator. I am optimist enough to think that before many years are over it will be thought merely foolish for either man or woman to boast, as so many do now, of their absolute inability to comprehend the simplest matter of mechanics. Ignorance, or lack of intellectual grasp, is no particular credit to anybody. And I think there is a good living waiting for both men and women as teachers of automobile management. The purchaser of an automobile would in most cases be glad to pay for a course of lessons at his own house—say \$20 or \$25 for six lessons, plus traveling expenses, if out of town. At any rate, there should be no difficulty in learning, thanks to the excellent technical newspapers discussing all the difficulties and problems of automobiling.

An automobile of this kind, if taken care

of, should sell for half its cost at the end of two years. Taking the original price at the highest figure, therefore, namely \$1,000, the annual depreciation on two years would be \$250 per annum. Such a machine should do a better average than twenty miles on a gallon of gasoline, but to be safe I adhere to that figure. For the oils and supplies I have specified in relation to the larger machines its annual cost would not be more than \$50. So light a machine is very easy upon its tires, and \$75 a year should abundantly cover this item. The total cost of this machine, also running 4,000 miles annually, thus comes to \$445, without allowing anything for housing, and presuming that washing it will be one of the duties of the "man about the place." Where a hose is available this is not a long job.

Now what shall be allowed in this case for the saving effect? The family under consideration will not spend so much upon cabs as that previously discussed, but, on the other hand, the more modest family would be more likely to take its whole annual holiday, there and back, and while away, with their automobile. To be quite reasonable, let us put this figure at \$75 for the year. I therefore present my more modest class automobile budget as follows:

AUTOMOBILE FOR TWO, WITHOUT DRIVER

Cost (loss on sale after two years' use, per annum)	\$250.00
Tires (two years' average)	75.00
Gasoline (4,000 miles at 20 miles per 22-cent gallon)	44.00
Oils, etc.	50.00
Repairs	26.00
	<hr/>
	\$445.00
Less saving in cab and railway fares	75.00
	<hr/>
Net yearly cost	\$370.00

I fancy that the possibility of the ownership of a charming and efficient little machine, with all the pleasure, the variety, the health, and the advantages it will add to his life for a total annual sum of \$370 (and I think it can be done for \$340), will come as a surprise to most people of modest means. I would on no account mislead them, and I feel confident that, given intelligent and careful management, these figures may be regarded as substantially accurate.

One word of warning, however, may be added, addressed to all classes of automobilists. In the automobile world the

same things cost different prices according to where you buy them. This is true of a good many automobiles themselves, but it is truer of all supplies and accessories. The simple truth is that many dealers have not yet realized that the automobile has become an article of common use and necessity. They began on the principle that everybody who bought an automobile was (a) a rich man, and (b) a fool where money was concerned, and they act still upon those lines. This is the reason why many of them are now doing so badly as regards profits and dividends. When an owner saw on his bill, "To supplying new tremblers and adjusting coils," or "To adjusting high-tension circuit," he thought something important and costly had been done, and signed his check accordingly. And the way in which he has been fleeced for the "overhauling" of his machine is scandalous. My advice, therefore, is: Buy your automobile from the makers, or the makers' direct agent; discover, by comparison of prices, at what place you can get supplies and accessories cheapest, combined with direct personal relationship, with an intelligent, careful and responsible dealer who knows his business, and then get everything from him, letting him know that you propose to do so until you find out that he is overcharging you; never permit your driver to purchase supplies, nor consult him about your purchases; and never under any circumstances let your automobile be "overhauled."

I hope I have now helped my reader to answer the entrancing question, "Can I afford an automobile?" In many cases I have no doubt he will find to his astonishment that he can. At least, I shall have disabused his mind of the belief that the automobile is necessarily a rich man's luxury. Indeed, there is a class whose means are smaller than those considered in this article for whom the joys and the advantages of automobiling are available at less cost than here set forth. I allude to the motor-bicycle—a means of locomotion destined to have an extraordinary effect upon industrial society. This I propose to discuss on another occasion. For the present I shall be glad—and so should the reader be—if I have opened for him the door to a possession which, more than anything else in the material world, will increase his interests, his opportunities and his happiness.

THE BUSINESS OF VACATIONS

THE IMMENSE AMOUNT OF CAPITAL USED EVERY SUMMER FOR RECREATION—THE PART THE RAILROADS AND STEAMSHIPS PLAY—SUMMER HOTELS, FISHING CLUBS, HUNTING CLUBS—YACHTING, COACHING AND CANOEING—THE SUMMER COTTAGE INDUSTRY

BY

LAWRENCE PERRY

THREE systems of railroads, and not the largest systems at that, have estimated the value to them of the summer vacation travel at from \$500,000 to \$800,000 a year each, while of the larger systems like the New York Central and the Pennsylvania it has been said that the value of their summer vacation traffic runs into the millions. In the White Mountains and other regions the amount of money paid to hotels and boarding-houses and guides and the like each year runs far into the millions. In 1890 the figures were taken for New Hampshire; they aggregated \$5,000,000, and that the average has been as much, if not more than this, in more recent years there seems little room for doubt. In Lenox, Massachusetts, small corner lots now sell for \$15,000, and farming lands at \$1,000 an acre. The wilderness in the vicinity of Lake Placid which twelve or fourteen years ago would have been purchased at \$30 an acre, now commands \$1,200 and \$1,500 an acre; and so it is at Mount Desert, Maine, and, in fact, in summer resorts all over the country.

A person might go on indefinitely naming the great sums of money distributed from the national centres over the rural districts. If the cost of moving and caring for our great army of summer migrants for one season were put into one huge sum the amount would probably equal the capital of all the big trusts combined. In the process of changing hands the millions are distributed among railroads, steamboat lines, stage lines, hackmen, express companies, hotels, boarding-houses, guides, servants and helpers innumerable. The rush is limited to no region or country. Millions pass over a system like that of the Pennsylvania Railroad, which reaches the Jersey coast resorts and those of Delaware, Maryland and

interior resorts as far north as Lake Michigan. Once a not very small railroad was compelled to reduce its dividends because of an epidemic in one of the cities toward which that railroad directed its summer excursions.

The value of all labor in summer resorts is increased tenfold. Whole districts are remodeled. In New Hampshire alone more than 350 farms were recently purchased by persons intending to convert them into summer homes. Visitors ride and drive; hence communities seeking to attract them must look to their roads; game and fish must be preserved, property beautified. And so throughout the whole country natural sluggishness is transformed into stirring life and energy. The summer hotel and the summer boarding-house are being superseded in a measure by cottages. Particularly is this so in Newport, where there is not one first-class summer hotel, and in Bar Harbor. Even in those homes of the summer hotel—Atlantic City, Saratoga, Long Branch, Asbury Park—the influence of the cottage is being strongly felt. A majority of the available and most beautiful sites from Cape May to Eastport are already in the hands of cottagers.

But a summer hotel accommodating say 400 guests will report about one-third of this number departing every day and one-third of this number arriving. This, taking the eight weeks of July and August, would give that hotel about 6,000 guests in a good season. With rates from \$3 to \$10 a day, this means good profit. The hotels of Atlantic City, Saratoga and the like in the aggregate number their guests by the millions. In the Adirondacks we find, from reports of the various railroads, hotel accommodations for about 10,000 persons; in the Catskills for about 8,000 persons, Lake George 6,000, and in the White Mountains more than 11,000.



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SURF-BATHING THE FAVORITE SEASIDE AMUSEMENT

in the case of the hotel cited in the foregoing, about one-third of the guests are constantly arriving and departing, we will find that more than 500,000 are accommodated in these regions throughout a season. Then, too, probably a larger number of persons go to cottages, boarding-houses and camps.

Some of the railroads, notably the Canadian Pacific, own hotels and fishing and shooting tracts, and direct summer visitors thither. If one wishes to go shooting or hunting or camping, he need not necessarily be encumbered by paraphernalia in the trip; in some cases the road will supply all he needs when he arrives at his destination, or, if not, it will tell him just where they can be hired. A great

many hotels have stores attached for the sale or rental of camping, fishing and hunting outfits. The New York Central Railroad maintains information bureaus in many large cities of this country and Canada, and there you may peruse classified lists of all hotels and boarding-houses in any recognized summering region. You may learn the price of board, what the amusements are, what they cost—anything, in fact, that it might be desirable to know.

Foreign lands are not neglected in the vacation rush. Each year one or two of the large steamship lines send out their vessels on cruises to the Orient, Alaska, Sweden and Norway, and bookings may be had for



Photographed by Scott

A SAILING CANOE RUNNING BEFORE A LIGHT BREEZE



Photographed by Burton

IN A BRACING WIND



A RACE BETWEEN TWO SLOOPS

Photographed by James Burton

The racing-sloop comes nearer to having life than any other inanimate thing

reasonable sums. Parties are personally conducted by an officer of the steamship line and much territory is covered in a short space of time. The Hamburg-American Line keeps one steamship just for cruising purposes. Then various agencies, like Cook's and Clark's, charter steamships each month of the summer and send their patrons far and wide. You may take a very enjoyable foreign trip through these agencies for \$300 or even less. Hundreds of thousands will travel in these conducted tours this summer. To plan and carry out even a modest journey abroad involves dealings with a very large number of different interests—steamship companies,

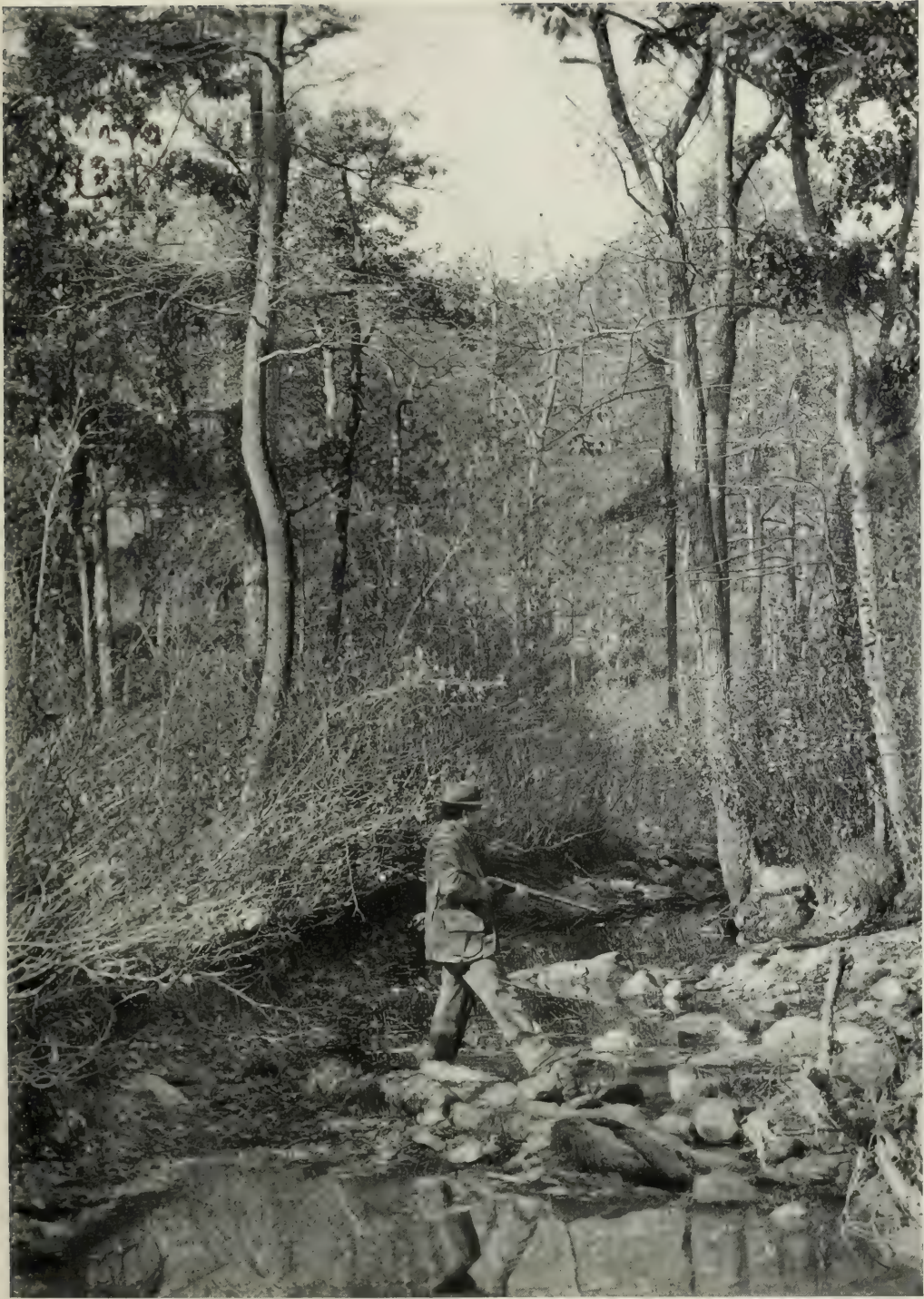
railroad companies, bankers, dealers in foreign money, hotel-keepers, ticket agents, diligence, stage and carriage owners, customs-house and other government officers, local guides and interpreters, all in various languages. All this is attended to for the tourist in a conducted party.

Much might be said concerning the sports of the vacation season, the conduct of which represents infinite business tact and the outlay of millions of dollars. Foremost of those benefiting in a business way from yachting are the designers and builders. The Herreshoffs, for instance, will not receive a cent under \$250,000 for the con-



A HARD DRIVE IN A POLO GAME

Photographed by Levick



EXPECTATION
Hunting in Arkansas

Photographed by George Stark



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HEATHERBLOOM, CHAMPION HIGH-JUMPER OF
THE WORLD



Photographed by W. A. Boger

DOWN AN ADIRONDACK ROAD

struction and fitting up of the new cup defender *Reliance*, and they will get more out of her before the season is over. Then the Herreshoffs have designed and built, or are building, nearly a score of other yachts

of various sizes, and all along the coast and on the Great Lakes yacht-builders are busy.

Since road-coaching was introduced into this country some eighteen years ago by Colonel Jay and Colonel Delancey Kane, it has steadily grown in favor, until now there are



Photographed by Chester D. Moses

COACHING IN KEENE VALLEY, NEW YORK



ALONG SUMMER BYWAYS

Photographed by Frank A. Perret



Photographed by W. A. Boger

PEACEFUL WATERS



Photographed by A. W. Dimock

SHOOTING THE RAPIDS

coaching clubs in New York, Boston, Texas, Birmingham, Alabama, Philadelphia, Indiana, Michigan, Minnesota, Milwaukee, Sioux City, Iowa, Pueblo, Colorado, Omaha, Louisville and in other cities. In New York, besides the regular coaching club, there are regular lines of coaches, which may be chartered to private parties, running daily or triweekly to Lakewood, Ardsley, Morris Park, Westchester County Club and Van Cortlandt Park. The

reins are handled by either a gentleman or a professional whip, and one seat may be had for \$12. In the White Mountains and in other summer resorts there are also coaching lines conducted on a similar basis. For these coaches horse dealers must furnish well-bred animals that can trot ten or eleven miles at a stretch without distress. Horses must be of one type; for it is often necessary to transfer horses which



Photographed by Marr

A LAZY SUMMER AFTERNOON ON THE CHARLES RIVER, MASSACHUSETTS



By courtesy of Will Allen

COMING ABOUT IN A SAILING-CANOE



By courtesy of Will Allen

THE SAILING-CANOE
The sportiest of all small craft



By courtesy of Will Allen

OVER!

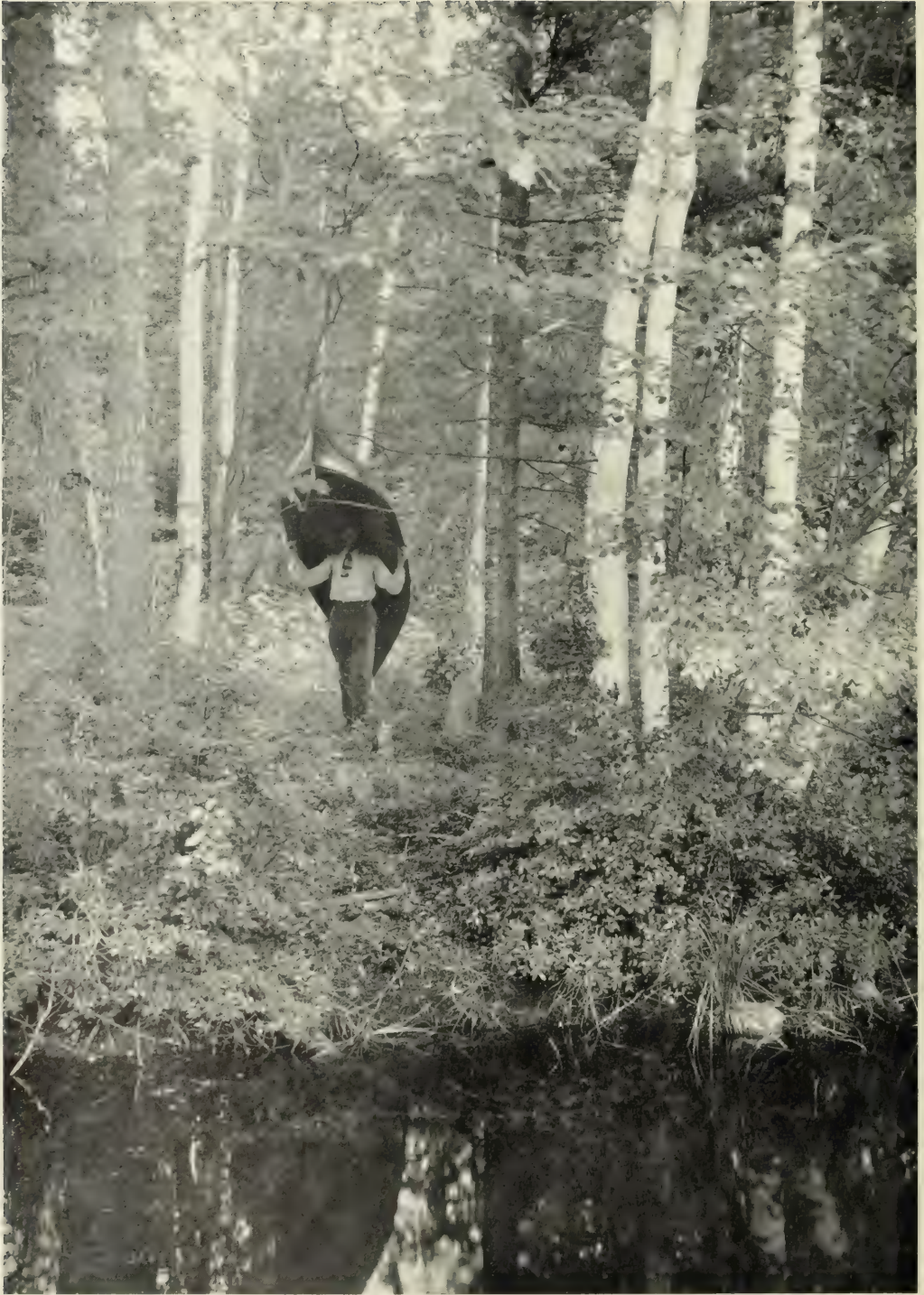
may not be effectively done with a nondescript lot. This means much for the breeders and dealers. Very few horse-keepers understand four-horse work, and in this country a large number of incompetent men must

necessarily be employed. This, as a consequence, requires the services of a thoroughly competent man or head servant to go over the road each day and keep the horse-keepers straight. He is provided with a light buggy,



BOWLING ALONG

Photographed by W. A. Boger



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AN ADIRONDACK CARRY

and an extra horse is kept for him at each station. He must be ready day or night to start out along the road and see that the horse-keepers are about. This follows that the head servant must thoroughly understand coach horses. Many of the coach routes in New York City, and, indeed, throughout the country, are conducted by hotels.

The function of the American Canoe Association, including in its various divisions the canoe clubs of all sections of this country and Canada, is principally to hold yearly meets on Lake Champlain for the purpose of developing the best all-around canoe. The annual canoe meet is really a grand camping-out time in midsummer, when several hundred male canoeists and a score or so of women live in canvas tents and imitate in modern manners the habits of the Indians. After the best "all-around" canoe has been determined the manufacturer receives calls for it from all parts of the country, and he charges from \$175 to \$250 for it. The price always goes up with every new design. They used to cost \$45—that is, paddling canoes did—then they went up to \$65, and now sailing canoes, the only canoes extensively used, cost \$200, and the rigging, sails and spars from \$60 to \$100 more. The manufacture of canoes forms an immense interest in this country at the present time, canoeing as an adjunct to camping and *vice versa* being one of the most favored summer diversions for a great number of young Americans.

Many game- and fish-preserves, especially in Canada, are owned by the Government, while others are either owned or leased by individuals or clubs. The preserve system was first adopted on a large scale by the legislatures of the various Canadian provinces. All the best shooting-grounds and streams in the Canadian Northwest are included in the game-preserves. In recent years we have followed Canada's example. Land has been divided into preserves by various States, stringent game laws have been enacted, wardens have been appointed to enforce them, and non-residents must pay for licenses before they may discharge a gun or cast a line. Aside from the establishment of National, State and municipal zoological parks and preserves, where game may not be hunted, a great number of private preserves have come into existence. Perhaps the largest preserve in the world is the Blue

Mountain Forest Preserve in New Hampshire, including thirty-two square miles of territory. No money was spent in altering the natural features of the preserve. A wire fence eight feet high and thirty miles long was built around a large portion of this domain, and here animals roam wild in the thick forests and impenetrable underbrush. In the Borough of Newport the club-house stands, and about forty wardens are scattered through the preserve.

Many of these preserves are owned by clubs or privately by millionaires. The pioneer of these clubs is the Blooming Grove Park Association, located in Pike County, Pennsylvania. Its prime object is the breeding, importing and preserving of all game animals and fishes adapted to the climate. The association owns about 17,000 acres and leases 4,000 more. Fish-hatcheries and game-breeding parks have been built and laid out and are conducted by experienced naturalists and professional sportsmen in the employ of the association. In the Adirondacks the Kildare Club is similarly operated, and there are a score of smaller preserves owned by clubs or individuals up in the North Woods. Charles Fenton owns 30,000 acres there and employs twenty game-wardens. George J. Gould has a richly stocked preserve of 1,000 acres in the Adirondacks; and Edward J. Litchfield, of Brooklyn, has a preserve of 9,000 acres. New York State alone has set aside 1,500,000 acres for game-preserves. In New England there are fifteen private game-preserves, Dr. Seward Webb's preserve in Vermont being the largest. E. C. Benedict has one of the largest fish-preserves in the world in his lake in Connecticut.

The majority of guides and camp-owners in many States are registered and pay a State license, and non-residents shooting or fishing in "wild lands" must procure one of these guides. The usual non-residents' fee is \$25 for deer-hunting and \$10 for smaller game or fish. In many States a resident's license is required, usually seventy-five cents.

In Canada the prolific salmon streams are cared for by the provincial government. A section of the largest and one of the best known of these salmon rivers, the Restigouche in Quebec, is leased by the Restigouche Salmon Club, composed mostly of New York sportsmen. The club pays an abnormally high tax for this river, but the sport obtained

on it is well worth double the money. All clubs are incorporated, and are conducted according to regular business methods.

In addition to leasing preserves Canada sells some of them outright. You may buy a pretty island from the Ontario Government for \$5,000 and upward, or land at \$5 an acre, and carpenters will build a cottage for \$250. A camping and land club exists in Ontario for this very purpose. Dealings with the customs authorities enter very largely in your hunting excursion into Canada. All articles brought into the Dominion, such as guns, fishing-rods, tourists' outfits, camping utensils and the like, are appraised by the customs officers and a duty must be paid. These duties are returned in full provided the articles are taken out of Canada within six months' time. The sportsman must also show his license to the inspectors before he is allowed to take any game out of the Dominion. In most of the provinces resident sportsmen must pay a \$15 license and non-

resident sportsmen a \$25 license. The best sport to be obtained by sportsmen not belonging to clubs or owning preserves is along the lines of the Canadian railroads, which have spent great sums in running their lines into almost unexplored regions. Recently the Canadian Pacific Railroad, besides extending its lines, opened trails through impassable lands in the Steel River, Black River, Prairie River, Gravel River and Jack Pine River regions, a venture which has been amply rewarded. Scientific excursions crowd to the wildernesses of the Northwest in vacation times, and for them many special privileges are made.

So great has been the growth of the demand for vacations that in many places cottages are sublet for the summer at the same price as their year's rental, and streams whose privileges have been rented for a small fee now bring a large rental. With the growth of the vacation idea recreation for half the people has become business for the other half.

VACATIONS FOR THE WORKERS

THE PEOPLE WHO TAKE VACATIONS AND THE PEOPLE WHO GET THEM—THE GROWTH OF THE VACATION HABIT

BY

FRANKLIN MATTHEWS

AMERICANS of today may be divided into two grades in respect to vacations, those who *take* them and those who *get* them. Those who take them are the men whose business affairs are such that they do not have to say by your leave to any man. They are the prosperous professional men, the independent business men and the high-priced manual laborers who can demand time off and be sure of keeping their places by reason of their skill. The men who get vacations are employed by others who recognize that it pays, if merely as a simple business proposition, to give time to their subordinates for rest and play.

The outing habit has led directly to the vacation habit. The increase in holidays, the general adoption of the Saturday half-holiday by business men and by so-called

working-men, the vast extension of the trolley lines, taking people away from cities to the seashore and country, the growth in popular participation in athletics, have caused the outing habit to spread tremendously. This has made men hungry for vacations and has educated employers and employed to see the desirability of taking and of giving them.

Now it must be conceded that the man who goes on a vacation of a few days, say a week, must have at least \$25 set aside for that purpose. He must pay railroad fares and board. If he is unmarried he must have that sum to secure moderate comforts. If he is married and takes only his wife with him he can not spend a week away from home, even in the most modest way, for less than that sum. The great majority of men on vacation spend more than this. A large number who

go only a short distance from home and seek recreation with relatives or in the cheaper grades of farmers' boarding-houses may and do get along with a smaller sum.

We may pass by the rich and prosperous business men and professional men in looking at the social significance of this movement. Their vacations may be regarded as a matter of course. It is when we look at the working-man, the manual laborer, on his vacation that we realize the great change that comes over the American people in periods of great prosperity. At once there is to be considered the element of trades-unionism. This force has so increased the wages of the average working-man that he can take time for a vacation, and it has also made it possible for him to retain his place, notwithstanding his absence for a stated time from his work. No working-man in the ranks of organized labor gets a vacation; he takes it, and there are few who are not able to pay for this play-spell. High wages make this possible.

A leading member of the Civic Federation, one of the most active in that association in bringing about better relations between the employer and the employed, said the other day—he is a daily toiler himself—that never in the history of the world were working-men so well paid as they are in the United States today. Much has been said of late of the increased cost of living, but this man said that we hear little of the increased wages. There has been an increase practically of ten per cent. in these wages in the last year.

In the rooms of the Civic Federation in New York there hangs a chart of wages paid in the building trades. It comprises the wages paid in all the leading cities of the country. It shows that all of them, with the exception of Baltimore and Boston, are what may be called eight-hour cities. Baltimore is a nine-hour city. Boston is about equally divided between an eight-hour and a nine-hour city.

Now the bricklayers in New York in 1901 got 60 cents an hour and worked eight hours a day. In 1902 they got 65 cents an hour and worked the same number of hours. That means \$5.20 a day. There was more work in New York than they could do. The bricklayer who could not save up \$25 or \$50 in a year for a vacation out of \$30 a week must be of the shiftless class, when one considers that ten years ago he worked for probably less than \$4 a day, and in the hard

times then prevailing was glad to get any work at all.

The iron-workers in 1901 got 56¼ cents an hour. In 1902 they got 59¾ cents. The wages of the marble-setters were increased from 50 cents an hour to 56¼ cents. The plasterers in 1901 got 56¼ cents an hour and in 1902 they got 62½. Stone-cutters had their wages increased from 56½ cents an hour in 1901 to 62½ cents in 1902; and so the list might be extended. The great army of "helpers" in the building trades also shared in this ten per cent. increase.

The great point of all this is that the manual laborer gets enough wages nowadays to get away a week or two each year; and the general testimony of employers and labor leaders is to the effect that most of them not only take outings on Saturdays and Sundays and holidays, but that most of the skilled workmen of all trades make it a point to take real vacations every year. When the laboring man, using the words in the usual restricted sense, gets time and money enough to get out to see a little of the world and to participate in its rational enjoyments, away from his daily toil, it needs no comment to make plain its social meaning.

As to those who get rather than take vacations, perhaps the most favored are employees in the great financial districts of large cities, particularly in New York. Recent years in the money district in New York have been years of great plenty. Dozens of houses have given large bonuses to their employees at Christmas time, amounting in some cases to 100 per cent. of their salaries. A bonus of from twenty-five to fifty per cent. has been quite common. In addition, there is scarcely a clerk that has not had at least two weeks' vacation given to him at the firm's or company's expense. Indeed, it may be said to be a general rule that all of those who *get* vacations in the great cities do so under full pay. It has come to be the accepted thing in American business life.

The employees in the financial district of New York are now so well paid that they can go on somewhat pretentious vacations, and it is common for the more important of these workers to get a full month's leave under pay. A large number of these men slip away to Europe for a short stay, or save up their time for two or more years for a more protracted visit to the Old World. Some go fishing in

Canada or pass a large part of their vacations in the mountains of our own country. Many belong to organizations that own camps or hunting- and fishing-preserves. Some go as far as the Rocky Mountains or the lake region in Wisconsin, Minnesota and Manitoba.

They get away from Wall Street as far as possible. Some of them with social aspirations in their families go to the fashionable seashore places, but a canvass of a large number of the Wall Street business houses by a reporter of one of the leading newspapers has shown that the majority of men on a vacation from the financial district of the town go to the country—that is, to the mountains or to the fashionable places on lakes or rivers adjacent to the mountains.

There are no employees in the world who have more leisure time under pay than those who work in the Federal service. In the Customs service in New York, for example, it is a matter over which they make merry. The Government gives each employee thirty days' vacation under pay each year. In addition there is allowed to each one yearly thirty days' absence under pay for sick leave. Many employees who do not know what it is to be sick combine these leaves into a sixty days' vacation. More than one typewriter girl and many of the men, even in the lower forms of public service, in this way go to Europe frequently. In addition to these days of leave, of course, the employees get eight holidays a year. This, with the Sundays, makes exactly 120 days out of the 365 which these Government employees have to themselves. In other words, they work only two-thirds of the time. But that is not all. They have fifty-two half holidays on Saturday afternoons. This really makes twenty-six more days away from work. On other days these Custom House employees work only from 9 A. M. until 4 P. M. Truly the politicians look after their own in the matter of vacations. In the city and State employ the same general rule obtains, the sick leave, however, not being regulated by statute.

In the great mercantile houses, where the salaries are largely regulated by the law of supply and demand, it is customary to give employees from one to two weeks' vacation with pay; and in many houses a gift of \$5 or \$10 and in some cases more is given to each person as he or she goes away. An average of \$1,000 a year salary is probably the rule in

most of the great wholesale houses, counting high and low. These employees take modest vacations, going out to farms; or as far as the Catskills—if they seek mountain recreation. The seashore gets a large part of their numbers, and many of them help to swell the ranks of the expert amateur fishermen of the country.

Altogether modest and yet most necessary to their health are the vacations that the army of employed women get. Teachers, shop-girls and typewriters make up this host. The teachers have full two months, and some of them more, for their recreation time. It is the general rule for them to go to what they call the country—that is, to cheap hotels or to farmhouses from 100 to 200 miles away from home. A large number, however, go in for travel—that is, they go to see things. You will find them at Niagara Falls, at Independence Hall in Philadelphia and at the places of historic interest in and near Boston; and even Washington, hot as it is in the summer time, receives their visits.

The teachers like to look over the great cities of the land. A large number from the smaller cities and towns within 300 or 400 miles of New York come to the metropolis, and they do well, for as a summer resort New York City is one of the most attractive places in the land to strangers. Teachers go to expositions when one is in operation. Their strong inclination is to seek information, and they get it so far as summer vacations can furnish it. Many go to summer schools at the big universities. They spend from \$100 to \$250 a summer in their recreation and almost invariably they come back refreshed as no other grade of the employees is refreshed.

Some of the better paid teachers, those getting from \$1,000 to \$1,500 or \$1,800, go to Europe every three or four years. A large part of them, going in little parties, travel in the second cabin in the great steamship lines, and show their wisdom thereby, for such travel nowadays is extremely comfortable and satisfactory. They see the stock places of Europe, and they make far better teachers and Americans through this liberal education of travel. High-school teachers, especially, may often be found in Europe in the summer.

The scope of the shop-girl's vacation depends largely upon her private condition of life. If she lives at home, pays no board and uses her modest salary of from \$7 to \$10 a week for her clothes and incidentals, she may easily save

enough for a week's rest at some distance from home. It is the custom of the large department stores to give their employees who have been a year with them and who are employed constantly the year round a week's vacation with pay. Some of the shops, however, that pay the highest wages do not pay their employees while on vacation. The managers assert that the pay is sufficiently high for the employees to save enough for a week's vacation. They simply give leaves of absence to their trusted employees. When a shop employing from 2,000 to 4,000 persons gives each employee a week's vacation under pay, as several of them do, notably in Brooklyn, it means in outlay the interest on a large amount of capital. The owners of these establishments may be set down as true philanthropists.

It is probable, however, that not more than one-half of the shop-girls get these vacations or leaves of absence. Those who have to support themselves entirely cannot afford to leave town. They take their outings on Sundays and holidays instead. One of the largest of the department stores in New York supports what is really a hotel on the New Jersey coast. From fifty to sixty girls are sent there each week from the store to enjoy free of charge all the comforts of a moderate-priced seashore hotel. Drives and dances and outdoor sports, in addition to bathing facilities, are provided, and in this way nearly 1,000 girls get a vacation each year without the slightest expense to them. The members of the firm say they have found this to be a paying investment financially. But shop-girls, as a rule, do not get far from home. If they see the country at all it is generally less than fifty miles from where they are employed. A few of the saving kind, however, are forehanded enough to go on some rather pretentious trips.

As a rule, therefore, it may be said that there is practically no one in our cities and towns who does not get a vacation or outing. There are no statistics to show which class outnumbers the other—the vacation or outing grades—but it seems to be the general opinion that the vacation habit is so deep-rooted in American life nowadays that the stay-at-homes are outnumbered by these who have real vacations. Where do they go? There is not a sheet of water of any size, especially in the middle West and in the East,

that is not lined with shacks for summer parties. Out in Wisconsin, for example, there is a little colony on Lake Pewaukee, just outside of Waukesha, where there is a village of old street-cars, forty or fifty in number, given up to camping parties. Every inch of our northern seashore that is available is already occupied. Hundreds of thousands of farms now take in summer boarders. Indeed, keeping summer boarders is the chief industry of the State of New Hampshire. So important has this business become in New York State that the Forest, Fish and Game Commissioners have taken to gathering statistics of this industry in the Adirondacks and have published them in their annual report. A special report has been made to the State Bureau of Labor in New Hampshire by L. H. Carroll, and it is interesting to note that he says that sixty-two per cent. of those who had vacations in that State last year stayed only one week. This would seem to show that the vacations of the American are of less than two weeks' duration on the average.

The entire eastern part of Massachusetts affords unusual opportunities for lake and seashore recreation. Connecticut has lakes and the great Sound shore, besides mountains in the northwestern part which are most accessible for vacation wanderers. Upper New England is crowded with lakes and mountains. Farms and mountains and rivers abound in New York, New Jersey and Pennsylvania. The great Middle West region of Ohio, Indiana and Illinois has the lake region in the north to go to, and one of the summer sights of the country is the St. Clair River district above Detroit.

No matter where one goes in the eastern half of the United States in the summer time he finds the country crowded and the people apparently devoting themselves to the enjoyment of vacations. "Old Home Week" has stimulated thousands upon thousands to go to their former places of residence in agricultural States. Thousands and tens of thousands of "country boys" who have gone to the cities, in that marked characteristic of American life for getting into the rush of things, go "home" for their summer outings.

No more vivid idea of what vacations mean to the American people could be obtained than by a visit in the first week of last September to the Grand Central Station in New York,

where the baggage blockade nearly tied up travel. Trunks were piled up by the acre. Moving-vans, trucks and express wagons, working night and day, could scarcely make an impression upon that pile. Some of those who returned to the city in that week had to wait four and five days before their trunks came home. Some of them had to wait a week. The railroad people were more anxious than the owners of the trunks to get the baggage away. More than 200,000 pieces of

baggage were handled there in September of last year. All the other railroad terminals were in a similar condition. It is safe to say that more than 500,000 pieces of baggage were handled in New York alone in that month. New York is the greatest traffic centre, but this congestion is evident everywhere.

The statistics of the railroads and of ocean lines show a steady increase from year to year in this summer travel. It proves that the vacation habit has come to stay.

THE SECRET OF BUSINESS IS THE MANAGEMENT OF MEN

THE SEVERAL STEPS IN SUCCESSFUL ORGANIZATION, FROM PARTNERSHIP
TO CORPORATION AND THEN TO PROFIT-SHARING COMPANY, LEADING
UP TO THE TRUE PARTNERSHIP OF EMPLOYERS AND WORKMEN

BY

ANDREW CARNEGIE

[THE PRESIDENTIAL ADDRESS BEFORE THE BRITISH IRON AND STEEL INSTITUTE]

MORE and more our Institute becomes cosmopolitan and confirms its sway over the world wherever iron or steel is produced. It marches forward with the times. Indeed, its mission has been to keep in advance of the times, only now and then following, but oftener making precedents. He who stands before you today does so through one of those precedents, as the first President not a British subject. You have sought by his elevation to the highest office to emphasize the fact that this, the pioneer institution in iron and steel, knows no petty lines of separation among nations. If international politics were only as harmonizing a force as international education, industry or science, what a wonderful and beneficent change would result! This alarming race among men divided into hostile nations, for increased weapons of destruction to be used not against outside foes but against each other, would promptly cease.

It is gratifying to remember that there are many educational, industrial and scientific societies like our own in which Frenchman, German, Russian, American, Briton and

men of other lands meet as friends, cooperating in a common cause. If the parliaments of these countries would only remit to the Iron and Steel Institute the whole subject of international relations, including armies and navies, you could readily appoint a committee of distinguished citizens of each of these countries, members of this Institute, who would have little difficulty in laying the foundation of international peace and good-will such as prevails among us in this cosmopolitan Institute, which knows no warring divisions, and whose members are engaged laboring in unison side by side, guiltless of hostile intent, and therefore free from ignoble suspicions of each other.

Looking over the list of the presidents of the Iron and Steel Institute, their successor is struck by the value of the service they have rendered. Great names are there, among them the chief inventors and pioneers in iron and steel—Bessemer, Siemens, Bell and others whose names are household words. There is scarcely one who has filled the office who has not been able in his inaugural address to deal with a branch of the subject as perhaps

the recognized first living authority upon it. Several have announced and described in your proceedings their own inventions which made them famous.

What a contrast the present occupant presents, who has no shadow of claim to rank either as inventor, chemist, investigator or mechanic. None know so well as you that his attention has been centred upon the business department, and that it is experience in this alone which entitles him to address you. It is the department which differs most, perhaps, from any other—at least, an American humorist gives it as his opinion that the business instinct can no more be instilled into men by teachers than the homing instinct could be developed by feeding them upon pigeon pie. I invite your attention, therefore, to the important question of the organization and management of that most complicated of all pieces of machinery—Man—which has been my province.

Great as is the contrast between the pioneer and the modern manufacturing plant, it is scarcely less between the business methods of the past and the present. Both have changed, and changed for the better, in the unceasing march of improvement.

It is to Britain we must come for the starting point, for here the iron industry began through the operation of her own inventions. We note how individualistic the various organizations were which established the manufacture. No trace of the corporation is seen, for that came later. Brown, Cammell, Jesup, Frith and others were the first captains of industry, chiefly of the mechanical rather than the commercial order, and most of them, I believe, had worked with their hands in youth. Bessemer, Siemens, Thomas and others came later. It is not strange that the inventive and mechanical should have taken precedence of the commercial element in the beginning, since upon these success primarily depended. When the joint stock form came, the business element naturally took first place.

It may be doubted whether the superintendent of any works under joint stock management in these early days had a seat in the board or any reward beyond a fixed compensation, or was called to the main office for counsel upon any question not strictly mechanical. Probably there was not one foreman or important man recompensed in

any form beyond fixed salary. The admission of young partners without capital was unheard of. The joint stock form does not lend itself readily to the substantial recognition of exceptional service from the exceptional man, or of payment based upon results in departments, yet it is in this direction that the most important changes have come in the business department.

TAKING YOUNG GENIUSES AS PARTNERS

Speaking from experience, we had not gone very far in manufacturing before discovering that perfect management in every department was needed, and that this depended upon the men in charge. Thus began the practice of interesting the young geniuses around us, as they proved their ability to achieve unusual results—the source of big dividends. These received small percentages in the firm, which were credited to them as the actual cash invested, no charge being made for good-will. Upon this they were charged interest, and the surplus earned each year beyond this was credited to their account. By the terms of the agreement, three-quarters of their colleagues had the right to cancel it, paying the party the sum then to his credit. This provision was meant to meet possible extreme cases of incompatibility of temper, or if the recipient should prove incapable of development or of enduring prosperity. At death the interest reverted to the firm at its book value. The young men were not permitted to assume any financial obligation, and not until their share was fully paid by the profits and there was no further liability upon it was it transferred to them; thus thoughts of possible loss never prevented concentration upon their daily duties. They were not absorbed in the daily quotations, for the shares were not upon the stock exchange or transferable. This policy resulted in making some forty odd young partners, a number which was increased at the beginning of each year.

By this plan they were rapidly paying for their interests and promising to become the millionaires of the then seemingly somewhat distant future, which, however, proved not so very distant. They are now rich men. You will not fail, however, to note that the plan kept them all in excellent training, as poor men still living upon their salaries, millionaires in *posse*, indeed, but not in *esse*—

quite a difference, for millionaires seem liable to develop when still very young so many hitherto unsuspected weak spots in their constitutions, requiring careful nursing and many absences and short hours, and a dozen other impediments to hard continuous exertion, that it does not seem good for their robust health that they should be unduly burdened before reaching middle age. The zest of the chase is over too soon. It will be found the exception when a millionaire employee strains himself unduly by over-exertion in the mill or office, nor should he be expected to do so. He has earned the right to some leisure for self-improvement. When a man has achieved a competence, new duties to his family and to himself arise. Money is properly only the means to an end.

THE STORY OF CAPTAIN JONES

We did not fail to see, as the works enlarged, how much success depended upon the mechanical men, the superintendents, and foremen, yet not one of these had up to that time been admitted as partner. The business and the mechanical men—office and mill—were still widely separated. Well do I remember the first attempt to bring these two departments into closer relations. It was made with our Captain Jones, one of your members, well known and appreciated by many of you as in the foremost rank of managers, perhaps the foremost of his day in America. He came to us as a working mechanic at eight shillings per day. I explained to the Captain how several of the younger men in the business department had been made partners and were actually receiving much greater rewards than he, while his services were at least equally valuable, and informed him that we wished to make him a partner. I shall never forget his reply:

"Mr. Carnegie, I am much obliged, but I know nothing about business and never wish to be troubled with it—I have plenty to trouble me here in these works. Leave me as I am and just give me a thundering salary."

"Hereafter," I said, "the salary of the President of the United States is yours, Captain," and so it remained till the sad day of his death.

My seniors, the presidents of the other manufacturing concerns, did not fail to take me to task for ruining the steel business by

paying a mechanic more salary than any of them received. Being much the youngest of these great dignitaries, I humbly confessed my wrongdoing, not, however, failing to inquire if they knew where we could find two or three more Captain Joneses at double the price. We did not overpay the Captain; he was worth several ordinary salaried presidents. The Captain's declinature of partnership was the only one which ever came within my experience. None of the other mechanics ever preferred salary to partnership, and they were wise. Nothing can compare with that form.

Let me impress that upon the younger members here who may soon have, or should have some day, the choice laid before them. From that time forward the union of the mechanical and business partners went steadily forward until no manager of a mill was without his interest in the business, as pertaining to the position, and no board of management, or important committee, was without a mechanical representative. Thereafter, mill and office conferred upon all important sales or contracts. The mechanic and the man of affairs were in constant consultation and fellow partners—one of the most profitable changes that ever we made.

There was another step taken in the same direction. Men having others under their charge were given an interest in the proceeds, or saving in cost, in their department. Where it was impossible to decide the limits of a department, the managers were rewarded by handsome bonuses beyond their salary, based upon the general profits of the year. Thus, as a rule, every man in authority became more than a mere wage-earner. He felt himself on the first step of the ladder which led to partnership sooner or later, and was worth any two mere employees paid only a daily or monthly wage and denied special recognition.

This plan of reward according to results, for heads of departments, has already become so general and is spreading so fast we may be sure it has proved its efficiency. There are few large department stores or important houses in retail trade which have not been forced to adopt it.

This plan is probably bound to prevail to greater or less degree in manufacturing concerns, and the sooner the better, for the greater number of the workers capital can

compensate, and in one sense reward, by sharing its gains, the more harmonious and therefore more profitable for both must the relationship become.

THE BUSINESS IDEAL—NOT WAGES BUT PROFITS

I never see a fishing fleet set sail without pleasure, thinking this is based upon the form which is probably to prevail generally. Not a man in the boats is paid fixed wages. Each gets his share of the profits. That seems to me the ideal. It would be most interesting if we could compare the results of a fleet so manned and operated with one in which men were paid fixed wages; but I question whether such a fleet as the latter exists. From my experience, I should say a crew of employees *versus* a crew of partners would not be in the race.

The great secret of success in business of all kinds, and especially in manufacturing, where a small saving in each process means fortune, is a liberal division of profits among the men who help to make them, and the wider distribution the better. There lie latent unsuspected powers in willing men around us which only need appreciation and development to produce surprising results. Money rewards alone will not, however, insure these, for to the most sensitive and ambitious natures there must be the note of sympathy, appreciation, friendship. Genius is sensitive in all its forms, and it is unusual, not ordinary, ability that tells even in practical affairs. You must capture and keep the heart of the original and supremely able man before his brain can do its best.

One of the chief sources of whatever success may have attended the Carnegie Steel Company was undoubtedly its policy of making numerous partners from among the ablest of its men and interesting so many others of ability in results. I strongly recommend this plan to the members of the Institute engaged in business, believing that in these days of threatened exhausting competition it will be the concerns which adopt this plan, other things being equal, which will survive and flourish.

In no field is the wise saying more amply verified than in manufacturing. "There be those who gather, yet scatter abroad, and there be those who scatter abroad, yet put into barns."

Disputes of some kind between Capital and

Labor are always in evidence, but it must never be forgotten that in the wide fields of domestic service and in that of the few employees with a working master which embrace by far the greater number of wage-earners, all is, upon the whole, satisfactory; there reigns peace, with the inevitable individual exceptions.

MANAGING MEN BY PERSONAL TOUCH

We see in this encouraging fact the potent and salutary influence of the personal element. The employer knows his men and the men know their employer; there is mutual respect, sympathy, kindly interest and good feeling, hence peace. In the extensive field of domestic service we best see how true it is—"Like master, like man; like mistress, like Nan." Here we have the relation of employer and employed in its closest form, and innumerable households testify to the harmonizing effect of personal relations. The trusty servant becomes practically a member of the family, deeply attached to it; and the family reciprocates the feeling. Few householders are without old retainers and pensioners, and to the end of their days, and even to that of the children of the household, the relationship remains unbroken. The friendship of the employers and their children for the old servants, and the affection of these for their masters and mistresses and their children, is one of the most delightful features of life.

What has produced this reciprocal affection? Not the mere payment of stipulated wages on the one part and the bare performance of stipulated duties on the other—far from this. It is the something more done upon both sides and the knowledge each has had opportunity to gather of the other, their virtues, kindness—in short, their characters. The strict terms of the contract are drowned in the deep well of mutual regard. Labor is never fully paid by money alone.

If the managing owners and officials of great corporations could only be known to their men and, equally important, their men known to their employers, and the hearts of each exposed to the other, as well as their difficulties, we should have in that troublesome field such harmony as delights us in the domestic. It is mainly the ignorance of contending parties of each other's virtues that breeds quarrels everywhere throughout the world, between individuals, between corporations and their men—and between nations.

"We only hate those we do not know" is a sound maxim which we do well ever to bear in mind.

In the progress toward more harmonious conditions between employer and employed we see that the system of payment by fixed wage has been largely supplanted by payment according to value of service rendered by workmen in positions of authority over others, and by recognition not only in money, but in position, which often counts quite as much as coin, and not seldom much more with the ablest. There remains still receiving the fixed wage the great mass of ordinary workmen; but we see in the history of the relations of employer and employed that these have not failed to rise greatly also. The movement tending to improve the position of the worker has not passed over even the humblest, but has reached and benefited all.

Passing over the day when the capitalistic employer owned and managed his labor as slaves, it is surprising to note that even as late as last century villenage still lingered in Scotland. Miners and laborers were practically transferred with the mine when it was sold. Speaking recently to a most intelligent miner in Fife (and the Fife miners deserve their extraordinary reputation for intelligence, sobriety and all the elements of good citizenship), I mentioned the fact that our forefathers were thus transferred, and contrasted the position now, when their committee was at that moment meeting the property owners in discussion as equal parties to a contract, both merchants—one buying, the other selling labor. To the inquiry what would be thought now if the employer desired to transfer the men with the mines, he replied:

"Aw, there would be twa at that bargain, I'm thinkin'."

You have to be Scotch fully to appreciate the reply, for much lies in the accent, the twinkle of the eye and significant nod.

THE SLIDING SCALE OF WAGES

The payment in merchandise of whole or part, and the obligation to perform certain duties to the employer, lingered after villenage passed away, but today we have reached the stage of perfect equality between the two contracting parties. Each is free to demand terms or to terminate agreements. Labor is worthy of its hire and is now paid this in coin, the law in many lands going so far as to

make its claim a first charge upon the employer's property—a great advance. But the irresistible pressure which has forced change after change in the relations of capital and labor still operates unchecked—a sure indication that the final stage has not yet been reached. We have evidence of this in another important advance, the sliding scale, which provides not a fixed wage but in some degree settles by results. Increased demand brings higher profits to the employer, which in turn brings workmen higher returns, so that as the employer's profits rise and fall, so do the workman's rewards.

If I were asked what was the best service the Carnegie Company was ever able to render the wage-earner, next to giving steady employment at wages equal to any, I should answer, by persuading them to adopt the sliding scale, with a minimum insuring living wages, at its works at Braddock fourteen years ago, which has given perfect satisfaction from that day to this and is still in force, and has produced undisturbed harmony between capital and labor. The sliding scale is a great advance over the fixed wage, not only by securing the workman a prompter and more certain share of the profits, but also because it raises his status. He is something akin to a proprietor when he shares varying profits instead of having merely a fixed wage. He has risen in the scale and is more of a man, and the more of a man the better and more valuable the workman.

While the Carnegie Steel Company interested its young men as partners and was always anxious to reward exceptional service, and carried the bonus system to an extent perhaps unknown in any similar organization, the masses of the ordinary workmen could not be embraced under the limited partnership form even if it had been thought desirable that their savings should be so invested. The objection to this from the point of view of the workman, which always arose in our minds and which we were never able to surmount, was the sad and instructive history of the largest manufacturing concerns, especially those of iron and steel.

More than once in the history of the Carnegie Steel Company, leading partners have even been so doubtful of its future as to beg that their more optimistic senior partner would buy of them large amounts of their interests at actual cost.

THE HAZARD OF THE IRON AND STEEL TRADE

It is an instructive fact that the majority of the principal of these in the United States have, at some period in their career, either been in the hands of receivers, been mortgaged, reorganized, or sold by the sheriff to the great loss of their original owners. Indeed, those who have escaped financial trouble are the exceptions. The great Cambria Iron Company was twice in trouble and once sold by the sheriff; Joliet Works were also so sold; the Bethlehem Company has twice been mortgaged; the six per cent. first mortgage bonds of the immense Chicago Works have sold for as low as 70 per cent., and its shares at less than one-half of their par value. The Troy Iron and Steel Company has lost heavily and undergone several reorganizations. It may be said that these disasters are of the distant past, but history has a way of repeating the past which we do well to remember. The Pennsylvania Steel Company has in recent years been in the receiver's hands. Its shares, in demand at \$300 in 1881, sold in '93 as low as \$20. There was no overcapitalization in any of these companies. Only actual cash counted. Even today, as I write, we hear of the Superior Iron Company being embarrassed—after investing of cash capital \$34,000,000. Its preferred shares, which recently sold for \$80 per share, are today quoted on the exchange at \$15.50. The common stock last year at \$36 per share sells today for \$4. The vicissitudes of the leading iron and steel concerns of Tennessee and Colorado are still in evidence. Our friends in Canada have similar experiences. Shares of their large Dominion Iron Company, which sold at \$60 last month, are quoted today at \$25.

Our experience in America has not been peculiar. The year before last the iron and steel works of Germany were generally in depressed conditions, and their shares suffered heavily. I read a list of these losses at the time which impressed me deeply. If I remember rightly, many declined one-half or more. Several important works were reported in financial trouble. Your own experience in Britain is similar. Not a few concerns, after vibrating between seasons of loss and gain, have from time to time had to be reorganized, entailing heavy losses upon shareholders. Uncertainty of results pertain not only to iron and steel, but to all forms

of business operations, and are inherent in them. It is said that of every hundred individuals who embark in a business, ninety-five fail. This seems incredible, but one has only to recall the number he has known who have attempted and failed to find that the percentage of failures is great indeed.

You know too well how the path of iron and steel is strewn with financial loss in all countries, and that all forms of business must encounter grave risks. Scarcely a week passes without news of embarrassment or failure in the industrial world. Thus it has ever been, and ever must be, while human nature remains unchanged.

Bearing all this in mind, the thought of asking the working-man to risk his precious savings in the manufacturing or any form of business was always discarded by us as too dangerous for him. He was advised to buy a home instead and to save his rent. To facilitate this, money was lent any of the employees to build a home who had the ground clear of debt. Their savings up to \$2,000 each were taken by the company and placed in a special trust fund, entirely separate from the business. Interest at six per cent. was allowed, to encourage the workman to save part of his earnings for old age. The funds received were lent upon mortgage on real property, generally to such workmen as wished to build homes. It was believed that this was the safest and therefore the wisest use of their savings which workmen could make.

THE STEEL CORPORATION'S PROFIT-SHARING

The most convincing proof of the steady march of labor to recompense more and more, based upon profits, and in forms drawing capital and labor into the peaceful bonds of mutuality, is to be credited to the United States Steel Corporation, the largest of all industrial corporations; and for which it deserves unstinted praise, as proving a genuine interest in the workmen and sagacious thought for its own.

To this step I invite your earnest attention, for it may well prove of surpassing importance and mark an epoch in the history of the relations of capital and labor. It may be even looked back to as having furnished the solid foundation for the solution of most of the troublesome questions between them.

It is in this form: Twenty-five thousand of the \$100 shares of preferred seven per cent.

stock were offered to its 168,000 employees at \$82.50 per \$100 share, in different amounts according to their earnings, which were subscribed for twice over; nearly one-sixth of the men subscribed—one-half being salaried men. Twenty thousand more shares of stock were afterward provided, making 45,000 in all, worth about \$4,500,000. Monthly payments are received. Another distribution of shares is intended next year.

One valuable and praiseworthy feature is that for five years those holding their shares and still in the service are given a yearly bonus of \$5 upon their shares, and during a second five-year term a bonus, amount not yet fixed, is promised. The third feature equally praiseworthy is the resolve to set apart yearly from earnings, should these exceed \$80,000,000, one per cent. of the earnings, and for each \$10,000,000 of earnings an additional one-fifth of one per cent., for a fund to be awarded to such of their officials and men as have in the opinion of the Finance Committee best deserved it, as a reward of merit, and not pro rata. Such is the scope of this perhaps epoch-making advance which is rendered possible by the joint-stock form with shares in small amounts, easily distributable among many thousands of workmen.

OUR EPOCH-MAKING ADVANCE

It will be noted that the investment is at the risk of the men. This seems a feature which we may, however, expect the corporation to change as experience is gained, as the plan is most wisely stated to be subject to future changes. In most of the States of the Union, labor's precious earnings, surely the most precious of all capital, are a first charge upon property, and this I believe the only safe policy to follow. Every workman a shareholder would end most of the conflicts, which sadden us, between capital and labor. To effect this, every corporation could well afford to offer to distribute part of its shares among the saving workmen, and in case of disaster give preference to repayment of principal as a first charge. Any desired legislation with proper safeguards could be readily obtained authorizing corporations to make savings of employees, up to a certain sum for each, a preferred claim, ranking before mortgage or ordinary debts or the claims of shareholders akin to the Mechanics' Lien and the Homestead exemption laws. This seems

due to the working-man, who, necessarily unacquainted with business, takes his shares upon trust and becomes the beneficiary or the victim of his employers. He should be considered as an inexperienced youth in the affair; besides, he is asked to invest not solely for his own, but at least equally for the advantage of his employer. His adviser is not a disinterested party, and therefore cannot be absolved from responsibility, which would, I am confident, lead the owners of the United States Steel Corporation to save their trusting workmen from loss through following its advice, intended to promote the mutual advantage of the company and the workers. The responsibility is not small, since the circular assures the workmen they are offered "a safer and more profitable investment than the workman could possibly find for his savings elsewhere." Much better, therefore, that legal form be given to the moral claim.

There is another point of view, the influence upon the prudent workman of distracting anxiety in regard to the absolute safety of what may be his sole provision for old age. He will see every morning the stock exchange quotations, for the American workman reads the papers. Only recently he would have seen the preferred stock of the United States Steel Corporation temporarily quoted lower than the price charged for it to him. This may mean little to the man of affairs familiar with the ups and downs of the mercurial stock exchange. But what must be the effect upon the uninformed workman? Of this I am well assured: the workman whose thoughts are upon the speculative surprises of the exchange will not prove desirable.

Speculation is the parasite of business, feeding upon values, creating none, and is wholly incompatible with the satisfactory performance of other regular work requiring constant care and caution. The workman's investment should never be at a risk, for if his thoughts are upon the stock exchange they cannot be upon the machinery, and machinery like art is a jealous mistress, brooking no rival claimant to its absorbing demands. In the interest of the employer, therefore, as well as that of the workman, the savings of the latter should be secure—here, as in other respects, their interest is mutual, and hence I believe the needed change will be made by the Steel Corporation in the near future. I cannot speak too highly of this experiment

nor give the Steel Corporation too much credit for making it, since it is declared to be in the experimental stage, and subject to future improvement, as all new schemes should be. Its able and progressive author, Mr. Perkins, is to be heartily congratulated.

A SPLENDID VISTA OF WORK AND CAPITAL

Thus we see that the world moves on step by step toward better conditions. Just as the mechanical world has changed and improved, so has advanced the world of labor from the slavery of the laborer to the day of his absolute independence, and now to this day when he begins to take his proper place as the capitalist partner of his employer. We may look forward with hope to the day when it shall be the rule that the workman is partner with capital, the man of affairs giving his business experience, the workman in the mill giving his mechanical skill to the company, both owners in the shares and so far equally interested in the success of their joint efforts, each indispensable, without whose cooperation success were impossible. It is a splendid vista along which we are permitted to gaze.

THE PARTNERSHIP THE BEST FORM OF ORGANIZATION

Perhaps I may be considered much too sanguine in this forecast, which no doubt will take time to realize, but as the result of my experience I am convinced that the huge combination, and even the moderate corporation, has no chance in competition with the partnership which embraces the principal officials and has adopted the system of payment by bonus or reward throughout its works. The latter may be relied upon, as a rule, to earn handsome dividends in times of depression, during which the former, conducted upon the old plan, will incur actual loss and perhaps land in financial embarrassment. In speaking of corporations we must not forget, however, that there are many which are corporations in name only, their management being the life work of their few owners. These rank with partnerships, having all the advantages of this form.

The true corporation is that whose shares are upon the stock exchange and whose real owners change constantly and are often unknown even to the president and directors, while to the workmen they are mere abstrac-

tions. It is impossible to infuse through their ranks the sentiment of personal regard and loyalty in all its wonderful power. The step taken by the United States Steel Corporation is therefore no surprise to me, for I have long believed that such corporations would be compelled to adopt the best attainable substitutes for the fruitful features of the newer system, or suffer eclipse. In the sagacious policy of the United States Steel Corporation I see proof of that opinion, nor can I suggest a better form than that it has adopted, always provided the working-man shareholder be secured against loss.

THE BEST SUBSTITUTE FOR PARTNERSHIP

In the percentage allotted by the plan to reward exceptional officials we have for the huge corporation perhaps the best substitute attainable for the magic of partnership, which nothing however can approach. The reward of departmental officials may readily be secured under this provision.

In the bonus granted yearly upon shares held by employees we have proof of regard for them which cannot but tell, and the distribution of shares in the concern among them has an advantage which so far even no partnership has enjoyed, but which will no doubt be adopted by them, or some equivalent found; for the workman, owning shares in absolute security, will prove much more valuable than he without such interest, and many incidental advantages will accrue to the company possessed of numerous shareholding employees who may some day see their representative welcomed to the board of directors, which would prove most conducive to harmony, knowledge of each other on the part of the owners and workmen being the best preventive of dissatisfaction.

If the investment of the workman's savings be made secure, the rapid extension of the plan seems certain and can be hailed with unalloyed satisfaction; but in its present form it is obviously incapable of general application, since the officials of few corporations could or would incur the responsibility of inducing their workmen to invest in their shares as a security, and few corporations could or should inspire the needed confidence of labor that these are to enjoy an unbroken career of prosperity, for such has not been the history of manufacturing concerns gener-

ally, especially in our line, to which we may well apply the celebrated line of Hudibras:

"Many are the perils that environ
The man who meddles with Cold Iron."

EVERY WORKMAN A CAPITALIST

The idea of making of every workman a capitalist and of sharing large percentages of the profits among those rendering exceptional service will probably encounter the opposition of the extremists on both sides, the violent revolutionist of capitalistic conditions, and the narrow, grasping employer whose creed is to purchase his labor as he does his materials, paying the price agreed upon and there an end. But this opposition will, we believe, amount to little. It will even speak well for the new idea if scouted by the extremists and commended by the mass of men who are on neither dangerous

edge, but in the middle, where usually lies the greater wisdom.

Meanwhile, here is the germ of a promising plan offered as a solvent for one of the pressing problems of our age, which may prove capable of development. As members of the Institute let us receive, study and discuss it with open mind. That the problem will be solved, and that the two allies are some day to live in friendly coöperation, let no one doubt. Human society bears a charmed life. It is immortal, and was born with the inherent power or instinct, as a law of its being, to solve all problems finally in the best form, and among these none more surely than that vexed question of our day, the relations between these Siamese Twins, which must mutually prosper or mutually decay, and for which separation means death—Employer and Employed—Capital and Labor.

THE JOYS OF FRESH-WATER FISHING

WHEN, WHERE AND HOW TO GO AFTER TROUT, BASS AND
OTHER FISHES OF OUR LAKES AND STREAMS—WHAT TO WEAR
AND WHAT TO CARRY—TROUT CUSTOMS ONE MUST LEARN—
STRENUOUS PERSONAL EXPERIENCES OF A TRAINED ANGLER

BY

EDWIN SANDYS

IF it were possible to gather together the fishing folk of the fresh and salt waters of this continent, the massed multitude would be such an assemblage as the world has never known. If it marched for ten miles in true array its trail would show like a great scar on the face of the earth and perhaps remain visible for many seasons, as do the old buffalo trails. The vanguard would trample sweet grasses, the rear guard be coughing in peppery dust. And the marching millions would be those who at one time or another had felt the witchery of angling, gentlest and finest of all sports in the wide world.

Fishing in one or other of its several forms is the most popular of our sports. There are excellent reasons why this should be. In the first place, fishing is clean in the sense of being singularly free from any demoralizing influence. It leads its devotee into pleasant places, and

because the true angler needs must also be part poet, such ears, perhaps, best hear the sermon of streams and stones. There are no cleaner things than pure air and water, and did fishing offer no more than these it would be entitled to consideration. But it does much more, for of it might truly be said: Its ways are pleasant; its paths are peaceful—which means much.

The more important fishes of our fresh waters, grouped according to habitat, include the salmon, trout, the ouananiche and the grayling, of rapid rivers and brooks and cold lakes of the rock-bound regions; the black, the rock and other basses and the perch of streams and lakes other than typical trout-waters; the maskinonge and pike of the Great Lakes and their tributaries, and the various pickerel and the wall-eyed pike common to weedy waters of a great extent of country.

Of the salmon and its fishing it is unnecessary to speak at length. Very few of the salmon rivers of the East are open to the fishing public, and only a specialist with the two-handed tackle is likely to attempt the capture of the king of game-fish. The ouananiche, too, is not a fish for the masses. It is a game fighter, and at certain times a free riser, but it is found in but a few of the northern waters. Its stronghold is Lake St. John, that mecca of the sportsman northward bound from Quebec City. In Lake St. John and its tributary rivers, but especially at the lake's outlet, which is the beginning of the famous Saguenay River, is the stronghold of the high-leaping ouananiche, and there the acrobatic small salmon has been taken by many a tourist-angler. And there are other salmon. Some of the waters of the Far West at certain seasons are visited by countless salmon of allied yet distinct species, and many a fine fish, though inferior to the Atlantic species, falls victim to the common trolling-spoon and other devices. I have killed fish in Buzzard Inlet, near Vancouver City—in fact, within sight of the city—which were by no means to be despised as sport-makers. For them a stiff trolling-rod is the most sportsmanlike tool, but the great majority of the fish taken fall victims to the trolling-line, which is dragged behind a boat and held in the hand.

Beyond question the most popular of our game-fish is that spangled aristocrat of the hurrying stream, the brook-trout. In addition to his beauty and palatableness, there is a dash and go about his method which strongly appeals to those who like rapid action in their sport—and who does not? Furthermore, the typical trout water is in itself a most beautiful thing. Be the region plain or picturesque, the trout stream surely travels the most attractive part of it. Follow its musical bickerings down a valley and you will be led through one of Nature's picture galleries, with choice bits arranged in marvelous profusion upon either side. Glorious greenery, lichened rock, grim cliff, echoing vault, thunder-voiced fall, bubble-spangled ripple and mystic, velvet-shadowed pool follow in endless succession. And with it all the silver song of merry waters, perhaps chording true at shadowtime with the contralto of the thrushes. And so you lose yourself in the enchanted cavern of green.

There is nothing evil to be found in all our hundreds of miles of trout waters. Only the celestial pavement itself is cleaner than the pure, sweet water, forever washing its bed and bounds and forever singing o'er its wholesome task. A trout stream is a good place for most folks to be. And we have an abundance of streams—for, broadly speaking, a rock country is a trout country. To remove the trout country from this continent would be to render it irrecognizable. There would remain prairies, marshlands and heavily wooded lowlands, the regions of sluggish streams and placid ponds. The best of the easily reached free fishing is to be enjoyed upon the hill streams of the Adirondacks, Pennsylvania and Connecticut. If you go farther there are still within reasonable distance the famous waters of the Rangeley and Moosehead systems of Maine, the Megantic waters of Quebec, the wilds of New Brunswick, the marvelous silver net of the north shore of the St. Lawrence and of northern Ontario, which extends to the newly exploited region of the upper Ottawa and to that stronghold of big trout, the north shore of Lake Superior. All of these regions, both American and Canadian, are comfortably accessible by rail, and no railroad worthy of the name fails to pay strict attention to the comfort of anglers.

I have fished in every one of the extensive regions named, and the average angler may visit any one of them with a certainty of enjoying fair fun and an excellent chance of extraordinary sport. Were the purse, leisure and experience, or lack of it, of every reader known, it would be a comparatively easy task to name one particular water which would be almost certain to meet the requirements; but lacking full knowledge of individual desires, any attempt at the rôle of guide-post would be absurd. But the individual can get helpful, because as a whole reliable, information by securing a sporting guide-book of a railroad traversing the preferred country. Because I have written some of them and read the others I know they are not dangerously enthusiastic, especially over the more remote waters. In fact, not a few of them actually fail to do full justice to the regions they refer to. The pen of a wizard of word-painting could not overdraw the beauties of at least four-fifths of our trout waters which will, under ordinary conditions, yield all the fish that clean sportsmanship can demand.

The matter of outfit is wrongfully a problem to the novice. An expert needs no advice, and the novice's safest course is to consult some experienced friend or the expert of any one of our large dealers in tackle. The last thing a reputable tackle-dealer would care to do would be to impose upon a patron who by fair treatment could be made a permanent customer. Tell the dealer exactly where the fishing is to be done, and the odds will be strongly in favor of his knowing enough about the water and its possibilities to enable him to forward a workmanlike and in every way satisfactory outfit. A popular tackle-shop is a great place for gossip. Veterans of many waters tell of their successes while purchasing fresh supplies, and from their talk and orders the dealer obtains a shrewd knowledge of what is best for many waters which he perhaps never has seen. The outfit need not be expensive. Excellent rods and reels are now offered for a fraction of the old-time prices. The necessities include rod, reel, line, leaders, flies, creel and waders. One of the most satisfactory of the very cheap rods is of steel, but very fair ones of split bamboo, lancewood, etc., are to be had for a few dollars. I have fished with an outfit which, exclusive of the waders, did not cost five dollars, and with others which cost many times that sum, yet found no marked difference in the fun.

As to flies, their name is legion and they vary with the months. A useful assortment for June includes the hackles, alder, green drake, marlow buzz, gray drake, oak fly, orange dun, black gnat, blue blow and white miller. For July, the coachman, white miller, professor, grizzly and brown palmers, black midge, July dun and red ant. For August, the royal coachman, goslin, green camlet, August dun, coachman, shad, governor and flaggon are useful. If baits *must* be mentioned, the most useful are angle-worms, bits of fat pork and the eye or fin of a trout. The costume should be inconspicuous. Tweed coat and trousers of dull gray or drab admirably blend with the surroundings of most trout waters. A soft felt hat of color to match the suit is the best, while for underwear there is nothing equal to pure woolen fabric of light weight. Many novices at angling fail to recognize the great value of pure wool next the skin. A man fishing a trout stream is apt to get more or less wet, and damp wool is the least dangerous of all damp

fabrics. Cotton and all mixtures containing a large proportion of cotton, if once dampened, soon feel as cold as so much tinfoil, but one seldom experiences a chill if wool be worn.

One cannot move too cautiously along the stream. Fish may have no visible ears, but they can either hear or feel the jar of a clumsy foot. It is better to fish down-stream or across the current rather than up-stream. Don't be in a hurry. Don't tramp heavily, or disturb stones with the feet. Don't allow your shadow, or that of the rod, to play upon the water ahead. Don't forget to kill a fish before putting it in the creel, nor to eat it as soon as possible after killing.

The black bass is the trout's greatest rival; indeed, not a few anglers esteem the square-built, swart gladiator above the jeweled fop of the brawling brook. The two species of black bass, the large- and the small-mouth, are widely distributed. The best of the eastern waters are in New York and New Jersey and New England. As a rule, there is good fishing in the Niagara, at many points on the St. Lawrence, and in the Rideau, the Trent, Sharbot Lake, the Muskoka Lakes, the Severn, the wonderful Georgian Bay, and many other Canadian waters. In Wisconsin one may enjoy fine sport, and the same is true of the Fox Lake Chain, of Illinois. Lakes St. Clair and Erie offer excellent fishing, but the mere mention of our bass waters and those of the Dominion would be a heavy task.

Fly-fishing for bass is notoriously uncertain, yet with fish in rising humor it is royal sport. Any first-class shop can supply fly-tackle. Among flies of proved merit are the buck-tail, Governor Alvord, ibis, silver doctor, coachman and Lord Baltimore. Deadly baits for all bass include crawfish, white grubs, live minnows, frogs, worms and grasshoppers. For all-round use they would rank in order as named. There is a wonderful variety of spoons and lures for trolling. Of these, the most complicated usually are the least desirable. Trolling with a stiffish rod of any standard make is capital sport, but the popular trolling with the long hand-line hardly deserves that name. I must confess I do not care for it. Still many people fancy it, and there can be absolutely no question about its deadliness.

The mighty maskinonge and his cousin pike are taken by trolling-rod and hand-line. The two fish are inhabitants of the Great



AN EXCITING MOMENT

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PULLING HIM IN



A CONTENTED SPORTSWOMAN

Lakes, their important tributaries, and some smaller waters. Perhaps the best known maskinonge waters are in Wisconsin, the second best near the head of the St. Lawrence

on the Canada side. The deadliest lures for both species are live minnows, spoons and some of the artificial minnows. The trolling is done from a boat, and an experienced hand



A WESTERN TROUTING STREAM AND CAMP

Photographed by O. T. Davis

at the oars is worth his weight in almost any valuable substance.

The "gentle art of angling" is not misnamed, yet it has its thrills and occasional dashes of the strenuous. Upon one memorable day I pulled a skiff across the beautiful Trout Lake, in the Nipissing country of northern Ontario. The air had been gray with smoke for a couple of days, but there seemed to be no cause for alarm. Leaving the skiff on a rock-ledge at the mouth of a little stream, I waded the latter for perhaps

seconds the tree-tops almost overhead were flaring and roaring like blast furnaces.

Only those who have seen it can understand how swiftly a forest fire can advance. Wading a stream and casting here and there as one slowly advances are both easy and pleasant, but running or floundering through that same waterway a few leaps ahead of a conflagration is a different matter. Dropping the rod and creel in the brook, I made a dash for the outlet. The roar above and behind was something terrific, and in a minute the heat had



WAITING

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one hundred yards upward. There were plenty of fingerling trout, almost too small to bother with, but a mess for supper was wanted. The woods all about were very dense, and by the time a dozen fish had been killed the smoke had become too unpleasant for further effort. It was impossible to see many yards in any direction, and I had about concluded to retreat when a sudden gust of hot air struck me. All unsuspected, a great fire had swept through a hidden valley just ahead, a change of wind had turned the flames, and in a few

become almost unbearable. Waders are the worst possible foot-gear for speed, but luckily I was in the brook—the safest place. It seemed like two hours—most likely it was two minutes—before I saw the bow of the skiff poking through great masses of smoke. She was still ten yards away when a huge banner of flames streamed directly over her. There was no time for another stride. It was *dive or cook!*

The icy coldness of the water and the deadly drag of the waders were not pleasant,



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ON THE WAY TO THE FISHING GROUNDS



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THE DAY'S FISHING OVER
Ready to start for home



THE ENTHUSIAST

Photographed by Frank A. Perret



Photographed by Andrew Emerine, Jr.

A FULL HAUL OF MINNOWS FOR BAIT

but by cautiously working along the steep shore-rock I managed to reach safely the blade of a trailing oar. A vigorous pull floated the skiff, and in a minute I had her a few

yards beyond the fire lines. When I ventured to climb into her the varnish on the wales was "tacky," and half her length on one side was blistered. Had any one pointed out the place and said that an able-bodied man could possibly have got into trouble there with a forest fire, I should have scoffed at the idea. But we live and learn. None but an expert swimmer and diver ever could have reached the skiff, which offered the one means of escape.

Upon another occasion, in northern Michigan, I was trout-fishing in company with a veteran timber-cruiser, a man who knew everything about the rough bush-life. In time we reached a bend in the stream where a lot of small logs had jammed during the spring freshet. My comrade unconcernedly ventured upon the logs, and, before I could follow, by some mischance he stepped upon a loose one and instantly disappeared. Had I not been looking at him it is likely I should have imagined he had crossed and gone into the brush upon the farther side. One log of all the mass was rolling, and a hand showed at one side of it. To dart across and seize the



Photographed by Andrew Emerine, Jr.

GOING AFTER BAIT



FIGHTING WITH A GAME ONE

Photographed by Frank A. Perret



Photographed by W.A. Tenney
ON THE BARN DOOR

his stomach across a log. Half-drowned as he was, he had not lost his nerve. "Do—don't let 'em squeeze back on me!" he gasped, and a moment later he was on his feet. Most men

hand occupied very few seconds, but to my horror I could not pull him up through the narrow space through which he had slipped. To set a foot upon the log either side the opening and shove with all strength was the only hope. For seconds I clung to the wrist and strained mightily. Slowly the logs separated and up he came till he was able to twist upon

would have weakened then, but he was iron. He had swallowed a lot of water, had been cheek-by-jowl with an awful death, yet he had no idea of proving false. The logs were slowly slipping farther apart and I was standing like a certain large gentleman of Rhodes, and unable to stand much more spreading or to spring to either side, while of course to slip into the water meant to enter the trap he had just escaped. In a few seconds he seized my hand and one quick haul carried me to firm footing. The logs at once closed like a gigantic trap. When we reached solid ground my comrade almost collapsed, and for half an hour he was a very sick man. Later he said: "I held my breath as long as I could, calculatin' you might try to get me, an', pardner, I'll never forget that little turn. I reckon I was in a mighty tight place."

All things considered, I think his remembering that I might be in difficulties, and his quick solution of the problem, proved as high a type of true courage as might be found.



THE YOUNG FISHERMAN

Photographed by Henry Troth



Photographed by Chester D. Moses

THE ART OF CAMPING

WHAT TO TAKE ALONG—WHAT TO WEAR—HOW TO MANAGE
—PRACTICAL LESSONS OUT OF A LONG EXPERIENCE

BY

DAN BEARD



OFF FOR A DAY'S
SHOOTING

MOST of us are so accustomed to having other people build our fires, make our beds and cook our meals that we are more or less helpless in the woods, where we are away from the butcher, baker, candlestick-maker, doctor and trolley-cars. We have, to a certain degree, lost our primitive self-reliance, but there is only one way to learn woodcraft, only one way to

meeting, and the "picnic" camps. The latter dot the shores of New Jersey, the lake's side at Seattle, in the vicinity of Spokane, Devil's Lake, North Dakota, and the groves back of Winnipeg, Manitoba.

Such camps have their attractions, but they have no better claims to being the "real thing" than the so-called permanent camps, which are simply more or less pretentious houses built in the woods.

When one talks of camping, one usually means living under bark, brush or canvas in a "howling wilderness." It is possible to order a portable house and have it erected at the chosen spot, and in stormy weather such a shelter will appeal to the most hardened camper; but this is not savage enough, not primitive enough for the modern strenuous Americans; therefore we will eliminate this whole charming list.

learn to camp, but one way to learn how to do anything, and that is to try it.

There are so many kinds of camps patronized by those in search of recreation that it would take several volumes to treat of each properly.

There is the freight-car side-track camp, the caravan (van-wagon) camp, the floating (houseboat) camp, the old-fashioned camp-

The Davy Crockett, Daniel Boone or Simon Kenton camps consisted of a blanket and a camp-fire, but we are not made of quite such stern stuff as these old heroes and must take a middle course. To begin, make bags for your shoes, your comb and brush, your fishing-reels, your fly-hooks, and for everything. Make the bags with draw-strings, and make them of different material—oil silk for your tooth-brush, cotton flannel for your fish-reels,



Photographed by the Detroit Photographic Company

GOING INTO CAMP IN THE MIDST OF THE ROCKIES

and *different colored* chintz for the other objects. The color is a great aid in identifying the contents and acts as a labor-saving of much time and wicked thoughts.

In the place of trunks use water-proof canvas clothing and provision bags. They come with double tops and edges strongly bound with linen braid, and in sizes varying from nine inches in diameter and two feet in

length to eighteen inches in diameter and three feet in length, and cost from seventy-five cents to one dollar and a half, with an extra dollar for a lock. Personally, I have never had occasion to need a lock on my luggage bags, their disreputable appearance being a sufficient protection; but new bags might suggest valuable dunnage, and a lock may save the contents of your kit. A couple of years ago



Photographed by W. G. Walker

PACKING FROM ONE SITE TO ANOTHER



THE FRAME FOR AN INDIAN WIGWAM

Photographed by Beard

my wife and I took a two-hundred-mile journey in the Rocky Mountains, using ordinary feed-bags for trunks.

Each individual of a camping party should be supplied with a good jack-knife, a pocket compass, and a water-proof match-box made



A TYPICAL SIOUX WIGWAM
Devil's Lake, North Dakota

Photographed by Beard



Photographed by Beard

A CAMPER'S LOG HUT



Photographed by O. T. Davis

A WOOD-CHOPPERS' CAMP

of two empty ammunition shells of different sizes which fit snugly one over the other. Each person should also possess an india-rubber drinking-cup. Put in with your things a small bag of wire nails, several waterproof canvas water-pails, an ax of not less than three pounds' weight, and some common stable lanterns, or, better still, some folding aluminum lanterns, in bags. I have one of

these lanterns which has been with me on many trips, and I find it most convenient.

Do not forget a small leather medicine case containing screw-top bottles of simple medicines—cholera mixture, ginger, court plaster, surgeon's plaster, etc. Also a bag of needles, thread, common pins and safety-pins. If ladies form part of the company, put in a liberal allowance of hairpins and they will count you as their friend.

One of the strangest sights I ever saw in a wild country was a little minister garbed in



A HUNTING-CAMP IN THE OZARK MOUNTAINS

Photographed by George Stark

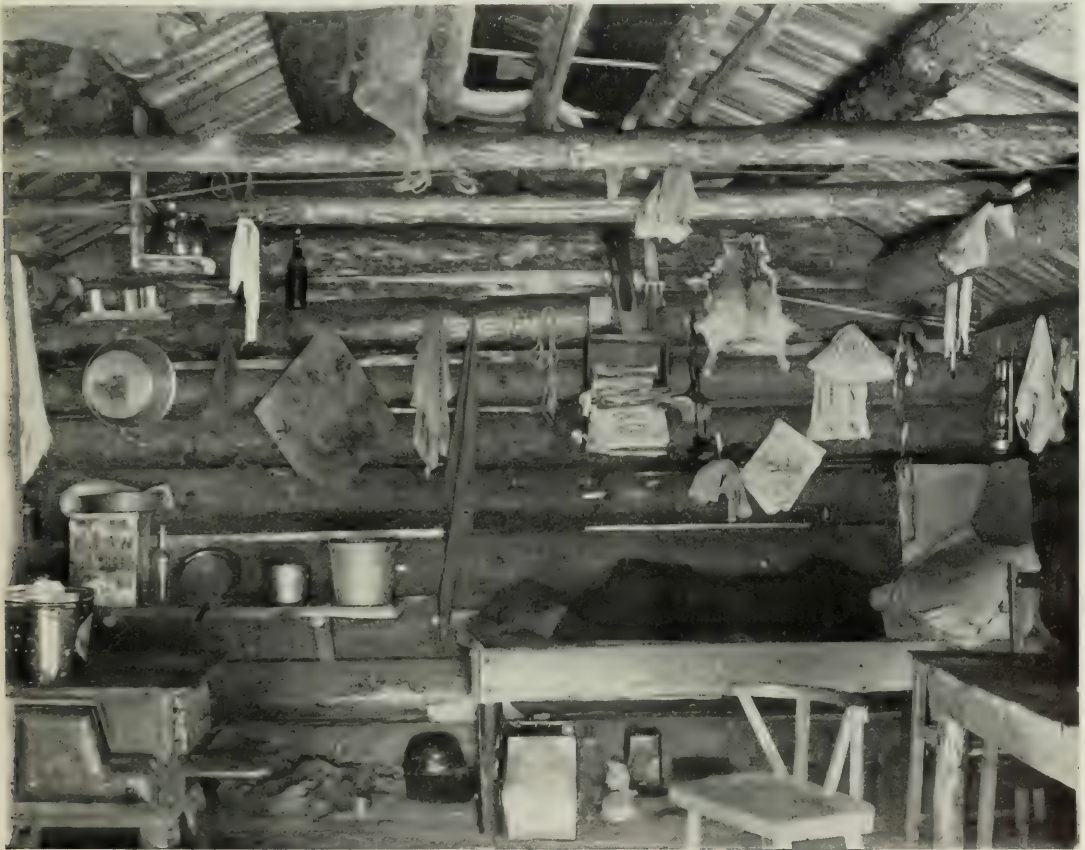


A CAMP BUILT IN A HALF-HOUR

Photographed by W. G. Walker

solemn black, white "dog" collar, buttonless vest and stiff black straw hat. The dominie was standing in a leaky boat in the midst of a primeval woods, fishing the boiling waters of a

mountain torrent. At his back a cataract roared and pounded the rocks, churning the water to white suds; above him the eternal snow glistened on the mountains, and but a



A LOG CAMP INTERIOR

Photographed by Beard



A FINE STRING OF FISH

The author and his guide



THE GUIDE'S LEISURE HOUR

few yards away a gaunt cinnamon bear was quietly nosing among the driftwood.

Don't wear straw hats; old soft felt hats or cloth caps are better adapted to camp. If you

have special clothes for camp, the "Loden" woolen stuff manufactured in the mountains of Tyrol, Styria and Bavaria is probably the best material; it is all-wool and water-proof. Pontiac shirts are prized in the Northwest,



A SHELTER-CAMP NEAR CIVILIZATION

Photographed by A. W. Dimock



A WIGWAM CAMP IN A CLEARING

Photographed by Beard



AN OPEN CAMP IN THE ADIRONDACKS

Photographed by Chester D. Moses



A TRAPPER-GUIDE'S CANOE ON THE MONTREAL RIVER

Photographed by A. W. Dimock



Photographed by Beard

GETTING SUPPER IN CAMP

but ordinary woolen shirts, woolen clothes, two suits of woolen underwear, three pairs of woolen socks and a sweater will be all that is necessary. The Mackinaw jacket of blanket, worn by the lumberman, is a good coat and inexpensive. Corduroy is pleasant to wear

when dry, but when it is wet it is as cold and clammy as tripe. Khaki is good for hot-weather clothes and the genuine article is practically water-proof. Knickerbockers look well on the golf-grounds, where biting insects, thorns, burrs and automatically boring grass seeds do not abound, but sore and itching legs will make one appreciate long trousers. Have them made with a slit at bottom to button tight around ankle

Canvas leggings are noisy, laced and buckled leggings catch on the underbrush, and the leggings which fasten with a spring will often spring loose at inconvenient times. Probably the best covering for the legs is what is known as the russet pigskin puttee-strap leggings or cross-strap leggings. The high-laced shoes of the prospector, miner and mountaineer, with hob-nailed soles, are excellent footgear, but low ones are better when worn with leggings; any stout, comfortable shoe will do very excellently for camp.

A woman or girl with a good figure is charming in a hunting-suit, and, charming or not, she must wear a hunting-suit or stay at home. A modest-colored Alpine or Tyrolese hat, with the green tail feathers of a domestic cock, combines use with a stylish appearance. A mannish shirt of wool, with pockets and rolling collar, will be found comfortable and



Photographed by Chester D. Moses

SHELTER FOR THE NIGHT IN THE ADIRONACKS

convenient, and a silk handkerchief around the neck will be an agreeable substitute for the uncomfortable stiff collar or stock. A Norfolk jacket of tweed with an abundance of flap pockets, and a short skirt of the same material made scant in front but full in back, will combine picturesqueness with utility.

With these clothes wear full knickerbockers, buttoned below the knee, high laced boots or russet pigskin cross-strap leggings. The foot-covering should be stout, comfortable and hob-nailed. Children of both sexes should wear overalls in camp.

A wire broiler, a frying-pan, a tin pail, a coffee-pot, tin cups, tin plates, cheap kitchen knives and forks and nickle-plated spoons make an inexpensive kitchen outfit. If you object to tin table dishes, take blue-rimmed cups and saucers of graniteware; the blue-rimmed is superior to the gray for many reasons. Graniteware is easily cleaned and does not break. But the best all-around kitchen and table outfit is made of aluminum. My old camp-fire friend, Mr. Abercrombie, loaned me such a kit, and it weighed so little and packed into such a small space that I was charmed with it.

At any reputable outfitter's you may purchase a kitchen outfit and table dishes of retinned steel, which will cost you from \$4 to \$8, and weigh from seven pounds to twenty-two pounds, according to the number of persons for which it is designed. Aluminum sets cost from \$10 to \$12 for two people and from \$28 to \$30 for eight people. The utensils are made to fit into one another, or "nest," and pack in canvas bags. The outfit occupies a surprisingly small space and only weighs from six to fourteen pounds. See that your coffee-pots have lips in place of spouts.

Even if you expect to get plenty of fish or game, you will be prudent to take a good stock of provisions. It is a serious thing to be poisoned by canned meats when one is a long way from a doctor, and one experience of this kind has made me look with suspicion upon meats put up in this manner. The regular United States emergency ration is probably the most practical thing of the kind on the market. What is claimed to be three meals is compressed into a square tin can about the size of a pint fruit-can, which contains a packet of tea, a packet of seasoning and a solid lump of dried meat and vegetables.

Mixed with water and browned in a pan, it is hash, or it may be fried as hamburger steak, or weakened with water and done up as a stew. If you use canned goods, choose those in flat cans. These goods are squeezed into the smallest possible space. Personally, I prefer boneless bacon to any canned meat, and a lump of salt pork to use in cooking game or fish. Best allow for each man for a two-weeks' trip one-quarter pound of pepper, one pound of salt, two pounds of dried apples, peaches or any sort of fruit, one and one-third pounds of coffee in tight can, four pounds of lump sugar (if spilled, lump sugar is not lost), thirteen pounds of flour in sacks, one-half pound of baking-powder, three pounds of corn-meal in bag, one and one-half pounds of oatmeal in bag, one and one-half pounds of tea in bag, three cans of condensed milk, one can of evaporated cream. Beef capsules are very handy and quickly prepared. Take a few of them, also some potatoes—as many as you have space to carry—and a small bag of dried onions. Don't forget some cakes of brown soap for dish-washing.

You may add to this list as many luxuries as your purse or transportation facilities will admit, and you may cut down the list. I have not made the allowance meager, because I know how gnawing a camp appetite is when one goes two weeks on short rations. A sheet-iron camp-stove is a great convenience, but it is not a necessity.

In camping near thickly settled places, keep back from the traveled roads and you will avoid tramps. In selecting camping-grounds many things are to be considered, and only general directions can be given. A high ridge or an open, breezy point on lake or river is less liable to be infested with mosquitoes and flying insects than more sheltered grounds. Avoid gulleys, swales and damp meadows; they are liable to be flooded by the first summer shower. The camp should be dry and well drained; gentle-sloping ground is best. Avoid big timber: a thunder-storm is liable to come and uproot the trees or shower large limbs upon your tent, or even destroy it with a burst of electric fluid. Make a clean camp; have a toilet tent and a pit for the garbage some distance away, *below*, not above, your supply of drinking-water.

In locating your camp the most important thing to be considered is the proximity of fuel and water. The latter is much more

easily transported than the former. No one who has ever attempted to carry an armful of cord-wood over rough ground, or tried to drag a back log through the brush, will doubt this statement. Dead standing timber makes your best fire-wood. Birch, chestnut, maple and pine are excellent fuel, but green hemlock and spruce are poor stuff to burn, and for that reason they make the best of back logs for camp-fires or side logs for kitchen fires.

Pine knots may be kicked from the red, decaying trunks of the prostrate trees, and they are so full of pitch as to be practically water-proof; split into slivers they make the best of matches; the slivers bunched together loosely make excellent torches. Birch bark kindles readily, wet or dry.

Don't build a big, roaring fire in the woods; it is not only dangerous for your tents or shacks, but it also kills and disfigures the nearby trees and is apt to start a forest fire. The tenderfoot in camp does not know the terror of a forest fire, but after he has escaped from one with his clothes and hair singed and his eyes and throat raw from smoke, and has seen the smoke roll up in dense masses higher than the summer clouds, he learns to fear these terrible fires and becomes more careful. Seven or eight feet from your tent build your camp-fire; first drive two stout green stakes about three feet apart, letting them incline slightly away from the tent. Cut three logs about four feet long of green hemlock or spruce; put the largest one against the stakes on the ground, the next in size on top of the first, and the smallest against the stakes on top of the last log; this makes the back of your fireplace. Make a pair of andirons of two short green logs placed at right angles to the back logs, with their butts resting against the back logs. Between these put birch bark, dry chips, pine matches and small sticks, and lay your dry logs across the green wood fire-dogs or andirons. This fire should burn all night. The wood should be green and dry, hard and soft mixed, for an ideal fire.

Make your kitchen fire in a trench or between two green hemlock logs; let the logs be eight inches apart at one end and four inches at the other end. Make the fire of the embers of your camp-fire and small wood, and remember that a bed of glowing coals is better for cooking purposes than a smoking, flaming fire. In the New York and Maine woods fires

are now usually made of dead wood, but in the good old times, before these forests degenerated to picnic grounds, the camp-fire was made of birch saplings, cut in six-foot pieces, laid lengthwise before the back logs and ignited in the centre with a dry branch of spruce. The sticks would burn in half and then the ends were pushed together; it took a half-dozen feedings to keep such a fire going till morning on a cold autumn night. Always extinguish your fires on leaving the camp and place two sticks (thus, X) over the ashes as a sign that the fire is out and the next comer may use the site for his camp.

A couple of squares of light water-proof duck, six feet by eight feet, with metal eyelet-holes around their edge, are valued more by a backwoodsman than a cumbersome tent. Nevertheless, tents are very comfortable, and individual tents are better than large ones made to protect many persons.

On a pneumatic mattress and in water-proof sleeping-bags my wife and I spent our first night without tents or shelter in the Rocky Mountains. It was raining when we crawled into our comfortable beds, but we pulled the flaps over our heads and were asleep inside of two minutes. We did not awake until the sun peeped over the mountain and shone in our faces. Sleeping-bags and pneumatic mattresses are great inventions, and I would rather sleep on a "blow-bed," as the cowboys call them, than to spend the night protected by a circus tent. But lacking a "blow-bed," the next approaching it in comfort is the couch of boughs, with a log pegged down at the head for a head-board and another at the foot for a foot-board.

Select some healthy branches of balsam and make a bed of them eight inches deep between the logs. Do this before the dew collects on the leaves, using branches about twelve inches long.

Begin at the foot of the bed and work toward the head, placing the balsam as close together as possible, with the tops slightly inclined toward the foot of the bed. Over the tops of the balsam scatter the fine tips of hemlock and spread your blanket on top. Hay, dry leaves and even green weeds, when covered by a water-proof blanket, make a good bed. Don't try to shirk work: it is the outdoor work which supplies you with the health for which you are in search, and when every one lends a hand work is a frolic.

THE MOST HEALTHFUL VACATION

THE HEALTH VALUE OF VARIOUS METHODS OF RECREATION—REAL REST VERSUS A CHANGE OF EXCITEMENT—THE WORST VACATION OF ALL, THE HOTEL VACATION—WHAT GOLF AND FISHING CAN DO—NATURE THE BEST PHYSICIAN

BY

DR. A. T. BRISTOW

IF ever a nation needed to be taught the necessity of vacations it is our nervous, strenuous American people. Rest is a necessity, not a luxury, to the man of affairs. He will find it an economy as well. The management of our great railroad lines well understands what the strain of running high-speed trains means for the nerves of the engineer, and so the men who sit in the cab of the fastest express trains are not required to run every day, but only on alternate days, in order that their nervous systems may have time to recover from the strain of excessive and long-continued speed. Many high officials treat their engineers with more consideration than they do either themselves or other employees. They are careless of a wreck that involves the broken health of one life alone, but they are careful of the life which controls the fate of a fast express. Nature is as exact a bookkeeper as is the cashier of a bank and requires payment as remorselessly.

A man may go to his physician and by the aid of such drugs as strychnine or other powerful nerve tonics defer the payment of his debt, but he will have to pay a heavy rate of interest. It ought not to need the warning voice of a prophet to convince the worried and irritable man of affairs that what he needs at this time of the year is not a drug, but rest. He has no right to suppose that nature will overlook particular sins against the laws of health any more than he has to expect the cashier of a bank to honor his draft when he has no funds. If you insist, if society insists that you must keep the pace, you must imitate the example of the man who runs the fast express, and keep yourself fit. A vacation by compulsion is something to be avoided. A man who recovers from an attack of nervous exhaustion in one year is fortunate beyond

his deserts. Take a yearly outing at your convenience or a year's outing at nature's. The first method is the cheaper.

There are certain errors into which many men who lead sedentary lives at their desks are prone to fall when they take a day off. The most usual thing for the business man is to betake himself to some nearby hotel in the country or by the seashore and spend his time lounging on the piazza in company with the inevitable cigar. In the evening he diverts his mind with games of chance, and patronizes the hotel bar, getting to bed by midnight or later. An occasional drive on the beach or over country roads affords some relief to the monotony of such a life. All the time three hearty meals a day are consumed. Usually meat is taken plentifully at each one, and often wine at lunch and dinner. Never active at any time beyond the physical exertion required in everyday life, the man who spends his vacations, be they short or long, after this manner, is getting some rest from the routine of business, but is neglecting his bodily welfare, since he is inviting gout, renal difficulties, and enfeebling his entire muscular system, the heart included. He has committed two serious errors: lack of suitable exercise, and indulgence in hearty hotel fare far beyond the capacity of his nutritive system to assimilate or the excretory organs to dispose of the waste.

The golf-courses which are now appendages of every well-equipped summer resort have done more to correct the former error and promote exercise in the open air than any other game or outdoor sport that has been invented. Golf has been a godsend to the man in middle life in need of exercise. For him tennis is too great a tax on muscles that have grown soft from disuse and for

a heart accustomed to a slow and sober pace, nor is the bicycle much better. If there were no hills to climb the wheel would be an ideal form of exercise, but many a man has toiled up an ascent on a high-g geared machine and overstrained his heart. The decline of the wheel has not been altogether a matter of fashion, but rather a recovery from a craze which was certain to make mischief for men used to sedentary lives whose muscular systems were unable to respond to the demands of hill-climbing. Therefore, to the man of affairs who betakes himself to the golf-links on Saturday afternoons and walks several miles over rolling downs, using all the muscles of his body and abusing none, the wise physician will say approvingly, "You are taking the form of exercise best suited to your age and condition." The excitement of the game, with its unending variety of chances and hazards, the element of skill, all have a tendency to divert the mind and charm away the cares of business. So to the unfortunate who plays not golf we would say, "Go and learn as quickly as possible if you would live long in the land." Golf is an enemy to gout.

A vacation spent in a hotel is better than no vacation at all, but the man who wishes to secure the best results from the days which he spends in search of rest and renewed vigor will not seek the artificial life of our great hotels with all the attendant excitement, false standards of living, and a table which is an invitation to gluttony. So we in our struggle with the gigantic forces which make up modern civilization must return to nature for refreshment and renewed strength. The forest, the mountains and the streams hide the elixir of life. We need to get away from crowds, from idle gossip, from the trivial observances of society, the fetters of custom. There is no rest like that which is hid for the weary within the shady recesses of the great woods, and camp life is far preferable to that counterfeit of camp life, a hotel in the mountains. You can sleep as soundly in a bark camp on a thick bed of balsam as on the softest mattress in a hotel bedroom. A tramp through the woods is what you need for both mind and body. The fatigue will bring to your tired eyes sleep far more refreshing than the stuporous slumber you have experienced in a hotel, superinduced by late hours

and the plethora of overeating without sufficient exercise. Remember that there is no better exercise for any one than walking. It has two great advantages over the wheel and the automobile: it gives the rambler time to learn needed lessons from nature, and it is free from the excitement of high speed, which is the very thing that a vacation should avoid. The man who spins along the highways on a bicycle or hurls himself through space in a high-speed, ill-smelling automobile is not resting. He is simply substituting one form of mental stimulation for another. He is like those unfortunate victims of the drug habit who go from morphine to cocaine and from both to whisky. Their diseased nerves crave some kind of artificial stimulus. So it is often with our business men in their relaxations.

What these men need most is the repose of the woods, the calmness of spirit that comes to the tired mind only amidst mountain solitudes. To invite a man of active mind to a ramble through the forest without an incentive is, however, almost as bad as to advise him to saw wood for exercise. Such an occupation affords exercise, but it is a nauseous dose which is too often taken submissively if not with cheerfulness. There is no better motive for the forest wanderer, whether his paths be by mountain stream or highland tarn, than the time-honored sport of good old Izaak Walton. Go a-fishing.

The angler's art is but a pretext or rather the incentive to a ramble, and not the sole object of the fisherman, unless, alas! he belongs to that too common variety, the man whose sole object is his catch. Such a man fishes with a worm, hides fingerlings in the depths of his basket, and photographs his catch as a witness of his crimes. He is not a fisherman, but a butcher. A yellow primrose on the river's bank is to him a primrose and nothing more. The true fisherman loves to catch fish, to match his wits against the wary trout, but as he wanders from pool to pool the songs of the birds greet him restfully; every turn in the stream reveals a nook in which strange wild flowers nestle. The gentle excitement of the sport prevents the scene from becoming monotonous. The element of chance, the uncertainty of the catch add the drop of tabasco sauce which gives zest to the day. And the noontide meal by the brink of the stream!

When did a meal have a more delightful flavor? Delmonico never served a trout like unto those we have eaten by the banks of a mountain brook with the clear blue sky above, the waving forest round about and the murmuring stream at our feet. The hour of contemplation comes afterward with the pipe of peace in our hand instead of the relinquished rod. How far off the city seems! Are there such things as corporations, trusts, stocks, bonds; electric lights that amaze the sight, harsh warnings of trolley gongs, the rumble and grind of the wheels and the brakes on the elevated road which affright the ear? The harshest note that breaks the stillness here is the boom of the bittern in the distant marsh. Home to camp the fisherman goes, taking a cast in this silent pool in which the trout rose in the forenoon to his cast but missed the fly, or in that dark hole deep under the bank in which a vigilant eye may detect the brown sides of a trout with lazily waving fins and tail—an old campaigner not easily caught.

So the shades of evening find the ramble ended, and no harsher beams than the soft radiance of the stars or the gentle spark of the fireflies and the glowworm light the wayfarer to his repose.

It is true that a fisherman is like a poet—born, not made; but to those unfortunates who have been denied the fishing instinct, and that contemplative frame of mind that accompanies it, there are other incentives which are able to make the haunts of wild things attractive. One may hunt without the aid of rod or gun, and find in the chase satisfaction without slaughter. To a man who has walked through the woods for exercise much as he would saw wood by a woodpile, a walk through the tangled paths with a naturalist is both an astonishment and a revelation. A few years ago popular works on nature-study were things unknown. The only means of information for the inquiring amateur were purely technical works such as Grey's "Botany," to a beginner as uninteresting and as difficult as a work on differential calculus. Now there are whole libraries of books which are both interesting, popular and true to the scientific facts. There are fifty-seven species of ferns described and illustrated in one book, and of these the writer collected twenty-two during a three-weeks' stay in the Adirondacks. Some were

found half way up Catamount, some on the slopes of Whiteface, one or two on the face of cliffs overlooking Wilmington. The memories of that summer are delightful, and as we look over the specimens we gathered in those wanderings, my wife and I, the scenes come back to us and we live those summer days again.

No one need ever spend a dull day in the country who provides himself with these works. They are the companions of my outings every year. Do you say such amusements are unworthy of the man of affairs—they are of too trivial a nature? Must you then display your importance and wealth in a gorgeously appointed steam yacht, or career about the country in a high-powered automobile to the consternation of all decent and well-intentioned horses and the disgust of their owners? Is the study of nature, the search for the beautiful things of the world, unworthy a great man's leisure?

Since the advent of the explosion engine many little launches dot the smaller lakes. For their owners, a trip up the Erie Canal through the beautiful Mohawk Valley is to be commended. Supplies are to be had at every lock, and the scenery as far as the fifty-five-mile level is lovely. The Northern Canal, which runs from Albany to Whitehall, is a lovely stretch of water as it winds its tortuous way northward through many an historic town to Lake Champlain. Its winding course is said to have been due to the opinion of the engineers who constructed it that the curves would prevent the wash of the banks by passing boats. I have a photograph which shows seven curves in sight. Lake Champlain is an ideal cruising-ground for small launches. The water on the New York side of the lake is very deep. On the Vermont side there are rocky boulders and shallows which it is necessary to know. The Government, however, furnishes charts at a nominal expense. Plans of the canals may be had at Albany showing the location of the locks, basins where boats may tie up overnight, and the towns.

President Roosevelt is the type of the restless energy of the nation. He has taught us many lessons of moment, but none of more importance to the man of affairs whose mind is overburdened with responsibility than that the proper way to secure rest of mind and repair of body is in the solitudes of nature, and not among the mazes of a crowd.

TO THE ARCTIC IN AN AUTOMOBILE

THIS SUMMER'S OUTING PLANNED BY THE MAN WHO LAST YEAR COVERED 5,000 MILES THROUGH SEVEN COUNTRIES OF EUROPE IN 38 DAYS—HOW HE ARRANGES HIS TOURS

BY

RALPH D. PAINE

IT has become usual to expect a considerable coloring of disaster in the recorded history of long-distance automobile touring as a pastime. In this country the uncertainties and annoyances which must be reckoned with as probabilities are not so much the fault of the man or the machine as of the indifferent or wholly impossible highways. Yet it was this rough schooling that enabled an American to be the most successful tourist abroad, and to drive his car through continental Europe with a record of more than 5,000 miles of consecutive travel in thirty-eight days and in seven countries. Mr. Charles J. Glidden accomplished this unprecedented tour with so much ease, comfort and enjoyment that he has planned for the coming summer an excursion "farthest north," with which objective in view he will attempt to cross the Arctic Circle in Norway. This tour of 4,500 miles will be another notable event in automobile records.

It was not so much the mileage rolled up in Europe last summer that made the tour of Mr. Glidden uncommonly interesting, as the system by which the long and complicated excursion was planned and accomplished. It was a triumph of careful preparation, intelligently executed, which makes it seem as assured as if outlined in a railway timetable that Mr. Glidden will succeed in driving his automobile "farthest north" this year. He has no intention of posing as an Arctic explorer, nor is there a shadow of notoriety-seeking in his programme.

Mr. Glidden has, luckily, both wealth and leisure, with a singularly fortunate ability for making both effective in the field of his specialized recreation. His tours are planned with the forethought, attention to detail and accuracy of information to be expected in the office of the general manager of a railway system. In his apartments at the Hotel

Touraine in Boston are collected and filed for reference hundreds of maps and charts, and stacks of reports, guide-books and other memoranda, sufficient to furnish a library and bureau of information combined. The preparation for such a trip as that of last year, for example, required a great amount of work through the preceding winter, both by Mr. Glidden and by his secretary. An hour's talk with this systematic tourist shows why this must be so. In the continental tour of 5,125 miles, the sixteen-horse-power automobile passed through 1,700 towns and cities in England, Austria, France, Germany, Switzerland, Italy and Spain at an average rate of 135 miles a day. Mr. Glidden was informed in advance regarding the roads, supplies and accommodations over every mile of this route.

Mr. Glidden is of an optimistic temperament and trifles cannot vex him.

"There are no difficulties in touring abroad," he said recently. "Last year my party was not once delayed by a mechanical derangement or breakdown of any kind. Tires had to be repaired and replaced, but this is as much a part of touring as having a horse reshod during a long ride. We caused no runaways, we killed no peasants, nor were we once molested nor interfered with. There were no complications with customs officials, no hardships in obtaining quarters. Our baggage was sent ahead along the route, and was neither lost nor delayed. I had no difficulty in getting gasoline whenever it was needed. It was as smooth and easy as traveling by rail and far more enjoyable. With me were Mr. Dudley Waters and Mrs. Waters, of Grand Rapids, Mrs. Glidden and my chauffeur. I drove the car; the chauffeur acted as machinist and all-round handy man. I cannot recall one exciting mishap. The route had been mapped out with a good deal

of care. For example, I carried with me and used more than sixty maps and charts. These had been sifted from among several hundred examined before starting."

This tour, which sounds so obviously simple as commented upon by Mr. Glidden, required a preparation as comprehensive as its geographical scope. It was notable in that nothing happened. Starting from London and crossing the Channel at Dieppe, the motor car swept through the champagne country of France, lingered around the battlefields of Metz and Coblenz, toured the valleys of the Moselle and Rhine, and climbed through 150 miles of the Black Forest. The machine ran smoothly over the famous Alberg Pass into Switzerland, to Italy over the Brenner Pass, thence to Verona and Venice, skirting the shores of the Italian lakes, and returning to Switzerland over the Saint Gothard Pass. The car ran eleven miles up this ascent, through a heavy snowstorm and a drop in temperature of fifty degrees, in a little more than an hour. After touring 1,000 miles in Switzerland the party turned south again, and from Monte Carlo skirted the southern boundary of France along the Pyrenees into Spain. From San Sebastian the route led to Bordeaux, Touraine, the château district of France, to Trouville, thence to Paris, Boulogne and back to London.

With so impressive a record of success in every way, Mr. Glidden began to outline another record-breaking tour, and also ordered a new and slightly larger car, in which a steamer trunk could be carried, with seats for four tourists and the chauffeur. This car will be used for the "farthest north" pilgrimage.

Perfecting the plans for this tour has been a more difficult task than to prepare the route across the continent of Europe, but Mr. Glidden marshaled his system, refilled his pigeon-holes, and took success for granted. Sweden, Denmark and Norway have not been explored and chronicled by automobilists, and for the far northern regions no road maps were to be obtained. Mr. Glidden opened an extensive correspondence with American consuls, government departments, foreign tourist clubs and other sources, and the information rapidly accumulated, to be sifted and compiled for service. Highways, hotels, towns and the most attractive scenic routes are already so well dovetailed in the scheme of travel that Mr. Glidden expects to make easy

and comfortable progress up into the land of the midnight sun.

"I have been able to make sure of good roads only as far north as sixty-four degrees of latitude," said Mr. Glidden, "but I shall, of course, push on as far as automobile travel is found possible, and I expect, with good fortune, to cross the Arctic Circle. I shall leave this country in June, tour through England, witness the Gordon Bennett cup race in Ireland, drive through that country and Scotland, and go by steamer to Christiania in Norway. The route north will then lead to Bergen, and from that city to Trondhjem, which is sixty-four degrees north. Beyond that point there is a possible run of 125 miles to carry my car inside the Arctic Circle. The Norwegian Government is opening new roads in that direction, and I can rest in the comfortable assurance that wherever my way is finally blocked my car will have made the longest continuous run in high latitudes that has been attempted. I will pass through Denmark on the return trip, then by steamer to Kiel, and through Holland and Germany. When England is reached the tour will have covered 4,500 miles in forty-five days.

"The pleasures of automobile touring are of the keenest sort when proper arrangements are made in advance. For my part, I fail to understand why so many automobilists consider long-distance touring a trap for the unwary. Conducted with system and ordinary care and intelligence, what other means of travel offers so infinite a variety of interesting experiences? In what other fashion could one pass in a few days through 1,700 cities, towns and hamlets, receiving innumerable impressions of the very heart of these countries? Travel becomes new and vivid with every day in such touring. But alas! I have no mishaps to describe, nor can I give a single thrill to the story. It was disgustingly successful, and so I hope will be the next tour, 'farthest north.'

"There will be no long-distance touring in America," said Mr. Glidden, "until we have roads worthy of the name. There are good highways, without interruption, from Madrid, in latitude forty, to latitude sixty-four north in Norway, a distance of 2,600 miles. In this country one cannot find a consecutive stretch of first-class highway more than seventy miles in length."

HUNTING WITH A CAMERA

ITS SUBSTITUTION FOR THE GUN—THE FASCINATION OF PHOTOGRAPHING NATURE FOR SCIENTIFIC STUDY AND FOR SPORT—THE EQUIPMENT AND INCIDENTAL ADVENTURES OF MANY OUTINGS

BY

FRANK M. CHAPMAN

A WELL-KNOWN sportsman whose success in pursuit of the game of many lands has won him renown, said to me recently: "I want your advice in purchasing a camera outfit for photographing wild animals. I've killed every game animal in this country," he added, "and my house is filled with heads and rugs, but I believe I would give the best one in the lot to have made a magnificent picture I recently saw of elk."

This man is not an exception. He is one among the many converts to the ranks of camera hunters, and a study of his evolution as a sportsman presents some extremely interesting problems.

Like many another man, he was a "born hunter," and circumstances permitted him to develop his innate love of the chase. This development, we should find, was along certain conventional lines. He simply adopted an existing code of sport. Some animals were considered game, and as such were worthy the sportsman's attention, while others were esteemed beneath his notice. The desirability of any animal was determined by its size, its wariness, its courage and powers of defense or offense, its rarity, its edibility, and individually its horns, fur and other physical conditions.

Primarily, then, this man hunted because he had inherited a love for the chase; but custom determined for him what, as a sportsman, he should hunt; and his ambition to kill a given animal was not inspired by murderous motives, but by the place of that animal in the sportsman's scale.

It follows, then, that any change in the current valuation of a game animal by sportsmen will be attended by a corresponding change in the degree of pleasure with which that animal is captured.

Among sportsmen a photograph of a wild animal in its haunts is beginning to be more

highly prized than the animal itself. When this sentiment becomes universal the camera will have replaced the rifle.

Camera-hunting more than fulfils all the essential requirements of true sport. It is infinitely more difficult than hunting with the gun, and makes far greater demands on the patience, perseverance, strength and ingenuity of the hunter. The apparatus is interesting in its manipulation; its use implies no restrictions of place or season, and once its results become as desirable as those to be obtained with rod or gun, the latter will be used by sportsmen only to supply the larder.

This doubtless sounds Utopian, but it is not. Can all the mounted deer and deer's heads in existence compare for a moment in beauty with Mr. Shiras's photographs of these creatures in their haunts? Lives there a sportsman who would not gladly exchange the glass-eyed effigy which for years has been staring from the wall of his den for one of these living records from the very heart of Nature?

As for the pleasure of making them, try it! At once you will learn the advantage of camera-hunting, for you may apparently break the laws of the State by jacking deer, and in the close season at that.

Rig your canoe with a jack-light and in front of it arrange a stand on which to place one or two cameras. Use a lens with much depth of focus and set it for a distance of about twenty feet. Your paddler takes his place astern, while you, with flashlight pistol loaded, seat yourself immediately behind the jack.

Can there be a more delightful way to enter a forest than over its water-paths in a canoe? No cracking twig or rustling leaf betrays one's presence. The guide directs the way, leaving you wholly free to look and listen. How the rays from the jack-light glisten on the wet leaves and penetrate the blackness of the forest! How startling the slightest sound!



Copyright, 1898, by George Shiras

A FLASHLIGHT PHOTOGRAPH OF A FAWN FEEDING

The bark of a fox might be a lion's roar; an owl's hoot is blood-curdling. I recall a night on an Adirondack stream, when we were rigid with the excitement of expectancy; a swimming muskrat struck the bow of our canoe and, jumping, splashed the water like an exploding mine. Only the guide's skill with the paddle saved us from a bath!

Assuredly jacking is a fascinating method of



Photographed by Frank M. Chapman

A TERN IN MIDAIR

hunting, but with a rifle it is as surely a murderous one. Substitute the camera, however, and we have one of the most enjoyable forms of sport. Mr. Shiras has been following it for the past sixteen years and his enthusiasm increases with his successes.

The eyes which reflect the light of the

"jack" may not always be those of a deer; Mr. Shiras secured a wonderful picture of a wildcat this past season. When, on reaching an estimated distance of about twenty feet, the flashlight was exploded, a creature was seen to leap five feet or more into the air, but the developed plate shows only a gigantic pussy seated on her haunches watching with calm curiosity the glaring eye out over the water.

Mr. Shiras also hunts with what, in effect, are spring-gun cameras, so arranging a charge of magnesium powder that it may be ignited by an animal which encounters a trip-line set on its runway.

On the plains, and in mountainous regions above timber-line, the telephoto lens or attachment can be used to advantage. The Jena-Zeiss telephoto appears to be the most satisfactory one on the market, but it can be used successfully only by exercising the greatest care. In telephotography a focusing glass is essential. It not only adds to the sharpness of definition, but permits one to place one's head nearer the ground glass and thereby increases one's reach; the last a matter of no small importance when the bellows of one's camera may be extended for a length of thirty inches.

Too great length of bellows, however, is undesirable. It increases the size of the image but also the possibilities of vibration, and vibration is the cause of nine out of every ten failures with the telephoto. Be content with a smaller magnification and leave enough front-board before the lens-board to serve as a support for a brace on which to rest the telephoto tube.

Under favorable conditions one can make sufficiently rapid exposures with a telephoto to employ it in a hand camera; but prolonged experience convinces me that far better results may be obtained with a fourteen- to eighteen-inch lens which admits of exposures of a two-hundredth part of a second or less and can be readily focused. For hand-work a camera of the graflex type is most desirable.

It is not only the big-game hunter who turns to the camera as an adjunct to or substitute for the rifle. His brother of the shotgun is also finding that the lens brings equally definite and far less perishable rewards of the hunt, while the number of species of birds which may be pursued with keen pleasure and excitement is greatly increased.

Nor will the wielder of the rod be denied



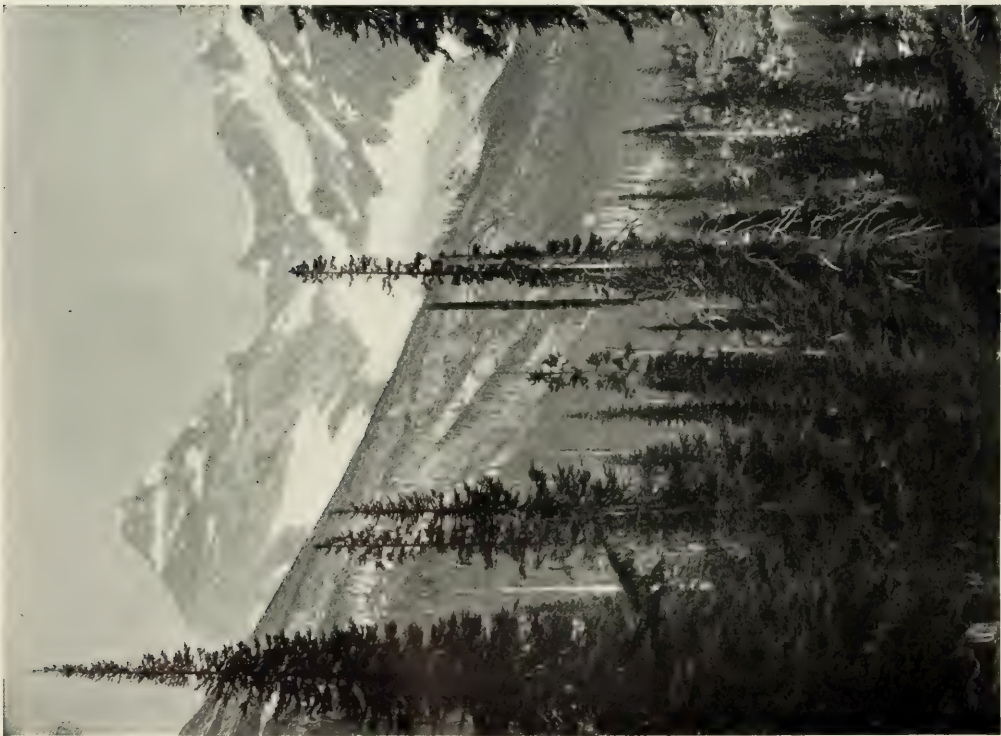
A FLASHLIGHT PHOTOGRAPH OF A DOE WITH TWO FAWNS

Copyright, 1898, by George Shiras



Photographed by Frank M. Chapman

MT. SIR DONALD FROM SAME POINT OF VIEW AS IN THE OTHER PICTURE, TAKEN WITH A TELEPHOTO LENS



Photographed by Frank M. Chapman

MT. SIR DONALD GLACIER, BRITISH COLUMBIA

this newer, higher form of sport. Leaping salmon and tarpon afford rare marks for the camera, and the pictures thus far obtained in this direction merely hint at the possibilities of this kind of camera-hunting.

But whether one be drawn to plain or mountain peak, to marsh or stubble, or broad bays or along "little rivers," one will find the camera renders a unique and inestimable service in preserving for us graphic records or scenes with which we may ever associate delightful memories of the incidents of the chase, the blind, the boat or camp-fire.

The camera is so much a necessity to the naturalist and botanist that no course in biology is complete which does not include instruction in photography.

Pressed flowers give so inadequate a conception of their appearance in life that to the botanist the camera is especially serviceable. It is a charming side of his study which leads him to photograph blooming plants where they grow and individual blossoms where he best can control the light. While we will not deny him the scientific importance of such photographs, it is their beauty which most often appeals, and their general educational value is far greater than that of the best-preserved herbarium.

In no department of outdoor nature-work, however, has the camera proven more useful than in the study of birds; and the variety and number of pictures of bird-life which already exist are a tribute to the attractions of bird photography, as well as to the activities of bird photographers.

These pictures of a bird, its haunts, nest, eggs or young, convey an impression of reality so much more convincing than that produced by description alone that long-known facts possess, when pictured, all the charm of novelty. How few of nature lovers ever have had or ever will have the pleasure of seeing a woodcock on its nest, giving, through its apparent insensibility to one's presence, a remarkable exhibition of its faith in the protective value of its coloration. But assuredly the next best things to the woodcock itself are Dugmore's beautiful photographs of a sitting bird of this species. A woodcock of which I knew actually permitted itself to be stroked on the nest before giving evidence of life; but when, a few days later, after an unseasonable April

snowstorm, which whitened the leaves, the bird became a conspicuous dark object against a snowy background, it left the nest as soon as one appeared upon the horizon.

If the camera so successfully introduces us to nature's secrets at our threshold, consider its power in portraying the bird-life of remote regions whose very inaccessibility has made them favored haunts of the fowl of the air. Here the naturalist and sportsman meet on common ground, but the former is inspired by the enthusiasm of the scientist as well as by the zeal of the hunter, and the results secured are proportionately more prized. What an unending source of satisfaction is a picture of the gannet rookery on Bonaventure Island off Gaspè Peninsula, which it was my fortune and privilege to make some years ago.

These noble birds are now so near the verge of extinction in America that they are known to nest in only two rocky islets in the Gulf of St. Lawrence. Such a picture has both historic and scientific value as a truthful, accurate record of conditions which shortly may cease to exist.

With what satisfaction I recall my visit to Bird Rock, that famous resort for birds just within the passage between Newfoundland and Cape Breton. Audubon, in a wave-tossed schooner, lay off the rock for hours in the vain hope that he might effect a landing; and one could therefore appreciate weather which permitted one safely to run a boat onto the hand's breadth of beach beneath the bird-inhabited walls towering more than a hundred feet above. The top was reached by means of a crate, a rake and a windlass—apparatus subsequently found most useful in reaching points of vantage whence to photograph birds nesting on the face of the cliff.

I have not always been so fortunate, however, and a trip to study a small colony of white pelicans was attended by far from satisfactory results. Size and color combine to make these birds exceedingly conspicuous, and an opportunity to test a rifle upon them is rarely lost. Where man and gun are found, therefore, the birds nest in only the most isolated places. This particular group of about forty birds had selected an islet or, locally, a "reef," so far out in Shoal Lake, Manitoba, that it was wholly invisible from the shore. But reach them we must, and the trip of four or five miles was made in a twelve-foot punt, the bottom of which could

be wisely tread on only with great caution. The reef was reached and the splendid white birds were found sitting on their nests of sand and gravel. At our approach they arose and, with characteristic dignity of flight, disappeared far down the lake. In awaiting their return, concealed in a small patch of reeds, a sudden change occurred in the weather and soon we found ourselves prisoners in pelican-land. Fortunately we had a tent-fly, which with a push-pole, a pair of crossed oars and a camera tripod would have made a passable shelter under ordinary circumstances. But in the end the circumstances proved to be extraordinary. The storm became one to date from. Not only were we forced to ballast our tent with boulders, but, sitting in a pelican's nest, the only available, unflooded position, I passed a good portion of the night with my hands clasped around the ridgepole of our improvised shelter to prevent the whole affair from blowing into the lake. Eventually we reached the mainland, none the worse for the experience, but the pelicans,

alas! refused to share their home with us, and in their absence their eggs were devoured by the western gulls that nested near them.

The most peculiar bird colony I have ever visited was that of flamingoes in an uninhabited and, indeed, almost unknown part of the Bahamas. Within a space approximately one hundred yards long by thirty yards wide a partial count and careful estimate showed two thousand of the little adobe, concave-top cones which these singular birds build as nests. Unfortunately it was not occupied, but the fulfilment of my cherished plan will take me back to this part of the earth some July when the domestic affairs of flamingoes have reached their most interesting stage.

And herein lies the witchery of bird photography. Its attractions are endless, its possibilities limitless. Fresh fields continually open before one. Each achievement leads the way to a hundred more, all so alluring that one's chief difficulty is in deciding which course may be most profitably followed.

RAILROAD MILEAGE AND WEALTH

THE DIRECT RELATION THEY BEAR TO ONE ANOTHER—CHEAP TRANSPORTATION AND HIGH WAGES—THE GREAT LAND GRANTS MADE BY THE UNITED STATES GOVERNMENT TO RAILROADS, AND THE RETURNS TO THE GOVERNMENT—TRANSPORTATION THE CENTRAL SECRET OF ALL MATERIAL ADVANCEMENT

BY

GUY MORRISON WALKER

AT the mouth of a mine in Arizona 200,000 tons of precious ore are stacked awaiting the building of a railroad to haul it to a smelter, for, precious as it is, its value would be consumed in transportation charges if an attempt were made to move that ore by wagon or pack-animals at a cost of twenty-five cents per ton-mile, while the profit on it will be immense when it can be taken out by rail at a cost of one-half cent per ton-mile. In British Columbia many fine ore bodies have been staked out and then abandoned because they were so far removed from any railroad that with the utter lack of transportation it was a waste of time and

money to take out the ore. In Mississippi, within the last ten years, thousands of acres of the best timber that ever grew have been sold for the mere pittance of twenty-five cents per acre, because, owing to the lack of transportation, there was no way to get the timber out, and if cut it merely rotted where it lay. In one part of that State, within three years after a large block of land was so sold, a railroad was built through the country, and thereafter not an acre of that land could be bought for less than \$5, while most of it was sold to new settlers at from \$7.50 to \$8 per acre.

In order to be of value, lands must be accessible, and their products transferable to

market at a cost that shall not consume the value of the products in transportation.

A few years ago at a coal mine in Kansas you could buy all the coal that could be loaded on a wagon and hauled away for the sum of one dollar, because the consumption was limited to the farmers who lived within a radius of twenty miles and who could make the drive to the mines and back in a day. Within forty miles of this same mine farmers were burning corn for fuel because, in the absence of railroads, there was no market for it, and corn on the farm was cheaper for fuel than coal at one dollar a load forty miles away. Later on, a short railroad from the lead mines made the location of this coal mine a great smelting centre, and the small farm which before could have been bought for two dollars per acre was valued thereafter at the sum of \$1,000,000.

It was early recognized in the United States that agriculture could not flourish nor manufactures thrive in advance of transportation facilities. Long before the era of railroads the United States embarked upon the construction of inland canals on a scale that has never been equaled in the world, either before or since. In the great manufacturing States of New York, Pennsylvania and Ohio the Federal Government, the States and municipalities gave enormous sums aggregating more than \$100,000,000 toward the construction of the canals, which remained for years the only means of transportation across the country; the Erie Canal alone, built from Albany to Buffalo in the State of New York, being completed in 1826 at a cost of \$52,540,000. As a result of building these canals the population of the States through which they were built increased enormously at the expense of their neighbors, who were without these means of transportation.

The State of Ohio alone grew in population from 938,000 in 1830 to 1,980,000 in 1850, the increase being due not alone to the vast emigration that followed along and settled in the cities and towns made accessible by the canals, but large numbers of natives were drawn from the neighboring States by the prosperity which prevailed on account of the great growth in manufactures and industry.

In 1850, however, it began to be seen that railroads as a means of transportation were destined to supersede canals. At that time

the whole railroad mileage of the United States was only 9,000 miles, not one mile of which extended beyond the crest of the Alleghany Mountains. It was at this time that the United States Government decided to lend its support to the most gigantic public enterprise that had ever been undertaken. Recognizing the fact that its great public domain, however valuable in its potentialities, was not only valueless but a burden so long as it remained inaccessible, the Government determined to make the construction of transportation facilities across and into it profitable to all who would undertake their construction. The Federal Government thereupon embarked upon a career of subsidizing railroads which was gigantic in the magnitude of the work promoted, wonderful in the comprehensiveness of its scheme of development, and justified by results so colossal and magnificent that the world, dazzled by their brilliancy, has failed to see their cause and failed to recognize the policy which, intelligently and persistently pursued, has made the United States the leader of the world in wealth and industry.

Since 1850 the Federal Government of the United States has granted subsidies to more than fifty different railroads extending west from the Mississippi River in a cash sum aggregating \$65,000,000 and by land grants amounting to more than 200,000,000 acres, and in addition to this the Government sustained the credit of the roads subsidized by paying interest upon the bonds of these roads until they became self-sustaining, with an additional sum of approximately \$35,000,000.

The magnitude of these subsidies granted by the United States Government can hardly be realized. The entire area west of the Mississippi River, including mountains and deserts, is but little more than 1,225,000,000 acres of land, yet out of this area the Federal Government granted to railroad companies as subsidies for the building of railroads more than 200,000,000 acres, or one-sixth of the entire public domain. This grant, however, included a much larger proportion of the arable part of the public domain, being about one-third thereof. At the time that this policy was inaugurated there was not a mile of railroad within 600 miles of the Mississippi River, and the whole population of the States and territories west of that river was only 1,481,000.

The following table explains the results:

RAILROAD MILEAGE AND WEALTH

Name of Railroad	Cash Subsidy	Land Grant Acres	Sold Settlers Acres	Repaid Government
Union Pacific	\$ 33,536,512	19,400,000	14,287,517	\$ 40,253,605
Southern Pacific	27,855,680	31,207,840	14,146,468	58,812,715
Missouri Pacific	1,600,000	7,217,477	4,603,901	
Chicago and Northwestern	1,628,320	7,702,821	7,544,300	2,123,000
Atchison, Topeka & Santa Fe		45,800,000	15,194,234	
Chicago, Burlington & Quincy		3,390,244	2,764,081	
Chicago, Milwaukee & St. Paul		3,479,023	1,427,335	
Chicago, Rock Island & Pacific		3,399,828	1,256,417	
Illinois Central		2,595,053	2,595,053	
Missouri, Kansas & Texas		1,520,000	705,561	
Northern Pacific		47,000,000	26,347,277	
St. Louis & San Francisco		1,860,586	1,283,167	
Texas Pacific		23,401,069	5,000,000	
Wisconsin Central		1,800,000	838,108	
	\$ 64,620,512	199,773,941	97,993,419	\$ 101,180,320
Interest	35,000,000			
	\$ 99,620,512			

These figures show conclusively the aid extended by the United States Government to railroads west of the Mississippi.

It will be seen from the preceding table that the Government has been repaid by the railroads every dollar of the cash subsidies that it granted to them. The subsidized roads are to-day paying annually in taxes a sum that exceeds \$15,000,000—a sum large enough to repay in four years the entire original cash subsidies granted by the Government.

But more interesting than this is the fact shown in the above table, that of the 200,000,000 acres granted to the railroads, the railroads have in turn sold to emigrants who have gone into this western country and settled along the lines of the roads 98,000,000 acres, or almost one-half the entire land grant made to the railroads themselves. This means that the railroads, in endeavoring to build up the territory tributary to them and so to create a paying traffic, have induced the location, in what was fifty years ago a wilderness, of more than 10,000,000 of people.

One of the most striking things discovered in connection with this investigation of Government subsidies granted to railroads has been, that while the subsidies granted have called for the construction of only about 25,000 miles of railroad, they have actually resulted in the construction of more than four times the mileage necessary to have been constructed to secure the subsidies. In other words, every mile that the railroads have been induced to build by subsidies has resulted already in the development of the terri-

tory and in a growth of population and traffic that has compelled the railroads to build three additional miles of track to take care of it.

While the United States Government granted in subsidies \$100,000,000 in cash and 200,000,000 acres of land to induce the building of 25,000 miles of railroad west of the Mississippi, these subsidies have already resulted in such a development of that part of the United States that it today contains 98,000 miles of railroad, or one-half of the railroad mileage of the United States, and the population of this same region has increased from 1,481,000 in 1850 to more than 21,000,000 in 1902.

These results, however, have not been attained alone from the subsidies granted by the United States, for the many subsidies granted by States, counties, cities, towns and individuals to the various railroads have equaled if not exceeded those granted by the Federal Government itself.

The State of Missouri alone granted almost \$25,000,000 in subsidies for the building of railroads within its borders. The magnificent system of railroads throughout the middle West, in Ohio, Indiana, Michigan, Wisconsin and Illinois, has been almost entirely due to the municipal and private subsidies granted to them to induce their construction.

The late John Sherman, Secretary of State under McKinley, and famous as the great Secretary of the Treasury, declared that the admirable railroads in Ohio have been built mainly by the proceeds of bonds based upon donations given as an inducement for their construction.

A careful investigation of the State, municipal and private grants and subsidies to railroads in the United States shows that the railroads of America have received from these sources cash and property worth at the time it was given more than \$200,000,000, much of which, given in the shape of property, terminal and dock facilities, has increased in value to such an extent that it would be almost impossible to estimate the present value to the railroads of America of their holdings that were originally donated to them as subsidies. It is almost impossible to point to a single mile of the 202,000 miles of railroad in the United States that has not at some time or another been the recipient of some subsidy, or whose construction was not induced by some bounty either public or private. A careful investigation of the railroad mileage of the United States shows that the construction of 139,500 miles out of its 202,000 miles is directly traceable to the subsidies and land grants given to the railroad companies.

It is no time now to ask whether subsidies pay. Devoting herself to developing the means of transportation, the United States has pursued her way until she has reached a preëminence in this respect that is astounding. The following table shows the development of transportation facilities in the leading industrial countries of the world:

Country	Population	Miles of Road	Miles per Ten Thousand
Great Britain	41,454,578	21,835	5.27
France	38,641,000	26,234	6.78
Germany	59,343,000	21,392	5.57
Austria	47,192,000	22,545	4.78
Italy	32,449,000	9,772	3.01
Russia	128,932,000	28,589	2.21
United States	79,000,000	202,000	25.57

From this it will be seen that the average American is four times better served with transportation facilities than the average Frenchman, and five times better served than the average inhabitant of Great Britain or Germany, who are his chief industrial rivals. From this it is easy to see how much greater is the opportunity of the average American to market the products of his labor, and how

much wider is the market which these products may reach; while his competitors, suffering from inadequate transportation facilities for their products, are handicapped by the high cost of reaching the world's markets.

This wonderful development of transportation, with the resultant ease and economy of reaching the world's markets, has not only promoted the great agricultural and grazing interests of the entire United States, making it possible for the stock raisers of Texas, Oklahoma and Colorado, and the farmers of Minnesota, Iowa and the Dakotas, to undersell the world with their products, but has also made the United States the manufacturer of the world.

The effect of this railroad development upon the manufactures of the United States is nowhere better shown than in the single State of Ohio, which in 1850, before the beginning of railroads, already had a population of 1,980,000. It appears by the census of the United States that the total value of manufactures in Ohio in 1850, with the above-stated population, was only \$62,692,279. With the development of railroads the manufactures of the State grew rapidly in value, amounting to \$121,000,000 in 1860; \$269,000,000 in 1870; \$348,000,000 in 1880; \$500,000,000 in 1890; while in 1900, when the population had only grown to 4,157,545, the value of manufactures in the State had grown to \$605,763,566, or in other words, by reason of the magnificent systems of railroads, built and developed by means of substantial subsidies, the percentage of increase in population in the State of Ohio from 1850 to 1900 amounted to but 110 per cent., while during this same period the growth of manufactures was shown by an increase in value of 900 per cent.

From this it is apparent that, of two equal populations one of which has better transportation facilities than the other, that population having the better transportation facilities will surpass the other population in commerce and wealth in a degree that bears a definite proportion to its excellence in transportation.

	Population	Miles of Road	Internal Commerce	Wealth
1850	23,191,876	9,021	\$ 2,000,000,000	\$ 7,135,780,000
1860	31,443,321	30,626	3,500,000,000	16,150,616,068
1870	38,558,371	52,922	6,250,000,000	30,068,518,507
1880	50,155,783	93,262	7,750,000,000	43,642,000,000
1890	62,622,250	166,703	12,000,000,000	65,037,091,197
1900	76,303,387	193,345	18,000,000,000	94,300,000,000
1902	79,000,000	201,839	20,000,000,000	100,000,000,000

That this growth in population and manufactures in the State of Ohio was not exceptional is shown by the preceding table taken from the official reports of the Treasury Department, which shows the miles of railroad, the population, wealth and internal commerce of the United States for each decade of the last fifty years and for 1902.

From this table it will be seen that in 1850, when the population of the United States was already more than 23,000,000, but the country was suffering from an utter lack of transportation facilities, having only 9,000 miles of railroad in the entire country, the national commerce of the United States amounted to only \$2,000,000,000 per annum, while the total wealth of the country amounted to only a little more than \$7,000,000,000. In the fifty-two years that have elapsed from that time down to the present, the railroad mileage of the United States under the inducement of magnificent subsidies, public and private, has grown from only 9,000 miles to almost 202,000 miles, or a growth of more than 2,000 per cent. During this same period the population increased from 23,000,000 to 79,000,000, or only about 230 per cent., while the internal commerce of the country grew from \$2,000,000,000 to \$20,000,000,000, an increase of 900 per cent., and its wealth increased from \$7,000,000,000 to more than \$100,000,000,000, or more than 1,400 per cent.

Since it is impossible for manufactures to thrive or agriculture to flourish in advance of transportation facilities, and since the railroads were built before the commerce and wealth appeared, it cannot be that it has been the growth of wealth and commerce that has induced the building of railroads in America but instead it is the development of transportation facilities and the building of railroads that have produced the magnificent growth of commerce and the enormous increase of wealth that have made the United States envied and feared by the world.

In another peculiar way the United States has benefited from the great development of its transportation facilities. The building of such an immense mileage of railroads resulted, in the days when traffic was small and before commerce grew to its present immense proportions, in a fierce competition for such traffic as there was; and in the efforts

to secure this traffic the American railroads made rates so low that they have since been the wonder of traffic managers throughout the world, and American freight rates remain today less than one-half the average freight rates of any European country. This low freight charge for transporting manufactured products to market has given the American mechanic and laborer an immense advantage over the laborer of the world, and it is this low cost of reaching the world's markets that has enabled the American laborer to secure such high wages for his work.

The following table, giving the cost of transportation and the daily average wage for labor in the leading industrial countries of the world, shows to what extent the American laborer has profited by the development of transportation facilities in his country, and also in striking contrast it shows the extent to which the labor of other countries has been handicapped by the lack of that development in their countries.

Country	Cost of Transportation per ton-mile in cents	Wages per day
Italy	\$.024	\$.26
Austria	.0225	.50
Germany	.0150	.00
France	.0100	.80
England	.0200	1.04
United States	.0060	2.60

The advantage, then, which the 15,000,000 American laboring-men have secured by the transportation facilities of their country, enables them annually to secure for their labor the enormous sum of \$6,000,000,000 more than any like number of laborers in any other country of the world.

The discussion of subsidies has ever been a plague to governments and a puzzle to theoretical economists, but what reply can theory make to the magnificent results that have actually been accomplished in the United States by granting the greatest subsidies that the world has ever seen?

The great railroad mileage resulting has opened up lands that would otherwise have remained unopened for decades, covered them with a great population that is still growing, added to the taxables of the country property now paying annually in taxes sums exceeding the original subsidies granted, and built up a manufacturing industry so great that even the tremendous increase in population has been unable to keep down wages, which in the United States have reached the highest standard of which there is any record.

THE CUP RACERS

THE "AMERICA'S" CUP RACES A PRACTICAL EXPERIMENT IN SCIENTIFIC NAVAL ARCHITECTURE—THE GREAT INFLUENCE OF THE FAST YACHT ON SHIP-BUILDING—HOW THE YANKEE FISHING-BOAT HAS OUTSTRIPPED ALL ITS RIVALS

BY

JOHN R. SPEARS

THOUGH classed in the popular view as sporting events, and nothing more, the international yacht races for the *America's* cup have had, from the first, a serious and important practical end in view. For the building of every international racer—a work that is carried out with an unstinted use of time and money—is a search for absolute knowledge. The work of the Smithsonian Institution, or that done under the Carnegie fund, is not more serious, and certainly it is not done more eagerly.

For, while the cup that cost less than \$500 is the prize held up to view for each series of races, the real object which the naval architects have in mind when planning the racers is to discover what form of hull and combination of spars and canvas can be driven at the greatest speed through and over the water. The work done by D'Alembert, Colonel Mark Beaufoy and our own Franklin is now continued by the builders of the racers that meet off Sandy Hook to sail for the *America's* cup.

If we compare the racers built for the present year with those that sailed for the cup fifteen or twenty years ago we shall see that, while furnishing the public with the most healthful recreation known to the world, the men behind the international races have accomplished something worth while even from the point of view of the most practical captain of industry.

For instance, the *Galatea* came for the cup in 1886 with a loose-woven hempen mainsail that was secured to the boom at tack and clew—at each end only. The sail when spread to the breeze was as hollow as a soup-plate, and very nearly all the sailors of Europe believed that such a form was the best possible. *Shamrock III.* will come with a mainsail lashed to the boom at every foot of its length, with wooden battens in the leach to keep it flat, and yet it is built with a tiny

hollow in the luff—a sail that will serve like a falcon's wing.

For, since the *Galatea* was beaten, loose-woven hempen bags have been dumped overboard by sailors on all kinds of wind-jammers, and flattened duck sails have been substituted in their stead.

Then the *Galatea's* mast was of a huge log of Oregon pine. The boom, the gaff and the topmast were also great logs. *Shamrock III.* has mainmast and topmast built in one piece, and the spar is a slender tube of steel that holds the topsail halyard block as high above the water as the royal yard of an old-time frigate. Her boom and gaff are also slender steel tubes. The enormous strains to which the spars of a yacht are subjected have proved conclusively that the steel tube is stronger and lighter than the pine log.

But it is in the hull that the most important and interesting changes have been made, and here, too, there are features that are yet on trial. In fact, as an experiment in the shapes of hulls the races of this year are to be of greater interest than any ever held.

In the races of the *Galatea* period the stem rose vertically out of the water, while the stern overhung the water by a few feet. A broadside view of either of them showed a lateral plane that looked like a sled-runner cut from a plank by a country boy. Seen from another point of view, the bow of the yacht was found to be a vertical wedge, thin and sharp, like the blade of a woodman's ax; and it was a question among builders whether the wedge should have lines like an ax or hollow lines like a razor. The stern below the water-line was also something of a vertical wedge, though a blunter one than the bow. In general dimensions the *Galatea* was 102 feet long over all, 87 feet on the water-line, 15 feet wide, perhaps 10 feet deep below decks, and her draught was 13 feet 6 inches.

Her successful opponent, the *Mayflower*, was 100 feet long over all, was 23 feet wide, and was perhaps 7 feet deep under the deck, and she drew 10 feet of water.

With these facts in mind we can see how far we have traveled in changing the shapes of boats of that class. For *Shamrock III.*, though but three feet longer on the water-line, is 140 feet long over all. The old boat had an overhang of 15 feet, all of which was aft, while the new boat has an overhang of 25 feet at each end. The new defender, when compared with the *Mayflower*, shows almost exactly the same changes in length.

Roughly speaking, each end of the old yachts was a wedge that rode the water with its edge perpendicular. The forward half of *Shamrock III.* is not unlike the half of a cone split lengthwise, while the stern half is drawn out into a long, thin, horizontal wedge—a wedge with its edge laid parallel with the water. At the stern the challenger is a scow. The *Reliance*, however, is a scow at both ends, in spite of the fact that her bow comes to a point above water. Each end presents a fine horizontal wedge to the water, and therefore in every sailing-line she is a scow. We used to stand in front of a yacht and marvel at the thinness of the vertical wedge. Now we stand off abeam and look with delight at the sweep of the fore-and-aft lines. One sees at a glance why the modern hull is more easily, and therefore more swiftly, driven through the water. The modern hull presents fine or acute angles to the water, where the old hull presented wide or obtuse angles.

Another advantage of the modern hull, with its overhangs, is that it has greater initial stability. Further still, as the hull heels, and is submerged, the water-line length is increased, and this serves to keep the yacht on a straight course—it prevents her making leeway. The value of these changes is now beyond dispute, and the improvements acquired must all be credited to the experiments in naval architecture, which we call the "Cup Races."

It will occur to the reader that these long overhangs must weigh many tons, and that the under-water part of the hull must be more bulky to float the overhangs out of water.

The fact is, the hull is more bulky with overhangs—it has greater displacement, that is—than it would have without them; but in the meantime the builders have learned to design web frames and truss-bracing, all most

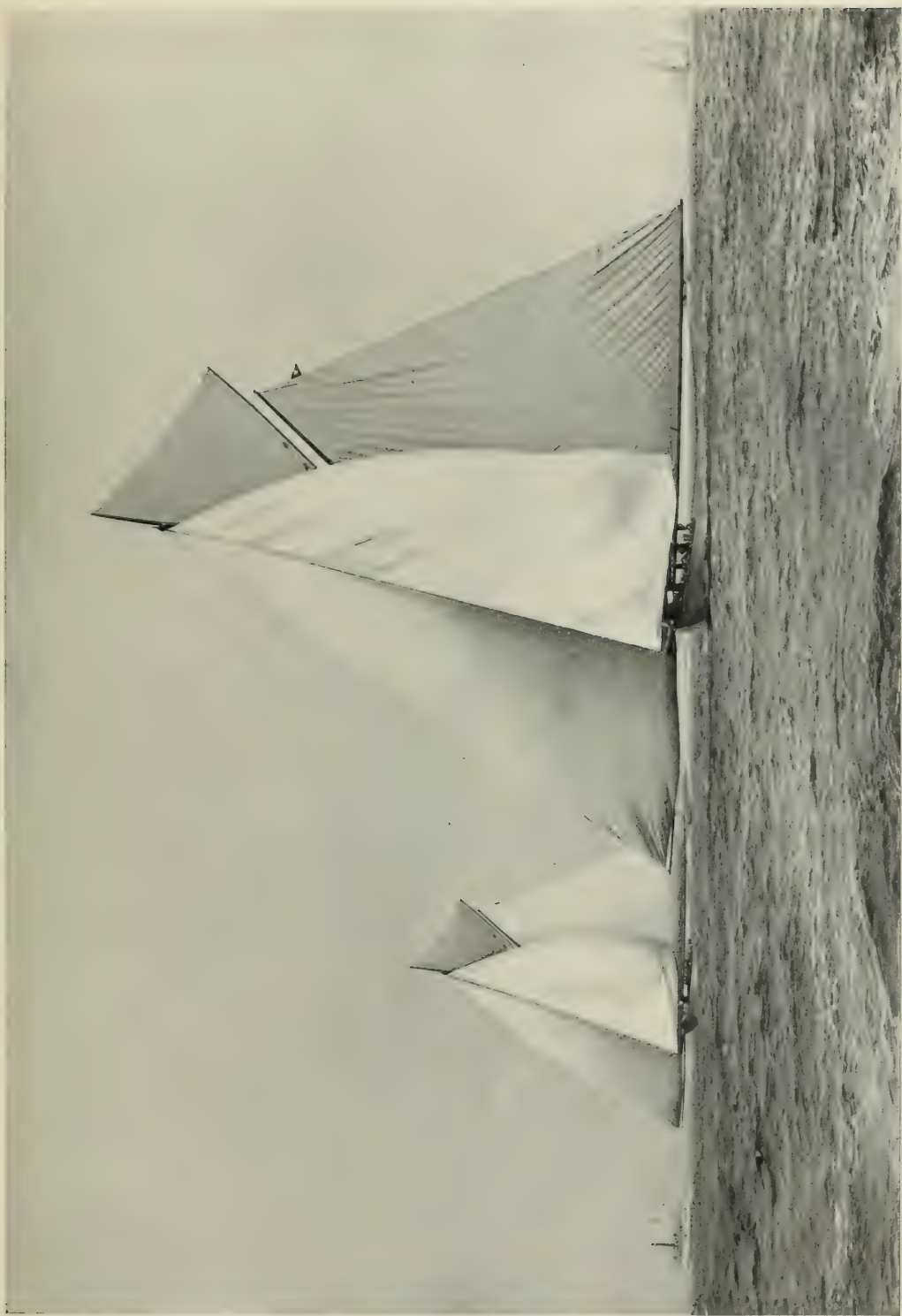
delicate in their dimensions, and yet of enormous strength. With webs of steel plates that are from a quarter to an eighth of an inch thick the wrenching strains of spars and canvas that rise two hundred feet in air are successfully resisted; and yet the weight of the hull is less than that of the *Galatea*.

In short, while learning to shape hulls that meet the least possible resistance in passing through the water, we have learned to construct a system of framing that gives the greatest strength with the least weight.

It is to be observed, too, that the positive knowledge that has been obtained through building these racers is of practical value outside of yacht construction. The fishermen of Marblehead, with whom a wind-driven hull of great speed is of the utmost importance, have studied the designs of the international racers with the keenest interest, and as a result of improvements thus made the modern fisherman of the Atlantic coast is the swiftest merchantman afloat. In fact, only the latest international racers can show a wake to the modern Yankee fisherman. In Great Britain, as in the United States, the most capable builders of fast yachts are the most capable builders of torpedo-boats.

However, there are features of the racer hull that, as said, are yet in dispute, and it is for this reason that the races of the present year are to be of unusual interest. The new defender has a hull that is broad and shallow, the new challenger one that is relatively narrow and deep. The underwater body of the *Reliance*, if seen from a station directly astern, looks like a slice from the bottom of a very flat turnip, the tap root of which, however, represents the fin-keel rather poorly. The underwater body of the *Shamrock III.* is decidedly V-shaped when seen from the same point of view. In technical language, the *Reliance* has but little dead rise, the *Shamrock III.* has much. The 'tween-decks space of the *Reliance* is said to be so low that a man cannot stand erect in it. The same space in *Shamrock III.* is deep enough to give ample room for all purposes wanted in a cruiser.

Ship hulls are like pyramids—the broader the base the harder it is to tip them over. The wider the hull the more sail it can carry, but a limit must be reached when widening the model, because a time will come when the increase of sail which the widened hull will carry is unable to give an increase of speed.



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A TRIAL RACE BETWEEN THE CONSTITUTION AND THE COLUMBIA

Running before the wind with all possible sail set

Meantime a loaded hull carries more sail than an empty one; the more lead in the keel the more sail may be spread above the deck—and within limits, added sail means added speed. By increasing the underwater bulk of the racer a huge load of lead can be carried in the keel without passing the water-line limit of ninety feet, and thus a vast spread of canvas can be stretched above the deck. But as the underwater body grows more bulky a time comes when added sail gives no increase of speed.

From time out of mind the American builder's ideal has been a wide hull with a moderate cargo of lead—that is, a moderate displacement—while the British have favored

the deep hull with large displacement. The racers of this year are built more closely to those ideals than any pair of hulls ever seen in a race. It will be asserted, very likely, as heretofore, that the contest off Sandy Hook is to be a trial of speed between two mere racing machines, but the truth is that we are to have not only a stirring event in the most healthful sport known to the world, but we are to try a practical experiment, at an expense of more than half a million dollars, to learn whether the wide and shallow model is better than the deep and narrow one. In the history of the world there is no account of such a splendid combination of practical work and good play as is here afforded.



THE NEW CUP CHALLENGER, SHAMROCK III

Photographed by Agnew & Son



Photographed by the Detroit Photographic Company

ON HORSEBACK THROUGH THE YELLOWSTONE

THE BEST WAY TO SEE THE WONDERS OF THE NATIONAL PARK—
THE GRAND CAÑON LIKE A CANTO OF THE "INFERNO"—WAGON
TRAINS OF VISITORS FROM NEIGHBORING STATES—YANCEY
AND LARRY MATTHEWS — THE SNOW-SPLASHED TETONS

BY

HENRY D. SEDGWICK, JR.



WHAT ONE CATCHES AT
JACKSON LAKE

IF one is an untraveled Easterner bound for the Yellowstone Park, the journey over the Northern Pacific Railroad makes a most interesting beginning to his trip. At intervals through North Dakota and Montana little towns stand along the railroad like companies of

Falstaff's soldiers. Each town, drawn up parallel with the tracks, toes the line of its single street, its saloons, hotels, dance-halls massed in the centre, its straggling houses spreading to right and left, and the array terminating at each end in a few shacks and corrals.

These towns vary in size from Bismarck, the capital of North Dakota, which extends "many a rood," to villages that are to be measured by the yardstick. The progress of one of these was described to me by a young woman: "It's growin' somethin' awful; there's three dance-halls, two saloons, and two new houses, one frame, the other rock, all in two years." There are other towns





Photographed by the Detroit Photographic Company

THE CANON OF THE YELLOWSTONE FROM INSPIRATION POINT



WATCHING THE BEARS EAT IN YELLOWSTONE PARK

Photographed by Beard



Photographed by the Detroit Photographic Company

"OLD FAITHFUL" GEYSER IN ERUPTION

smaller still; a large wooden sign, with a name in great letters, prognostication of future glory, alone breaks the long isolation of the prairie.

When the park itself is reached, the usual method is for the traveler to mount the stage-coach, squeeze in among men in yellow dusters and women in gray dusters and red Shaker bonnets, and drive along the regular park road in a chaos of alkali dust from geyser to cañon, from cañon to waterfall, until the fifth day brings him back to his starting point a wiser and a dustier man. Our plan was different; we got saddle horses, a guide and a packhorse and rode eastward at once, leaving the regular route at the door of the Mammoth Hot Springs Hotel. Our road crossed the Gardiner River, wound around a lofty bluff, Mount Everts, and then ascended some upland moors, and at the end of twenty miles took us to Yancey's "hotel." Yancey is an old frontiersman stranded in the park by the flood-tide of civilization, who recounts to his guests tales of the '40s. The old gentleman chafes at these uneventful days, and deems Central Africa the only place left for free men.

At Yancey's, Mrs. Molloy serves most generous meals, everything spread upon the table at once, so that a single glance satisfies each hungry guest that there is plenty for all. Near Yancey's are some petrified trees, which, according to the geologists, are veterans of an antique vegetation that came down from the North and subsequently perished

under glaciers and left only a few lingering trees turned to stone. The solid trunks stand like broken columns, indifferent to time.

From Yancey's we rode along the high bluff of a cañon at the bottom of which the Yellowstone River flows. We followed a trail which the United States engineers are rapidly turning into a well-made road; it leaves the river and, gradually ascending, winds southward over Mount Washburn. The day was variable, and we had the double pleasure of shifting clouds and changing scenery as we rode up the mountain through

steep and stony that we dismounted and led our horses into the woods below.

A delightful trail through these woods brought us to the Grand Cañon, where, at one of the park hotels, the day was crowned with a hot bath, which, after nearly nine hours in the saddle, comforts and almost intoxicates the jaded horseman.

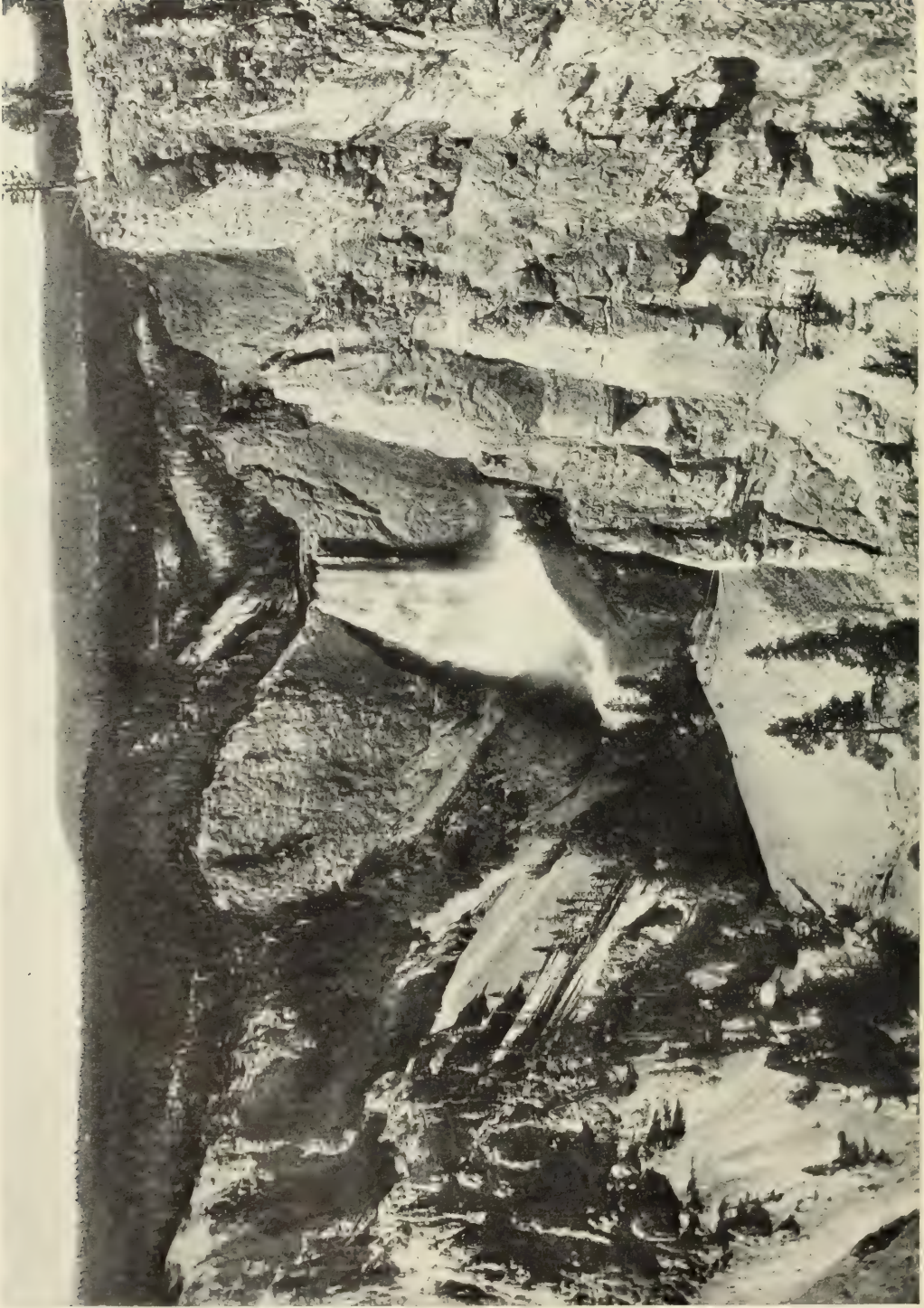
The Grand Cañon is beautiful, and yet has something terrible in its aspect as you look timidly over the brink into the chasm below. It is like a canto of the "Inferno." There, before you, is the great, yawning, dolorous abyss, pale-yellow splashed with white at



YELLOWSTONE LAKE WITH MOUNT SHERIDAN IN THE DISTANCE

fir and spruce and over upland moors, past solitary deer and troops of antelope, up beyond patches of snow to the bare top of the mountain 10,000 feet above sea level. From the top we saw Yellowstone Lake to the south, and beyond it the jagged peaks of the Teton Range, and all around, except for a sweep of woodland on the horizon to the southwest, a circle of mountain peaks. The flowers—it was near the end of August—were very thick, little white blossoms, and great masses of purple flowers that looked like wild hyacinth; the meadows below were blue with gentian. The slope down was so

the top, deepening into saffron as it descends, and then into tawny, murky shades, and ending in great boulders of blood-red rock, with the blue-green river foaming at the foot. Up from the bottom seem to come "sighs, moans and shrieks." In fact, the park is a kind of gloss upon the Divine Comedy, for the steaming pits of the geyser basins are so many patches of hellish ground, and there are also spots fair as the terrestrial paradise. The Grand Cañon itself, in its way, is the most beautiful sight in the park; in the early morning the sun touches its brim, and then gradually flashes and glitters



Photographed by the Detroit Photographic Company

THE LOWER FALLS OF THE YELLOWSTONE RIVER SEEN FROM ARTIST'S POINT

down its side from rock to boulder, from boulder to crag, then down to the pink sand and many-colored pebbles and the blue-green water, till the great cleft shines like the nave of Solomon's temple.

From the Grand Cañon we rode southward on the park road, taking the course opposite to that of the park coaches which we met, lifting their pillars of dust toward heaven. The road follows the Yellowstone River, then, turning to the right, forsakes it for a time in order that the traveler may see some steaming pits, and then again joins it. Here under a clump of trees by the river bank I dismounted for lunch, my companions having lingered, loath to leave the Grand Cañon. A blue-gray heron flew slowly by, and, down the river, its white wings bellied out to the breeze, sailed a great pelican, heedless of the hawks and ospreys that clamored above.

It is less than twenty miles from the Grand Cañon to the hotel on the shore of the lake; so I rode along slowly, stopping to pass the time of day with the wagons I met. One of the pleasures of the park is the social experience to be had by the way. Sometimes there are tourists, father, mother and children, from a ranch in Idaho, who have driven a hundred miles and more to see the wonderful sights of the park. *Paterfamilias*, if he be a cattleman, will discourse upon sheep as a national curse, for where sheep graze cattle cannot or will not stay; or, if he be a shepherd, he will talk upon the arrogance and shortcomings of the cattlemen. Very kind were these men to their wives and children, helping them to points of vantage for a view. Inside the wagon were cooking utensils, stove, bedding, and, if the occupants happened to be bride and groom, a table and chairs, either a mark of the groom's gallantry or furniture for a more permanent lodging.

Sometimes a number of these wagons formed a train, with men and women on horseback—all astride, their faces bronzed and ruddy from the sun and exercise. The men were inclined to complain of the overcrowding of Montana, chafing at that Malthusian over-population of one man to twenty square miles, which was responsible for fences and landmarks, and made it necessary to drive cattle seven miles before they might lawfully eat grass beneath their feet.

From the Lake Hotel the park road runs southward to the west arm of the lake,

known as the Thumb, where we spent the night at Wylie's Camp; we occupied three compartments in a tent, much too tired to quarrel with the aspect of the blankets, and in the morning, after a breakfast on the invariable ham, cut into octagons and other many-sided shapes, we left the regular park route and followed an excellent road southward to Lewis Lake. Thence we rode along the lovely banks of the Lewis River till we reached Snake River, which flows through Idaho and joins the Columbia; we had crossed the Continental Divide.

We kept on along Snake River below the southern boundary of the park, into the Forest Reserve, and invited ourselves to lodge at the soldiers' post, called, somewhat magniloquently, for the little house lodged a military force of two men, Snake River Station. A gentleman in the service of the Government as scout, an old resident of the park, bade the other half of the garrison spread before us all that the post afforded: bacon, rice and coffee. We were able to eke out the Government supplies with bread, butter and potted ham. The junior half of the garrison cooked for us and laid our blankets gratis, and received the real burden of our company with unaffected cordiality.

From the soldiers' post we rode south to Jackson's Lake, which lies at the foot of the Teton Mountains. The descriptions of these rocky, snow-splashed peaks, rising 7,500 feet up from the lake, together with Mr. Wister's novel, "The Virginian," had made us eager to behold this place, the ancient refuge of rustlers, the Sherwood Forest of America. At Jackson's Lake the settlement consists of two houses—one, hotel, store and post-office; the other, hotel, store and saloon. We chose that with the postal appendage. Our host, Mr. Charles J. Allen, an emigrant from Jackson's Hole, which lay a few miles to the south, his wife, their maid-servant, a most vivid likeness of the "tough girl" in Harri-gan's play, "The Four Hundred," and a hired man—in winter, trapper; in summer, farm-hand, blacksmith, guide—were kind and hospitable. The rooms were fresh as mountain air, clean pine boards and new-washed sheets could make them, while the table rivaled that at Yancey's.

We were able to spend one glorious day of leisure trolling for trout in Jackson's Lake. The trapper rowed us across the lake, ten

good miles, to the foot of Mount Moran, which rose sheer and majestic directly from the shore. To the south shot up the Giant Teton, lifting its pinnacled peaks like the turrets of a cathedral; and the whole Teton Range stretched north and south as if to make a wall between two quarrelsome States. Our envy was aroused by the trapper's shack, which he occupies in winter while setting or inspecting his traps. Sometimes he lives there alone. Sometimes a friend, man or dog, is his companion; his butcher's shop is a frozen elk hanging by its heels at his door; his fishmonger's, a hole in the ice; his green-grocer, a pile of tin cans. "Thrice and four times happy!" to be able to live there beside the lake under the snow-covered mountains, instead of in a marble shack on the tenth floor of Mount Equitable or some other of the Broadway Tetons, where rustlers have not yet been wholly converted into honest settlers.

From Jackson's Lake we retraced our steps to the soldiers' camp at Snake River; thence we rode forty-two miles, skirting the eastern shore of Shoshone Lake over a trail which seemed to make continual effort to discover how close to the perpendicular it could tempt our horses. On the steepest ascent our pack-horse grasped his opportunity, and dashed off into the woods. All the horses

followed, but after a moment or two of lubberly consternation we succeeded in tumbling off and led our horses slowly and cautiously back to the trail. We reached the Upper Basin in time to see the frequent geyser, "Old Faithful," shoot its steam and water toward the stars, and we received a sort of Charles O'Malley welcome from Mr. Larry Matthews, the *chargé d'affaires* of the hotel. I shall never forget his approach to a line of weary, dusty, elderly ladies in Shaker bonnets and linen cloaks, just alighted from a fifty-mile ride in an alkali simoon, as he grasped one by one their reluctant hands: "Shake, ladies, shake!"

The geysers are so many boiling and spouting holes set in a blasted heath. I was thankful to leave their abominable desolation and ride northward through delightful woods, along sparkling streams, and under somber cliffs that frowned resentment at being put into a park. The last great sight is the Golden Gate; the great cliffs catch the sunshine on their golden flanks and on either side wall in the road which twists like a passageway in a green castle.

The trip from the time we left the Mammoth Hot Springs Hotel to that of our return lasted eleven days, and we felt that we had taken the proper method to enjoy the park.

THE COMFORTS OF RAILROAD TRAVEL

A MODERN TRAIN AS LUXURIOUS AS A PRIVATE YACHT—THE GREAT IMPROVEMENTS IN A SINGLE DECADE—SPECIAL CARS FURNISHED AS CHEAPLY AS SINGLE TRANSPORTATION—HOW PASSENGER AGENTS HAVE BECOME THE SERVANTS OF THE PUBLIC — A RAILROAD THAT SUPPLIES CAMPING OUTFITS

BY

M. G. CUNNIFF

AMERICANS are nomads because American railroad trains are hotels on wheels. President Loree, of the Baltimore & Ohio, declares that the passenger business forms only "the frills of railroading," because, after all, the railroads exist to carry freight and not people. They make their profits from freight. Yet no other business enterprise in the world so lavishly caters to public comfort as the passenger

department of a railroad. Freight rates have been reduced in recent years to figures that astonish foreigners. Passengers, paying as much to travel now—except on certain excursions—as they have paid for years, secure their share of railroad improvement in the augmented comfort, speed and convenience which the railroads provide.

The improvement has come about through competition. Not only have the railroads,

east and west, pursued every method of cheapening operation—which has been the chief gain of consolidation—but each has spurred the others to offer the public one facility after another to make traveling easy and pleasant. It has been the same story everywhere—a standard constantly raised by healthy competition.

One railroad will now sell a ticket in New York entitling the holder to railroad transportation for 400 miles at a speed unequaled elsewhere in the world, a steamship voyage of 800 miles on the Lakes, another railroad trip of 2,000 miles, another voyage of 8,000 miles to Australia, and return to New York by another route, with stop-overs anywhere along the route—and will act as guide, philosopher and friend throughout the journey. With but three changes one may go from Salt Lake City to Jerusalem. All the way on either trip the traveler may eat, drink, bathe, shave, smoke, read and write at any time he pleases. No other country provides such means of luxurious travel.

On a few of the best fast limited trains you may now lie and read in your bed by electric light. Though on other trains you go to bed in Cimmerian darkness, all the sleepers now building at the Pullman works are fitted with electric lights, so that when the present cars are replaced, electric bulbs will supersede Pintsch gaslights, as the Pintsch gaslights in a decade have superseded the kerosene lamps that followed the candles of the earliest "sleepers." You may now ride into Baltimore through the tunnel behind an electric locomotive. In the Hoosac Tunnel, the Sarnia Tunnel, the terminal tunnels as you enter New York or Jersey City, and in many others, you inhale more smoke and gas than is pleasant, but another decade will find electric locomotives in all: arrangements have already been made to use them on the railroads terminating in New York. The vestibule, which prevents "telescoping" in case of accident and keeps people from falling off on their way from car to car, now rounds its sheltering hood above the platforms of all through trains. It is not vain to expect it sooner or later on locals. Telephoning and wireless telegraphing from moving trains are now experiments; to-morrow they will be commonplace. Even road-beds are improving. Only four years ago one of the greatest railroads in the country applied the most

recent engineering device for easing curves. All railroads will soon be equally considerate, as the present plans of track re-location are carried out. The Pennsylvania, for example, is going so far that, when its work is done, but a mile and a half of the original track between Harrisburg and Philadelphia will remain in use; and the new and slighter curves, of course, are eased. Safety devices so multiply, and cars are built so much stronger than they were ten years ago, that, though accidents are not uncommon, more people die every year by falling out of windows than are killed on railroad trains, and statistics show that a passenger would theoretically travel thirty miles a day for nearly two hundred years without injury. Passenger rates do not decline, but a new convenience is added to travel every day.

The railroads make the greatest efforts, however, to make travel a luxury in fostering the vacation rush. Watch a party leaving Baltimore for a camping trip to the mountains south of Harper's Ferry. They have a "club car," chartered at no additional cost. They pile into what looks like a clubroom, bare except for the furniture and the carpet; movable chairs stand here and there, and movable tables. Supplies are turned over to the porter in the end compartment; cigars are lighted; some of the party pull up their chairs to the largest table and begin a game of whist. Others gather fraternally in a corner of the car to overhaul their lines and trout-flies; still others busy themselves in the commissariat department; and laughing, whistling, singing, they are whirled away to their mountain station in comfortable and even luxurious seclusion. The car is a moving cafe.

Or stand in the station at Pittsburg when the Iron City Fishing Club is starting for its Adirondack preserve. The professional and business men, released from their labors, enter their special train of six Pullman sleeping-cars as light-heartedly as boys. The buffet car assures them of luxurious sustenance, and for the day and night they travel the train is as cozy as a suite in a New York hotel. Similar cars and trains run out of every important city in the country.

Or look into the second-class tourist cars of a transcontinental flyer at a prairie station. Whole families bound for Rocky Mountain resorts loll about on the wicker or leather

seats; one or two people are heating coffee on the range at the end of the car; three or four straw-hatted men are clustered smoking on the vestibuled platforms; heads project from the open windows: everybody is happy. In porter service and plush these people are not so well provided as the parlor-car passengers, but to discomfort they will not own. They contend that their berths are as snug as those in the first-class car behind.

Again, there is the magnate taking his family to the Adirondacks in a private car from the Grand Central Station in New York on a Saturday in May. The porter, with the "traps," has hustled in ahead of the *bonne* and the children and is now busy stowing the luggage away. The magnate's wife is settling herself beside the broad rear plate-glass window, and the busy man is dictating letters to a stenographer beside the centre table. The car will run upon a siding in the mountains. The family will live in it until desire comes upon them to move. The head of the family will return to the city the following evening, and every Saturday he will journey in one of the many extra sleeping-cars the railroad puts on for this purpose to stay with his family over Sunday. Of course the destination of but few of the city business men, for whom the railroad begins in the early summer to put extra sleepers on the Saturday evening up-trains and the Sunday evening down trains, is a private car in the woods, but the private-car vacation is not uncommon, and the "week-end" rush in the summer, which necessitates the added "sleepers," follows the waves of financial prosperity. This year it is greater than ever.

Every one of these varied conveniences for different classes of people, though not unknown ten years ago, has become common only in the last decade.

It was after the lull in business that accompanied the panic of 1893 that the railroads began on a large scale the additions to traveling convenience that are most in evidence today. These range from improvements in road-bed to the hiring of experienced journalists and sportsmen to write articles for advertising pamphlets, from electric generators on the car-axes to stewardesses.

Road-beds and tracks required improvements because the public demanded speed even on long and heavy trains. Fast limited

trains came into vogue. Speed required heavy locomotives—say 160,000 pounds—and heavy locomotives meant not only that sixty-pound rails must give way to seventy, eighty or one hundred-pound rails, but that the ballast must be better drained, for it is wet ballast squashing beneath the ties that makes bumpy traveling. This made relaying necessary. Where the curves could not be eliminated they were eased. Mr. George Pullman once said, when asked the secret of easy riding, that the secrets are so many that no one can keep them. This is true, but the easing of curves is one of them.

Curves, no matter how slight, have always been laid as arcs of true circles. The outer rail is raised according to the sharpness of the curve and the estimated speed of trains that are to round it. A mile-a-minute train on a one-degree curve needs an outer rail five inches higher than the inner rail; a slower train, a lower elevation. It is clear from this explanation that a train going faster than the maximum for which the track is prepared would shoot off the rails. Conversely, a slower train than the one provided for would grind the flanges off its wheels. Any road must strike a serviceable average for trains of varying speeds, and engineers must nurse their locomotives around the curves as close to it as possible. That puts an inevitable check on high speeds. The Empire State Express once made a burst for two miles at the rate of 102 miles an hour on a straightaway section of track. A heavy curve would have shot the engine at that top speed a quarter of a mile 'cross country. On most roads, however, sixty miles an hour is quite safe, though very costly.

To permit such speed, the engineers of the last few years, in relaying tracks, instead of starting a true-circle curve with the sudden lift of the outer rail that causes the jolt and lurch that travelers know, have laid a slight parabolic curve from a point a hundred yards back on the straight track, and have elevated the outer rail imperceptibly along that curve to the maximum. The result of the device—in practice quite new—has been the annihilation of curves as regards a passenger's senses. With eyes shut he cannot tell whether the track is straight or curved. With well-drained ballast—and ballast is far better drained today than ten years ago—and with heavy rails and eased and adjusted

curves, high speeds no longer cause discomfort. The usual time between Chicago and New York has come down from thirty-six hours to twenty-six, twenty-four, and even on the two finest trains in the world to twenty, within very few years, and the trip from Chicago to the western coast has been cut twelve hours. Yet the faster travel is the easier.

In heating and lighting rapid advances have recently been made. On the finest trains electric lights are used, fed from a generator and a storage battery in the baggage car employing steam from the locomotive, or from generators on the axles. In other trains tanks of gas beneath the cars keep the Pintsch lights burning. The oil lamp has become a tradition. So has the ill-famed car-stove. Steam from the locomotive supplies the heat for hot-water pipes through the cars. The false prophets of a decade ago who declared that electric lighting and hot-water heating from locomotive steam would drain the locomotive of power could not foresee the results of larger locomotives on heavier rails.

It is in diversity of car-equipment, however, that the age excels. Railroads provide their own day coaches, and some of these for day riding are as comfortable as one could wish: the smoking-cars running north from Chicago, with their high-backed leather chairs, are certainly as pleasant as crowded Pullman smoking-rooms. The better cars, sleeping, observation, dining, buffet, compartment and other special types, except on the Great Northern, the New York, New Haven & Hartford, the Chicago, Milwaukee & St. Paul, and the Dominion and Atlantic, are owned and managed by outside companies—most of them by the Pullman Company, which builds a new car every day. This company has now on different roads nearly 4,000 sleeping-cars, 40 smoking, library and buffet cars, 130 observation cars, 75 compartment cars, 406 tourist cars, 19 special drawing-room cars, 29 "diners," and 27 private cars. Practically, it conducts a hotel business, maintaining its approximate monopoly because most of the railroads find its equipment cheaper and more effective than any they could furnish themselves. No railroad could supply the cars required for excursions and conventions—now so common a phase of summer

recreation—without maintaining costly idle rolling-stock in the intervals between the heavy demands. A special company by good management can shift its cars to the points where they are needed.

The Pullman conductor is hotel clerk. Employees are kept courteous and obliging through a system of merit and demerit marks that covers the entire organization. Cars are cleaned at the end of every run, the bedding of the sleepers is changed, and if invalids have used a car it is fumigated with formaldehyde. The Pullman hotel is well managed.

Everybody uses the sleeping-cars at a charge based on \$5 for a thirty-six-hour run, or \$2, or even \$1.50, for a day or night ride. A special sleeping-car may be hired for \$45; and the railroad will haul it if assured of eighteen fares, or will even put on a special train of such cars if assured of one hundred fares. A private car, which assures complete seclusion and contains every facility for comfortable living, may be hired for \$50 a day. Many men possess private cars of their own. Railroad presidents almost always use them. But the private-car business is by no means restricted. Such cars, hired for the service, are today taking families to the White Mountains from the southern States, are touring with theatrical and operatic companies, are carrying corporation officers on business trips of investigation, while the use of special sleeping-cars is so common as to deserve no comment. More of the private cars could be rented than the parlor car companies have at their disposal. The summer rush keeps every car in commission regularly employed.

The limited train, of course, shows the finest type of car equipment. A "limited" is a train that follows an accurate schedule, pulling out and arriving as nearly as possible at a stated time. It usually has a name—Congressional Limited, Pacific Fast Mail, Royal Limited, Sunset Limited, Black Diamond Express, Empire State Express—and on every trip the equipment is the same. The passenger may divide his time between his sleeper, the combined library, observation, smoking and buffet car, where he may use the railroad's library and magazine file, and write letters which, with a Government stamped envelope, he can post in the mail car ahead, the dining-car, and the comfortable

seats on the speeding rear platform. A bathroom is at his service, and a barber, for not the least of the luxuries brought about by modern equipment in the last few years is the possibility not only of writing but also of being shaved in comfort. On the two twenty-hour trains between New York and Chicago a stewardess is at the service of women passengers.

Some of the limited trains in the West have tourist cars and day coaches. Some have compartment sleeping-cars, in which every section is a stateroom, though such cars are most commonly used on "personally conducted" excursions. One may even hire a whole "limited" special train for \$215 a day. In brief, by paying for it, a party of travelers may have any convenience on the railroad they might have on a private yacht.

With these luxuries of travel at their service, the railroads bend every effort to encourage travel—especially summer travel. The roads that run to the mountain and seaside resorts depend on the summer rush—and the spring and fall lesser rush for hunting and fishing—to make their passenger business profitable. The winter traffic is inconsiderable. One railroad running out of New York is said to make profits enough in summer to overcome a deficit due to the cost of operation the rest of the year.

Specialists are employed to write handbooks—for the railroads insist that their advertising pamphlets shall be reliable. Agencies are established to direct vacation seekers to recreation points.

The Grand Trunk and the Canadian Pacific own their own hotels and other roads have financial interests in hotels that are nominally owned by private individuals. Briefly, a citizen may enter a railroad ticket-office, have a vacation spot picked out for him, a boarding place secured and a guide chosen. All he has to do is to name the sort of fish he wishes to catch—the railroad will bring him most comfortably to the fish. One railroad, the Detroit & Mackinac, will even furnish camp equipments, because President Hawkes, a sportsman himself, decided one autumn day while he sat against a stump by a runway, that purveying outfits might bring more sportsmen over his line. If other roads do not yet provide such conveniences, at all events they will direct a passenger to a place where outfits may be procured. The

larger railroads would more readily go to President Hawkes's length in catering to recreation seekers if it were not for the fact that a railroad company prefers to do strictly a railroad business. That is why baggage transfer across such cities as Boston and Chicago, where one gives one's check to a transfer agent on entering the city on one road and receives another when leaving on another road, is in the hands of a transfer company. Such branches of the passenger business as maintaining information agencies and conducting hotels, as the Grand Trunk does, for example, at Muskoka Lakes, are legitimate railroad activities because such enterprises can make profitable the lines the railroads run to recreation districts in every State in the Union.

The surest summer undertaking is, of course, the excursion—a modern development. On the day of an excursion from Pittsburg to Atlantic City forty extra sleeping-cars will frequently leave in a single evening. Twenty will leave Cincinnati or Louisville. Assured of full trains, the railroad will advertise special low rates for Philadelphia and Atlantic City, with stop-overs good for two weeks, and the people of the inland towns are eager to seize such opportunities. Nor does all the travel flow from the city to the city. Thousands of Chicago people take advantage of excursion rates to visit the Rocky Mountains, but thousands of mountain dwellers in New Hampshire and Vermont pack excursion trains to Boston, and up-State people to New York City. This is practically the only form of railroad traveling admitting of lower rates than those of ten or fifteen years ago. By urging many people to travel at one time the railroads are able to quote a rate often no greater than a one-way fare at usual times. "Tour" facilities, with yard-long coupon tickets good for all sorts of branch trips, is another feature offered to such summer travelers, as on the Alaskan tours of the Great Northern. The essence of the whole development, as Mr. Boardman, the editor of the *Railroad Gazette*, declares, is that a railroad passenger agent has changed from a designer of posters to a servant of the public. If there is any service to the traveling public that a railroad passenger agent fails to perform within the bounds of conducting his department at a profit, it is because he has not heard of it

RIDING THROUGH WILD FIRE

A THRILLING VACATION EXPERIENCE

BY

GRACE GALLATIN SETON

AUTHOR OF "A WOMAN TENDERFOOT"

IN the East one may jog along the allotted span with nothing more original than a banana-peel or a railway accident to threaten life, but in the Rockies one's opportunities to die are many—flood, fire, cyclone, quicksand, bog-holes in endless variety, and animals from "the quills upon the fretful porcupine" to the fighting elk, charged with his arsenal of polished ivory points.

It was on the third day out with the pack-train in the Bitter Roots last summer that we met with an adventure that shut out civilization and its memory like a wall and we put on our "nature mind."

Our trail lay through a great forest belt of yellow pine where a fire had been raging for days. A few forest rangers had been struggling with it, but they were only able to keep the greedy monster from extending its range on each side as it ate its way ravenously down the wind. The broad track of destruction two or three miles wide was saddening, tree giants lying prostrate in a smoking mass of children trees and forest growth, or, still upright, pointing a charred and maimed finger to heaven. The air was thick with flying ashes, and the flames as they leaped and crackled through the berry bushes and dead leaves, running along the ground and working along the tree branches that a moment before had been glorious with life, changed all things as at the sweep of a wizard's wand from a riot of color—brilliant greens, browns, orange and scarlet—to mourning, all the well-loved forms of the forest shriveled and twisted, draped in leaden grays and deepest black. What a vision of the underworld laid bare!

To cross it was like one of the labors of Hercules, but there was no way around; either forward, or retreat. Our guide had something of Napoleon in him, and this was evidently not his Moscow. So into this havoc, where the fire king had passed but had

not yet wholly given up his reign, we plunged. We kept our horses on a smart trot, for the ground was burning hot. We each took two or three pack-horses to drive ahead to keep them "pushed along" better. The trail was nearly obliterated and we wound in and out trying to avoid obstacles. Suddenly I saw the animal in front of me give a great leap and put between us a huge burning tree that had just fallen. My horse, Flax, snorted, as well he might, when he saw the three-foot log with dancing flames its entire length barring the way like a high hurdle tipped with flames instead of boughs.

How were we going to get over that thing, which seemed alive with wicked tongues? But there was no time to be lost, and Flax took a high jump to avoid the flames, which, however, must have scorched him, as he gave a double jump and a short run upon landing, which was decidedly disconcerting. But I had not much time to think. There was a shout ahead, a stampede of animals, and another burning tree crashed across our path. Those falling trees were the greatest danger; at any time one might be felled to the earth. Flax and I took that tree on a trot and another just beyond. It was no place to linger. The air was electric; the wild, ringing Wagner fire-music sang in my ears. Where did that man get his inspiration! The same intoxication seemed to fill me as when I heard that music. Now the flames leaped this way and that; now they ran along a log, daintily feeding only on lichen; here they crawled treacherously through the gentle grasses, always in motion—this wonderful fire.

Brunhilde was not so much to be pitied—fire has great charm. I can understand the fascination it has for horses, and it played such erratic tricks! On my left I noticed the skeleton form of what had been a raspberry bush! Not a leaf was left—not a green bramble, but still in the very

heart of it was one ripe, luscious-looking berry, hanging like a ruby in the midst of ruin. How had it escaped—that one touch of beauty? And near it was another impish trick of the conqueror—a weird sight, indeed. A high white pine tree, so tall that its green branches waved triumphantly over the torment below, so sturdy and vigorous that its smooth bark had resisted the flames, but alas! of no avail. The enemy was eating its heart out. One side of its mighty base, five feet through, had been carved out as neatly as though fashioned by man for a fireplace, and here the flames crackled merrily, taking, as does the vampire, its treasure of life while the green plumes waved far above, as yet unconscious of their fate.

We had gone more than two miles, jumping, dodging, trotting and stumbling, our throats and eyes smarting from the smoke until the two miles seemed twenty, when I saw that we were leaving the region of living fire and passing through a city of the dead. It had been a forest of young pines from four to ten inches thick, their straight stems like organ-pipes, their luminous scales, reddish and yellowish on the bark, giving a colorful background to the crimson carpet of wintergreen and rosetips, touched by the frost, but now reduced to a sorry plight—a bewildering mass of charred sticks streaking upward like accusing fingers from those in torment. In my ignorance I was relieved, thinking we were "out of the woods"; but really this proved the worst of all, for the sticks toppled over without warning—a breath of wind, the vibration of the horses' feet—and piled themselves before us, upon us if we were not spry—a ghostly company without stability and threatening destruction to us at every turn. It was no use to get off the horses: better to stay on and say one's prayers and "watch unceasingly." My clothes had the general appearance of a zebra's skin from the charred wood, every separate muscle ached, my knees were bruised from encounters with the trees, which were very close together, but so far there had been no serious injury in the "outfit."

At last as it was growing dark and I had settled down to a certain grim endurance and had treated my nerves to a favorite tonic, the same being that remark of Shakspeare's that "Cowards die many times before their death; the valiant never taste death but once," I

heard a cheer ahead, which I knew must mean "Lost Horse Creek and camping-ground." Instantly my mind sped to that magic place of comfort—camp—where hunger and thirst and weariness would vanish. The picture was so pleasant that I quite forgot the very material part of me, which just at that moment was in danger of annihilation. But Flax, fortunately, was not imaginative, and saw that a six-inch tree was falling directly upon us. He quivered from head to foot and waited a second for the word of command that did not come; then he gave a great bound and stopped so short that I nearly shot over his head. Paralyzed with fear, I, too, saw the awful thing that was descending upon us. I jerked back, for that was not all—another sapling close beside, released by the fall of the parent tree, was coming also. We were between the two. Not having a woodman's eye, I did not know how they were going to fall—did not know which way to move. "When you don't know what to do, don't do it," is a mountain adage. I clenched my teeth and waited. There were shouts, but I could not pay attention. One instant of nerve-racking suspense, and the big tree crashed in front of the horse's nose. He started back in terror right under the falling sapling. I lashed him forward, and he plunged ahead just in time to escape the sapling, which descended with a crack upon his rump, within an inch of me, nearly bringing him to the ground. He recovered instantly and, wild with terror, started to run. As it was impossible to run and he was a mountain pony and knew it, he did the best he could with a series of jumps in that down timber, the repetition of which I can very well do without. I felt like one of the monkeys at the circus that are strapped on the pony's back—the pommel alone saved me from an ignominious and dangerous fall.

But we got out without further mishap, and after Flax had caught up with his mate, three horses ahead, and told her in a neigh or two all about it, he carried my tired bones to camp in tranquillity—camp, oh, the sweetness and peace of that nook in the mountain meadow, rich with grasses for the horses, the snow peaks far above, the intimate little brook fringed with willows gurgling in front of our tents, a group of great pines standing sentinel, and far above the twinkling sky of night—poor Easterners!



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THE APPALACHIAN CLUB

THE ORGANIZATION OF MOUNTAIN CLIMBERS THAT HAS MADE THE
APPALACHIAN RANGE ITS PLAYGROUND—A DAY'S CLIMB IN NEW ENGLAND

BY

RAYMOND STEVENS

FROM a little windfall clearing in the upper valley of the Pemigewasset—the largest stretch of virgin forest yet remaining in the White Mountains—I caught my first glimpse of Carrigan Mountain. I had been deer-trailing during the warm Indian summer day and was surprised to see the top of the mountain in wintry white. Straightway I desired to see how the world looked from that snowy peak—for the long, densely wooded slope, rising steeply and gracefully at the summit, looked easy to climb.

The walking was easy at first through the rather open growth of large spruces; then as

the mountain grew steeper the way became rough and filled with great moss-grown boulders. The trees became smaller and denser. There were frequent windfalls half grown up again with small firs, through which I crawled, and slipped and climbed as through a succession of brush fences. I rapidly became short of breath, leg-weary and dripping with sweat. The forest had dwindled and dwindled till now it was nothing but scrub spruces, growing very near together with their small branches rigid and closely interwoven. This is the most difficult obstacle to be met with in climbing in the White Moun-



Photographed by Chester D. Moses

EARLY MORNING ON THE PEAK OF "WHITEFACE," IN THE ADIRONDACKS

tains, for walking on their tops—though a haphazard, uncertain, slippery progress—is possible.

Finally I crawled, sometimes on all fours, and then again, where the branches came close to the ground, by that method which puzzled the prophet—the way of a snake on a rock. Once under, there was no way up or out save by reaching some open space. This stretch of scrub seemed interminable, but at last, completely covered with snow and wet through, I crept out from under the last tree and stood once more upright. I found myself quite unexpectedly almost at the very top of the mountain.

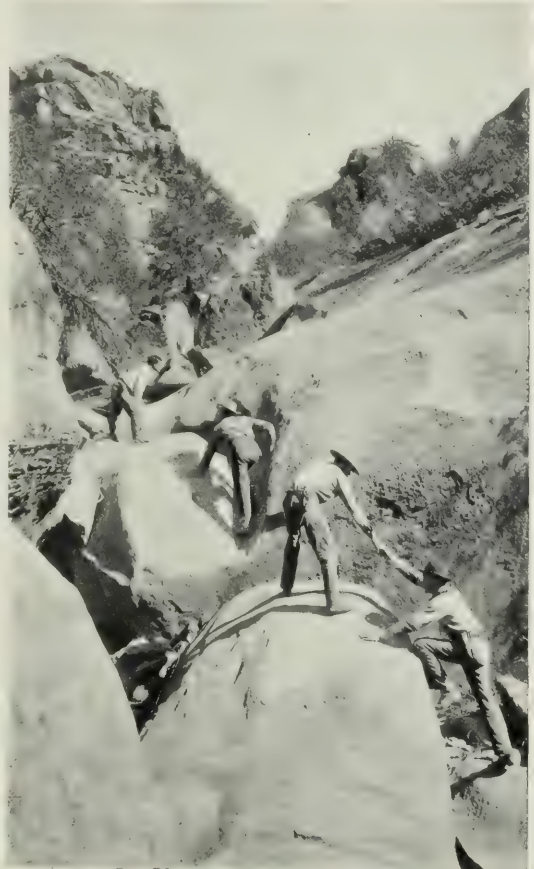
There was an unobstructed view in every direction. Mount Carrigan lies in almost the exact centre of the White Mountain region. Most of the peaks were strange to me then, but I recognized Passaconaway and Chocorua in the south, the Franconia Mountains in the west, and the Presidential range in the north. The valleys were filled with heavy purple shadows and mist. Snow covered only the tops of the highest summits, and these were rose-pink in the setting sun. Behind and above the Presidential range a great bank of clouds, rose-tinted also, gave at first glance the impression that the peaks themselves soared into the very heavens. Scarcely a clearing or any mark of civilization showed in the landscape, and I felt as if I had discovered a new country and had stood where no one else had ever stood before.

Turning to leave, I noticed a little post about a yard high with a box attached to the top. I approached it curiously. There was a door in one side, and within, an iron cylinder six inches long, the end of which unscrewed. Inside this was a roll of paper, inscribed, "Appalachian Mountain Club Register." Below appeared a list of some fifty names, of women as well as men, who had climbed Mount Carrigan that season. Apparently it was not much of a feat, after all.

I knew that the women, at least, had not ascended by the route I had—there must be a path down the Saco Valley side. The snow, however, obliterated everything, and I was unable to find any indication of it. I struck off, however, toward a logging-camp to the south. By the time I had reached the lower slopes it was already night, but a full moon gave light enough to see by. When I reached the camp the boss said:

"You can stay here if you *want* to, but you'll find better quarters at the mills six miles down the stream. The company's railroad runs all the way. It's down grade and the lorry car will take you down."

I found the car—just a single set of trucks, with a platform about seven feet square. I kicked out the trig, gave the car a push and jumped on. The grade was easy at first, but the car kept gaining speed till it flew. It was most exhilarating. Soon I was going so swiftly that I thought it time to apply the brake,



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CLIMBING CLIFF CAÑON

but my sense of pleasure melted when I discovered that there was no brake. I shot over a bridge; whizzed around a curve with two wheels in air, out of the woods and down a steeper grade still, when I suddenly realized that the mills were just ahead. I jammed the butt of my rifle between the wheels and the iron brace where the brake should have been. Fortunately it worked,



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A CREVASSE IN ILLEGILLEWATT GLACIER

Selkirk Mountains, British Columbia

and the car came to a stop so suddenly that I was thrown to the ground just a few rods behind a log train. My rifle was broken, but I had ridden six miles in eight minutes and come to no harm. This ended a one-day's mountain climb.

The next day I re climbed the mountain by the Appalachian Mountain Club path. Since then I have climbed dozens of the remoter peaks of the White Mountains and everywhere I have found traces of the club.

Even mountains that could not, like Carrigan, be climbed in an afternoon, but necessitated camping preparations for an all-night stay in some fragrant hemlock grove before beginning in the dawn renewed clambering over rocks and through scrub, were capped by a little mound and the tell-tale cylinder. Some were as wild as they were before the white men first came up the Intervale, and some, the farmers on the stony hillsides declared, had never been scaled; but members of the Appalachian Club before me had seen the miles of tumbled purple mountain ranges from their summits. Of course none of the New Hampshire mountains soar high enough to be more than a day's fair climbing, but on some it were better to go slowly. The Appalachian Club, however, is yearly making the sport less difficult.

Mountain climbing as an organized sport or recreation dates from its founding in 1876. At that time even the White Mountains were a largely unexplored wilderness. Scores of summits were even unnamed. Inside of ten years the whole region had been carefully and systematically explored; every mountain climbed, and its height and location accurately taken. The club has built and maintains more than eighty miles of paths and six permanent camps for the use of tourists and walkers in general. Remote ravines, waterfalls and peaks that would otherwise be seldom visited are now enjoyed by thousands.

The club has also explored the Adirondack Mountains and the Southern Appalachians so thoroughly that there is no longer any mountain exploration left to be done east of the Mississippi River.

Mountain climbing throughout all the Appalachians from Mount Washington to Mount Mitchell in North Carolina has no real difficulties. Any one with good legs and lungs can climb them summer or winter, with practically no danger. The only thing to be

feared is a sleet storm with high winds, such as raged for a day and night on Mount Washington in the last of June, 1900, when two men, both good climbers, died of exposure and bruises within a few minutes' walk of the Summit House. But if not especially difficult, this kind of mountain climbing furnishes exhilarating exercise amid scenery unsurpassed for wild and striking beauty.

Those who like more strenuous climbing and grander mountain scenes go west to the Rockies and Sierras. In spite of their great height, the mountains lying within the United States proper offer no real Alpine climbing; but the northern end of the Rockies, through Canada and Alaska, very much resemble the Alps. There are peaks fully as difficult. The Alps are all accessible, but these British-American ranges lie in an uninhabited wilderness, and even those near the Canadian Pacific Railroad often require a hard day's walk to reach their bases. They are clothed in eternal snow and great glaciers. There are sheer cliffs thousands of feet high; towering peaks, like Assiniboia and Sir Donald, precipitous on every side. The scenery even surpasses the Alps in desolate grandeur. Guides have been brought over from Switzerland, and here every summer members of the Appalachian Club and famous Alpinists from Europe spend their vacations, attempting and overcoming virgin peaks.

The Appalachian Club is more than a mere climbing organization. It was founded "for the advancement of the interests of those who visit the mountains of New England and adjacent regions, whether for the purpose of scientific research or summer recreation"; and in its magazine, *Appalachia*, are not only interesting accounts of its explorations, but also a large amount of valuable scientific matter, on comparative geography, geology and botany. It has published many maps and guide-books. Its library contains more than 1,300 maps and 1,500 volumes of scientific books, Alpine literature and books of travel. It has done much also to develop an interest in the country immediately around Boston.

It is safe to say that no single organization has had more influence in the movement of city people to the country for health and recreation; nor accomplished so much to make the beauty of our mountains known and their wildernesses accessible.

A SUMMER'S "ROUGHING IT"

THE STORY OF A SINGLE LONG VACATION

BY

WALTER CAMP

THE average American has a strain in his blood coming down to him through rugged ancestors that gives him an unquenchable lust for uncivilized places. In these days, however, everything is becoming civilized, from the Indian to football. I remember my friend, Fred Remington, the artist, who, by the way, used to play on one of my football teams and formed a sturdy bulwark in the line, stopped me on the street in New York not long ago with this plaint: "Camp, you're not going to civilize the only real thing left, are you?"

It is a difficult problem to convince a good healthy collegian of the advantages of home comforts. I remember well that, with the usual youth's enthusiasm for discovery and roughing it, two of us started out to camp on one of the islands in Long Island Sound known as the Thimbles. We had had no experience. It was rather early in the summer, and a cool northwest breeze led us to select for a place to pitch our canvas a little hollow nicely sheltered from the wind, which was freshening along toward sundown. The first night we slept well. The following morning we caught blackfish off the rocks, and our cooking was not unsuccessful. By afternoon we began to believe ourselves quite capable of supporting life thus indefinitely, and we swelled with pride and pleasure. Toward evening the wind shifted to the eastward and by the middle of the night it began to rain. As we had placed our tents so that we occupied the very cistern toward which the watershed from all sides directed the flow of the torrent, we only escaped drowning by abandoning our position and perching upon the rocks, exposed to the wind and rain for the rest of the night. We were glad to return home in the morning as soon as we could get there.

That was my first experience, and it made me rather more moderate in my desires for the rest of the summer. As the greater part of

the vacation was still before us we determined to make up a party and try Nantucket. We started from the city on the train which, after one change, landed us at that relic of old whaling days, New Bedford. We spent the night there, although it was not necessary, because I had an old friend, an Englishman, who kept a hotel, and although I think he always lost money at it, he made it a most hospitable inn for his friends. The next day we took a boat (this particular one was a side-wheeler that happened to have seen service in war times) for Nantucket. The boat stopped first at Wood's Hole, where memories came over me of having dined on board the Government boat *Fish Hawk* with Captain Wood at a time of considerable excitement over the running down of a Government boat by a coal schooner in Vineyard Sound. From Wood's Hole on to Cottage City, a place where the excursion basket, the hot peanut, the roller-skating rink and Methodist camp-meetings divided the hours. Leaving that pier behind, we started out for better freedom, and just as the sun was sinking and we were beginning to think of dinner, we ran up into a little sheltered opening and, crossing over the bar, moored at Nantucket. I suppose this place, too, of late years has become civilized, but then it was only just beginning. There were hotels, but the "off-islander" was not yet strong enough to subdue the spirit of the native born and bred. The town crier was still a real thing, and he had not been written up. Other old customs prevailed enough to make one feel that it was not all put on for effect or to catch the dollar of the visitor. There was a narrow-gage railroad over to Surf Side, which seemed like a toy affair and which was not above stopping at points not on the schedule.

We had secured in advance a house, which was turned into a college mess with one of the men to cater. I do not know just what we

did or how the day was filled up, but I know that we had tennis courts, and after tennis came a swim, and by that time a man was so hungry for luncheon that he could hardly wait to get dressed. In the afternoon we played baseball, more tennis, sailed boats and fished. Perhaps, however, the one thing that stood out and which I shall remember the longest was a night's experience with something I had learned to do a few years before, namely, heaving and hauling for bluefish. To those who have never tried it, I will say that it consists of standing on the shore with a bluefish line, to which is attached a long squid and hook, and after whirling that squid a few times over one's head to acquire momentum, it is shot out over the surf. When it falls and reaches the full length of the line the fisherman pulls it rapidly in hand over hand or rather hand under hand, thus giving it the effect of a swimming fish, and if there are bluefish out there there is a chance of their taking it, and of your taking a fish. I say there is a chance of this, for I remember my earlier experiences had not been eminently successful. However, at the expense of sore fingers and a lame arm, I had at last acquired the knack of getting the line out far enough. Hence when my friends proposed a trip of this kind I was quite ready for it.

We had so much to do during the daytime that we never succeeded in getting over for the day. So it was determined to have a go at it at night. We went over twice. The first night we were fairly successful, getting half a dozen good fish. The second night it was pretty dark and we had taken two fish, both of them coming on my line, probably because I was more experienced and got the line out farther than the others. But at any rate, things were getting rather dull when, after a cast, I felt something strike, and from the stroke thought I had on a good-sized fish. But almost immediately the line slackened, not enough to show that I had lost him, but, as I supposed then, enough to show that he was not a very big one, and, more than that, was swimming up with the line. I pulled faster, lest he should unhook himself, but was not particularly interested until I felt a pull like a horse, which absolutely stopped my hauling in for a second. I called out to the man next to me, "I've

got a big one this time," and then my attention was too much taken up for further remarks. He came along, sawing from side to side, and when he set back I feared for the line. Just before he reached the surf he made one break, and the splash thereof was enough to make me think that I had caught the real king of bluefish this time. As he came through the surf I ran down into the water, in my excitement and interest to land him safely, and by this time two of my three companions were about me ready to give aid. As he came splashing in he looked at least twelve feet long, but not quite the shape and make of a bluefish, as one can imagine; for as we beached him he proved to be a shark, and although not fully the twelve feet that he had looked, he did actually measure more than nine feet in length. He was neither as useful nor as valuable as a bluefish of five pounds, but he was far more interesting.

Three weeks of this sort of life had, however, soothed the wounds of our earlier camping-out experience, and it began to seem rather dull and unexciting. Nearly a month remained of the long vacation, and my friend and I started off, leaving our less enterprising comrades to finish out the season in sleepy old Nantucket while we went down East.

We went over to Vineyard Haven on the Island of Martha's Vineyard and took a boat there which eventually carried us to Portland, Maine, where we had intended to go into the woods. The spirit of the sea was upon us, however, and in a moment of more than usual adventure we shipped on a lumber schooner as common seamen. Ever since then I have been endeavoring to forget those few ghastly days. I shall not enter into details, as it would be too harrowing. We were both familiar with boats and had no difficulty in getting the job. We were out two days and two nights, and early on the third morning we deserted, swimming ashore at a point near Portsmouth.

At Portsmouth we expended our remaining money in enough clothes to enable us to get on the train, and in tickets and a telegram to Boston, where we had friends. I must confess I was never quite so glad to get into civilization, a hot bath and clean clothes as upon that occasion, and for a time at least my longing for roughing it was entirely satisfied.

FICTION FOR SUMMER READING

THE fashion in fiction has changed. Buff jerkins and active swords have yielded to sober modern appurtenances, and any haphazard armful of recent novels packed up for vacation hours will inevitably contain enough storied contemporary life, both American and English, to make novel reading a better business than it was in the reign of the swashbuckler. Frank Norris, whose latest novel, "The Pit," is the most dramatic and powerful of those now widely read, once pleaded earnestly that novelists should transcribe the life they see and know—today they are doing it.

Mrs. Humphry Ward, translating Julie de l'Espinasse into fiction as Julie le Breton in "Lady Rose's Daughter," pictures vividly a Becky Sharp stifling a passionate nature under duties of companion to an autocratic Countess until hunger for freedom of spirit leads her into a forestalled escapade which results in her marriage to a tiresomely virtuous Duke. The story is Mrs. Ward's undoubted acme of achievement, and it satisfies one's demands of a novel better than any other recent book. J. M. Barrie, too, maintains his level of distinction in "The Little White Bird." He weaves a new spell around Kensington Garden in a quaint and fantastic but very human narrative of a middle-aged bachelor who watches the development of a love drama from the window of his club. The watcher's whimsical avoidance of the heroine of the love affair until her little son effects an introduction is touched with the simplest of quiet humor. "The Star Dreamer," by Agnes and Egerton Castle, is a graceful love story with many of the bewitching qualities of the old-fashioned English garden in which it takes place. There is sunshine in it.

Robert Hichens, in "Felix," goes into dark places, mercilessly baring a corner of London society wherein the morphine habit in all its ghastly horrors works unhappiness immeasurable. The book is very clever; it has atmosphere; it commands a fascinated interest, but it is horrible. A new book by George Moore might suggest more unpleasantness, but "The Untilled Field" is really a well-written series of short stories, dealing with neither peasants nor aristocrats wholly, but conveying a composite impression of the most significant aspects of life in Ireland—the priest looms as large as the captain of industry

in America. Turn from these to "The Four Feathers," by A. E. W. Mason, for a story of adventure and human passion in which the hero redeems by acts of courage in Africa the four white feathers sent to him as insults for fancied cowardice—a story, simply a story, and a very good one.

And there is much entertainment in "Youth." Joseph Conrad chants that deliberate dreamy style of his through the book in three of the best short sea stories published in many a day. The tragedy of a man alone against the great immensities—sea and tropical forest—with an undermining weakness, the note of "Lord Jim," is the *motif* here, insistent and compelling. E. W. Hornung abandons Raffles and Bunny for a short narrative of social intrigue, involving an army officer, who tries to save an ingenuous youth from the snares of a widow and is caught himself. "No Hero" is slight but bright. And brightness is also the recommendation of "Elizabeth's Children." The pranks of the three little sons of Elizabeth of the "Visits" have so many quaint turns that laughter dances along the book's pages, not blinding, however, a sympathetic curiosity in the love story of Elizabeth's old sweetheart. Then there is "The Turquoise Cup" to round the list of English books. A dainty little volume contains two delightfully artistic tales by Arthur Cosslet Smith. A cigar will measure the length of the book; the reader will see in the smoke a serene and courtly Italian cardinal abetting an English and Irish love-match, and an Arab trader following love across dun stretches of Sahara sand.

Choice among recent American novels depends on what section of the country the reader desires to spend his reading hours in, though two books meet success in sketching characteristics broadly American. David Graham Phillips, in "Golden Fleece," escorts an heiress-hunting English Duke through Boston, New York, Chicago and Washington society until, rejected by a clear-eyed, wholesome Chicago maiden unblinded by the glitter of a coronet, he goes home at last to marry an English girl who is "comfortable." It is a satirical, clever novel with all the earmarks of unpleasant truth; the four cities will recognize themselves. Mr. Phillips is becoming a novelist to reckon with. Likewise James Weber Linn. In his latest novel,

before the Middle Western background of a college town, a young lawyer, marrying the niece of a genial but vulgar millionaire, gradually alienates his wife by a kind of sentimental lying. The scope of "The Chameleon" is intentionally restricted, but typically American traits are revealed in every character.

Miss Edith Wyatt's amusing "True Love," unlike Mr. Linn's sympathetic study, puts the sentimentalist—of the sham-culture type—in foolish postures to laud by contrast hard-headed practicality and bluff sincerity somewhat unduly—producing caricature, though interesting caricature. As a political novel, dramatically interweaving a human story of love with the machinations of New York State politics, "The Henchman," by Mark Lee Luther, is the best thing since "J. Devlin Boss"—a character-study showing insight, and a revelation with the value of a document. "The Rise of Ruderick Clowd," another of Josiah Flynt's researches in criminology, is also pinned close to fact. It is the life story of a criminal from his illegitimate birth to his final decision that crime is not a paying business—a vivid illumination of life in the under world. Stewart Edward White in like manner tells in "Conjuror's House" of life he has known—of the human passions swaying men and women on the far shores of Hudson Bay. A free trapper defies the monopoly of the Hudson Bay Company and is condemned to be marooned in the wilderness, where death is inevitable, but winning the factor's daughter in swift love passages, is relieved. The feeling of the great North is in the book, the vastness of the country, the feudal power of the Company, the passion of life close to fundamentals. And readers who fail this summer to enjoy the triumph that Churchill Williams has scored in "The Captain" will miss the best picture of General Grant yet drawn—the Grant who silently carved his way to Vicksburg. It is a stirring novel, which fulfils the high promise of "J. Devlin Boss."

Of books in which the story is the thing, Justus Miles Forman's "Journeys End," which tells of an impecunious but aristocratic Englishman, who writes a successful play in New York, and wavers between his love for an English girl and his love for an American actress until the reader is left to guess which he chooses, has the charm of crisp phrasing and a clever plot—a book with all the elements of success. "The Blue Goose," by F. L. Nason, deals with strenuousness in a Western mining camp; there is battle, murder and sudden death, a love affair not too well

handled—in brief, a red-blood story for jaded minds which demand no subtlety of artistic finish. "At the Time Appointed," by A. Maynard Barbour, has similar elements. An Eastern mining engineer meets happiness in the Far West after very troublous experiences. "Roderick Taliaferro" is a swift drama of Mexican intrigue against a heroic young American, who ultimately triumphs over the plotter—not a book to be neglected.

Two very clever books, of an excellent sort for summer reading, are "A Girl of Ideas," by Annie Flint, and "The Modern Obstacle," by Alice Duer Miller. The first is an amusing story of a girl whose novel is rejected by the publishers and who achieves a preposterous success in selling ideas to authors. The other has some sparkle in hitting off characters. It is the story of a New York girl hesitating between riches without love and love with poverty.

A fresh, clean, wholesome story of college life is Ralph Henry Barbour's "Land of Joy," wherein Harvard life is deftly painted, and the two love affairs—one in sunny Virginia in vacation time and one in Boston and Cambridge—have all the romance that belongs to youth. There is southern atmosphere, too, in "A Tar Heel Baron," by Mabel Shippie Clarke Pelton, not a book to spend time over, but one in which a reader may follow for brief entertainment the adventures of a German Baron settled in North Carolina. "The Substitute," Will M. Harben's new Georgia novel, is firmer and better in plot and handling with interesting characters and the smack of Georgia soil. Elmore Elliot Peake's "The Pride of Tellfair" possesses also no little southern charm. Two sisters of an old southern family bring the witchery of French New Orleans to a little town near Chicago.

If one insist on reading historical romance, Robert Chambers's "Maid-at-Arms" can renew the pleasure that "Cardigan" gave. The early days of the Revolution in central New York give opportunity for forest runners, Indians, patroons, soldiers and fair ladies to make a brilliant setting for one especially commendable youth and one specially fair lady, whose company is good for many stirring pages. "Cornet Strong of Ireton's Horse," by Dora Greenwell McChesney, a romance of Cromwell's time, beginning in the colonies and changing to England, has the merit of a complicated plot to sustain the interest.

Sewell Ford, in "Horses Nine," becomes the historiographer of nine workaday horses. The feeling of "Black Beauty" is in the book, and no reader of it can fail to feel kinder toward an animal whose life is always a tragedy.



SURGERY IN GERMANY AND IN AMERICA

A YOUNG surgeon who went to Germany four years ago to complete his studies in pathology recently returned to this country. He makes this interesting comment on national differences in the profession:

"It's science over there; here it's the business of healing. Here one gets the elementary things in college, learns more in hospital and in general practice and turns the knowledge into money. The average American practitioner would be out of place over there. With them it's study, study, study from the time they receive their degree until they die.

"At the hospitals or meeting-places they talk nothing but shop. I have known a group of German doctors to leave their dinner half eaten to visit a case under discussion. They are the worst possible practitioners, for they are interested only in technique. I knew a man who went to a German physician with a pain in his leg. That doctor spent an hour each day for five days studying it, and after that time he knew all there was to know about that pain, but he didn't stop it. In this country we would have treated it and thought no more about it except to congratulate the patient in a few days on getting well. They don't care for the patient. He is only a specimen. I heard a doctor say perfectly mechanically that he hoped one patient would die so that he might learn some fact from the autopsy.

"They call American surgeons copyists. Wherever the charge is true, it is merely that Americans turn to practical service the theories they study. But undoubtedly they are doing a great work. One man, it is reckoned, has added thirty thousand years to human life by his discoveries. There is no commercial end for them to gain, so that their work, their science, must be their only aim."

The difference aptly illustrates the general difference between our "practical" ways and the ways of German learning.

THE FIRST WOMAN'S HOTEL

THE first woman's hotel has been opened successfully in New York. There had been two previous experiments; one was a failure and the other limits its patronage. The Hotel Martha Washington, however, seems likely to be the first of a large number of hotels made as exclusively to fit feminine tastes as are the hundreds of bachelor apartment houses to meet the needs of men.

This new hotel is twelve stories high and cost approximately \$750,000. It accommodates five hundred guests. One hundred rooms are reserved for transients. Many single rooms rent for \$3 a week, others for \$4 and \$5. The transient who pays \$15 a day and the woman who makes the hotel her home and lives in a \$3 a week room have the same service. The only difference is that between a suite and a single room.

After the hotel had been planned and part of the capital subscribed there was a period of doubt. Mr. Charles D. Kellogg was the secretary of the company, and one of his daughters, home for a visit, went out to help him raise the money needed. She obtained \$71,000 between six o'clock Saturday evening and ten o'clock the next Monday evening, and assured the success of the project. Both men and women are stockholders—Mr. John D. Rockefeller as well as Miss Helen Gould.

Meals are served for \$5 a week, without luncheons. Of the women who are permanent guests of the hotel, ninety-five per cent. are breadwinners, and most of the others are living on money that they have earned. And this is the service for which the hotel was especially planned—to provide a home for working-women.

WHAT A PATENT DID FOR A MAN

MORE than ten years ago a man obtained a patent on a very simple improvement in the making of a kind of pulley by which it could be made more cheaply. He lacked the capital to manufacture it and he tried to sell it. He went from one large manufacturer to another,

and each thanked him and refused the patent at any price. One day he interested a man who, in the end, put nearly all the ready money he had into the project and bought the invention at a very low price. The man was not a manufacturer.

He made a contract with a large manufacturing concern to make the goods for him and to ship them by the barrel on order to the purchasers. He interested a number of traveling men who were able to sell the pulleys on commission. Then he rented a little office and began his business. The other day he sold the tools which made the pulley for a sum only slightly less than the original amount he paid for the patent and tools together—the patent right has recently expired. In these few years he has made from his little office a considerable fortune from this simple invention at which many wise manufacturers shook their heads. It is only a single bit of evidence of the way in which American pluck and energy and common sense obtain results.

A DEPARTMENT STORE THAT EDUCATES ITS EMPLOYEES

IF before half-past nine o'clock in the morning you could go to the employees' lunch-room on the top floor of a certain department store, you would find adjustable partitions hung on hooks in the ceiling, and the lunch-room converted into classrooms in which girls from thirteen to eighteen are receiving instruction in the elementary branches, business practices, physical training. If you were privileged to visit other parts of the store which as a customer you never visit, you would find some two hundred and fifty boys receiving similar instruction. If, after the store's closing hours, you should visit the same classrooms and some of its various departments, you would find the senior boys engaged in study, or hear the strains of the piano, mandolin, bugle, beat of the drum, or the voices of the glee club. This unique college is known collectively as the Commercial Institute.

When a boy or a girl enters the employ of this store, it is with a distinct understanding with parent or guardian, and the employer virtually makes this proposition:

"I will give your child mental, physical and moral training at my own expense, and pay him for his time, in order that he may serve me better and be a better citizen."

The Commercial Institute was organized about seven years ago. The initial enrolment was fifty cash boys; now the enrolment is about six hundred. The girls and cash

boys—there are no cash girls here—have two morning sessions a week, from 7:30 to 9:30, because these hours do not require them to be out at night, while the older boys meet twice a week in the evening from 6:30 to 9:30. The store closes half an hour earlier than any other department store in the city where it is situated, so that employees have more time for rest and for improvement.

Scarcely have the sounds of the bugles died away that announce to customers and employees the closing hours of the store, before some two hundred and fifty boys and their twelve teachers begin to file into the store's basement restaurant, where they find a substantial lunch awaiting them, so as to save them the time and expense of leaving the store for it. Thus, the restaurant that has been thronged all day with buyers suddenly becomes converted into a sort of college dining-hall.

At 6:30 lessons begin in arithmetic, writing, spelling, composition, grammar, free-hand drawing, singing and physical training. Every student is required to study writing, grammar, arithmetic (including practical knowledge of the metric system, banking, handling commercial paper and book-keeping) and physical training. Other studies are elective.

Special attention is given to physical training. Every boy and girl of the institute is measured and has prescribed exercises under a competent instructor. The data obtained from these measurements are recorded on a chart, and at the close of the school year a remeasurement is taken to show the improvement made and still required.

Physical training is made attractive to the boys by dividing them into military companies and using the United States Army setting-up drill. Uniforms, a drum and fife corps of some thirty pieces and good drilling enable them to make such an admirable military appearance in public that they have won more than one prize in competition for military honors. The Cadet Corps, as they are known, own their own camping outfit.

In the latitude allowed for study under this splendid system of trades and commercial training the employee may develop on the lines of his natural ability and talent. In other words, the round peg is not put into the square hole; individuality is not repressed, but developed, for if an employee is musical he may become more so; if he has artistic tastes he may develop them through drawing, designing, decorating; if he has commercial instincts he has the benefit of instruction in the

most practical business college in the world, where he learns by doing.

Monthly certificates of every pupil's standing in studies, in physical training, in conduct, in attendance are sent to his parent or guardian for signature; and employees are taught to save as well as to earn money, the "Junior Savings Fund" having about five hundred depositors.

In addition to this certificate, every cash boy has a record card, which also is sent to his parent monthly. For omissions in promptness, in courtesy, in cleanliness, in attention to store duties of all kinds, his section manager marks his card. If these records of the institute and store persistently reflect on an employee's ability and service he is very apt to find need for another position.

The spirit of rivalry, the reward of promotion and the elevation of character which generally ensue from this method of education and individual supervision have reduced dismissals to a minimum.

Graduation means promotion; then the college button is replaced by that of the alumni association, and through this association graduates are kept in touch with the college work of the store.

A DEPARTMENT-STORE LEAGUE OF WOMEN

The educational advantages of this store are not, however, limited to its junior employees. The women employees have coöperated through what is known as the "Women's League."

The girls receive instruction in languages, music, shorthand and dancing. The benevolent features of the "Women's League" afford protection in financial distress or aid during illness. It is maintained through weekly contributions of every employee of the store. The woman at its head travels hundreds of miles weekly to minister to the needs of disabled employees scattered over the city and has had as many as two hundred and fifty in one week on her sick list.

For employees disabled through long service, or age, an endowment fund is provided by employer and employees.

A resting-room furnished with easy chairs, couches, tables; a library of about 4,400 volumes in charge of a librarian, and a retiring-room in charge of a trained nurse, for those taken ill during store hours and who may need prompt medical attention, are among the other evidences of consideration shown employees. There is no charity in the idea. The employer receives full payment in the better service his workers are able to give.

In the meantime, boys and girls are being fitted for better careers than would otherwise be possible for them.

THE TEST OF NAVAL EFFICIENCY

THE true test of efficiency of our warships does not lie in speed, coal endurance or vexing formulæ, but depends almost entirely upon the rapidity and accuracy of gun fire. "Gunnery, gunnery, gunnery," says the first Sea Lord, "is of extreme importance," and the leading navies of the world are today making such efforts to improve their shooting that it is not too much to assert that the greatest progress in naval development in the last year has been in gun practice.

The impetus was given by the first published reports of the battles of Manila and Santiago, when the impression spread abroad that the Americans possessed the secret of shooting straight. The outcome was a mechanical contrivance invented by Captain Scott of the English Navy called a "dotter," by which a small paper target drawn to scale is caused to move in front of a gun with a combined vertical and horizontal movement. While the target is in motion the gun pointer endeavors to train the gun so as to keep the cross wires of his telescope on the target. Whenever the cross wires are "on," an electric connection causes a pencil to make a dot on the target, the dot representing a real shot on a real target at a thousand yards. Thus the men are accustomed to train the guns under the disturbing conditions of a ship in a sea-way.

The result of this training has produced results almost marvelous; in a comparatively short time green men were taught to fire the heavy guns with great precision. A six-inch gun on the *Crescent* made 105 hits out of 139, at a target about 1,500 yards distant, the average of hits per gun per minute being 4.37. The 9.2 gun made nine hits out of ten at a range of from 1,400 to 2,000 yards. On board the *Terrible* one of the 9.2 guns fired twelve rounds in six minutes and hit the target nine times, which is 1.5 hits per minute.

Other foreign nations guard more jealously the results of their gun work, but it is known that all the great navies are working to this end, the central idea being to train men to point and fire guns under the sea conditions, and doubtless in the next naval battle the percentage of hits will be far in excess of any yet recorded, which is another way of saying that future naval battles will be of shorter duration, but more destructive.



MAJOR-GENERAL S. B. M. YOUNG
CHIEF OF THE GENERAL STAFF OF THE UNITED STATES ARMY

(See "The March of Events")

THE WORLD'S WORK

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The March of Events

EVEN when all the Governments of the world are at peace, and prosperity is general and there is every reason for good feeling, there come times when many troubles group themselves. The great economic forces of civilization are now surely working steadily toward better international feeling, and many Governments and many organizations of men are engaged in lifting life to a higher plane. Yet, just when the way seems clear for many and notable victories of peace, almost every country in civilization finds itself more or less violently disturbed.

By a wanton massacre of Jews in Russia the whole world has been shocked; the Russian Government, by its conduct in Manchuria, keeps the suspicion of all the Powers alive; by threatened aggressions in Persia she arouses England to vigorous protest; by events in the Balkans she suffers further suspicion; and by the suppression of Finland she rounds out the large circle of her world-disturbances.

England has international tasks of much delicacy because of Russia in Manchuria and in Persia, and she has some excitement of her own at home because of Mr. Chamberlain's renewed proposal of an intercolonial protective system.

As for the United States, when all other worries fail us we have our labor troubles and our Negro problem, quiescent if not in

eruption; and they have recently been active enough to remind us that we have not yet come within hailing distance of the millennium.

THE MASSACRE OF JEWS IN RUSSIA

ONE good measure of the civilization of any country is its treatment of the Jews. By this measure the barbaric spirit of the Russians—especially of the southeast Russians—has been made plain; for the deliberate massacre and mutilation of a hundred Jewish men, women and children (more or less) at Kishineff have shocked all civilization. Many more have been made homeless.

The matter is made worse by the indifference, perhaps the open connivance, of local Russian officials. Authentic reports make it clear that these officials knew of the murder and mutilation of these innocent persons without interfering. The immediate "provocation" of the deed was the report that a Christian had been slain by the Jews for sacrificial purposes. It was the religious zeal of the people that the Jew-baiters played upon.

But the real reason is that combination of race hatred and religious hatred and economic hatred that causes the persecution of the Jews, in Russia especially, all the while. A murderous outbreak like this is only a

natural climax and a logical result of the continuous prejudice and persecution.

At the moment when the cruel taking of human life forbids every emotion but pity and makes practical relief the first duty of humane persons, the immediate provocation given by the Jews is forgotten—properly forgotten, perhaps. But a murderous outbreak in which the officials of a town, and to some extent the non-Jewish population, acquiesced, is not without some provocation—at least as the non-Jewish population regards it. The real causes lie far back. The Jews are forbidden to own land and to enter the professions: all desirable privileges and opportunities are denied to them; and they are left to make their living by their native thrift as tradesmen and money-lenders. Overtaxed, restricted, oppressed, they are driven to hard dealing. The character and the habits of any people would be made hard by continual oppression. A suppressed Jew becomes troublesome and oppressive himself.

These provocations and counter-provocations go on in communities that are on a low level of civilization, among a people who are exceedingly superstitious, under a government that is openly venal, and under social conditions in which class-feeling and race-feeling are strong. There can be no radical remedy until the whole tone of Russian civilization is changed. The more oppressive Russian life becomes the worse the Jew becomes, and even murderous outbreaks are really not to be wondered at.

The practical results of this shocking occurrence have so far been a shudder of horror in all civilized lands, and the quick expression of sympathy by the sending of money to the stricken families at Kishineff. But of greater consequence than these creditable acts of individuals and associations is the deepened conviction of the world that Russia is yet far from civilization as the western world measures civilization. The event must have an effect on the attitude of all Governments to the Czar's bureaucracy. There is a treacherous savagery beneath the surface of Russian character.

Another result of this massacre may be an even greater influx of Russian Jews to the United States. We are having our full share—more than a fair share—of these unfortunate people; for, liberal as our laws are, and sincere as our welcome is for the oppressed,

there is an economic limit to the number that can come without too severe a burden. The Ghettos of our large cities present problems that are grave, if not the gravest.

But the United States is fast becoming the home of the race. The time will come when most of them will dwell here—that much seems certain; for our liberal institutions make our country their real Zion.

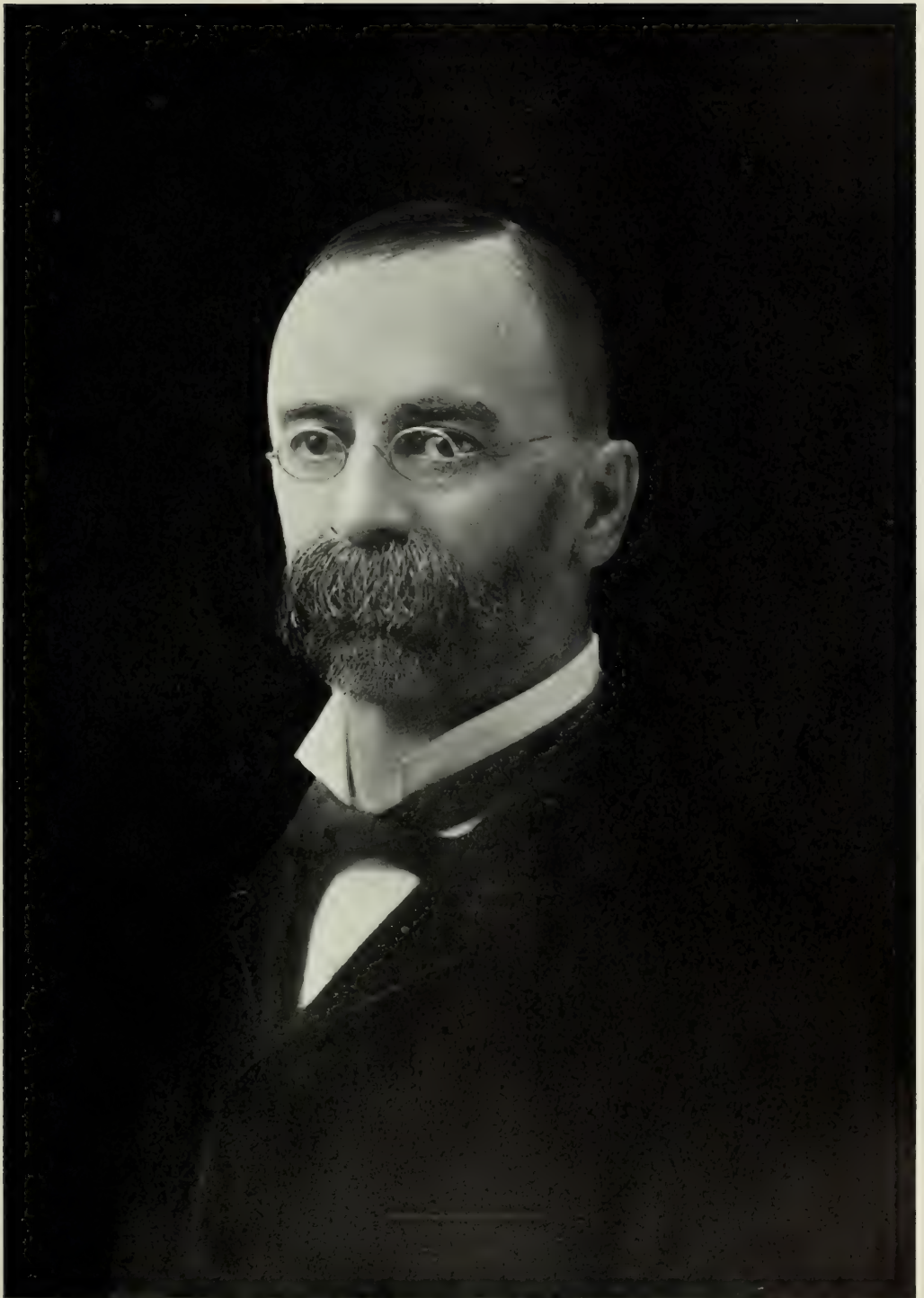
Even here, as in every other land, they are more or less apart, not politically (for they become ardent Americans), but socially and religiously. They are either excluded or they are exclusive. By their religion, even when it becomes very liberal, and by their preference for marriage only within their own race, they keep their identity even in our conglomerate population. By this race identity almost every Jew is, in the minds of Christians, classified with every other Jew, and their compactness continues. As a rule, they are shrewder, too, more thrifty, more capable of achieving personal practical success than the American population about them; and this quality sometimes excites envy.

One of the most interesting questions of the future, both of the United States and of the Jews, is—will our democracy be able at last to assimilate them? Will they ever be merged in our composite race? Thus does a bloody crime in a remote Russian town affect democratic institutions in every American city, so closely is the world now bound together.

THE GRAVE PROBLEM OF JEWISH IMMIGRATION

OUR philanthropy, which does us credit, may also bring us embarrassment. The more money we send to the distressed Jews in Russia the more of them will come to the United States. This is not a reason why we should not relieve their distress, but it is a very good reason why we should make sure that our immigration law is rigidly enforced. But even the most rigid enforcement of the law will exclude very few Jews. They are not utter paupers, in the sense of the law; and they do not become public charges. But when they come to us in great swarms they do become a grave social burden to our great cities.

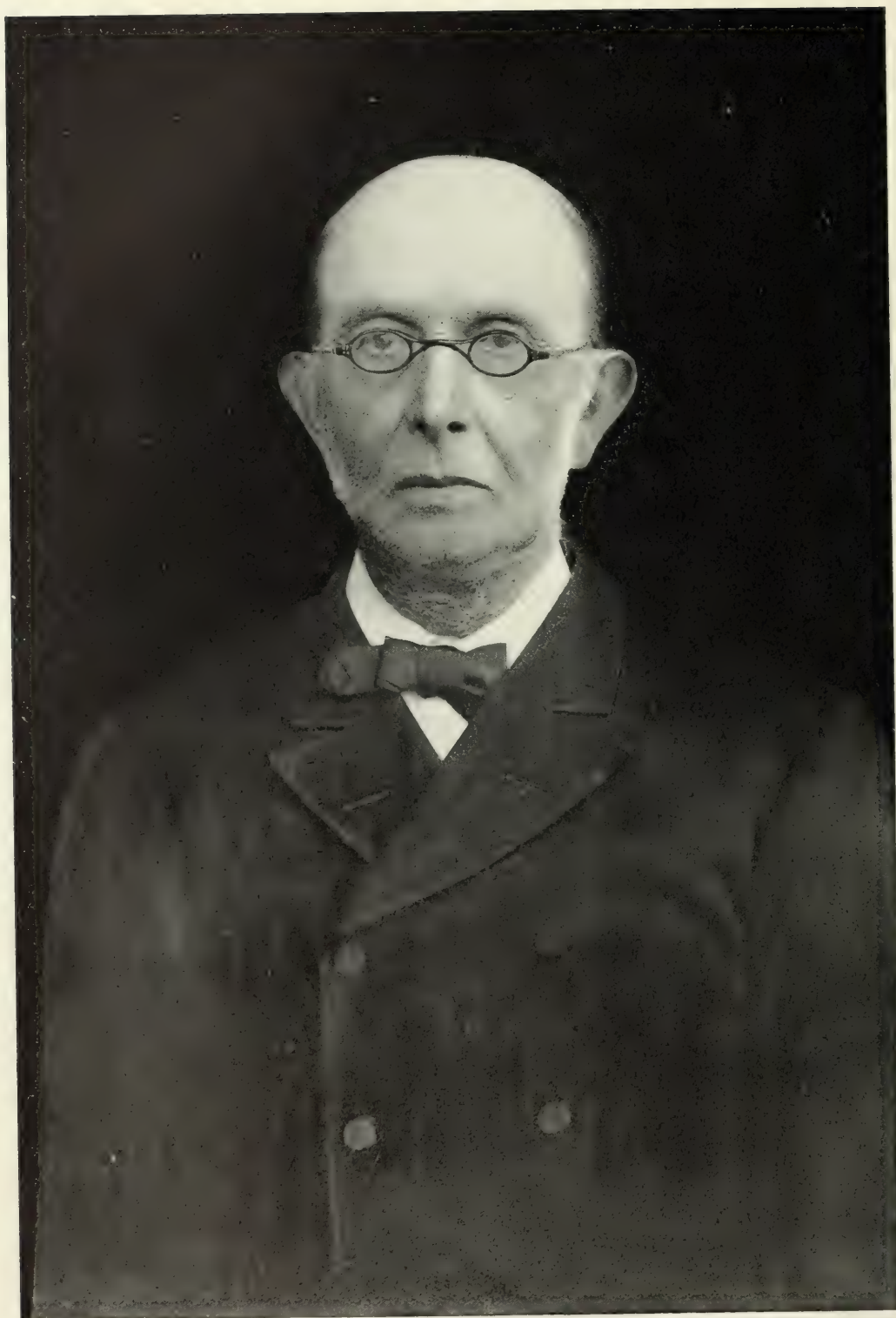
And there is another aspect of this large subject. If the oppression of an undesirable part of European populations provokes



Photographed by Curtis.

PROFESSOR STEPHEN MOULTON BABCOCK, OF WISCONSIN
INVENTOR OF THE MILK-TESTING PROCESS AND DISCOVERER OF A NEW THEORY OF WEIGHT

(See page 3087)



M. POBEDONOSTEFF

THE MOST INFLUENTIAL MEMBER OF THE RUSSIAN COUNCIL OF STATE
(See "The March of Events")

American philanthropy to send money to the oppressed whereby, if they wish, they may come to the United States, there is more than one community in Europe that may be tempted to play upon American sympathy. Most Russian communities wish to be rid of Jews. But it is both difficult and costly to remove them. If American citizens can be easily provoked to send them money and practically to invite them to come here, a difficult European problem may thus be easily solved. Thus the humane impulses of American citizens may easily be turned to assisting undesirable immigration.

THE BURDEN OF THE NEW IMMIGRATION

WE have entered a new era of immigration which brings distinctly new problems; for the influx now is both larger than it ever was before and of a different sort. The South-European peoples and the Jews are coming, and they are very different from the Irish and the Germans who at former periods swelled our population. These newcomers find a different industrial situation, too, from the situation that the Irish and the Germans found. When we had plenty of free land and when the cities in the Middle West were rising on lakeside and prairie, it made little matter how many Irish laborers came, how many Germans or Swedes. They all found work to do. And the second and third generation became almost indistinguishable in thought and method and character from the rest of the population. The children and the grandchildren of these immigrants are the Americans of today quite as truly, for all economic and patriotic reasons, as the descendants of the English who first came to Massachusetts and to Virginia. Indeed, many a person has a Puritan ancestor on one side and an Irish or a German one on the other. The Know-Nothing movement of two generations or more ago failed because the newcomers intermarried with the rest of the population. Up to this time the only large element in our population (leaving the Indians out) that has remained a separate race is the Negroes.

Now come the Italians in great droves. They supply the manual labor that the Irish supplied at a preceding time; and doubtless we can assimilate a reasonable number of them. They present a grave problem only when they come in very great numbers. But

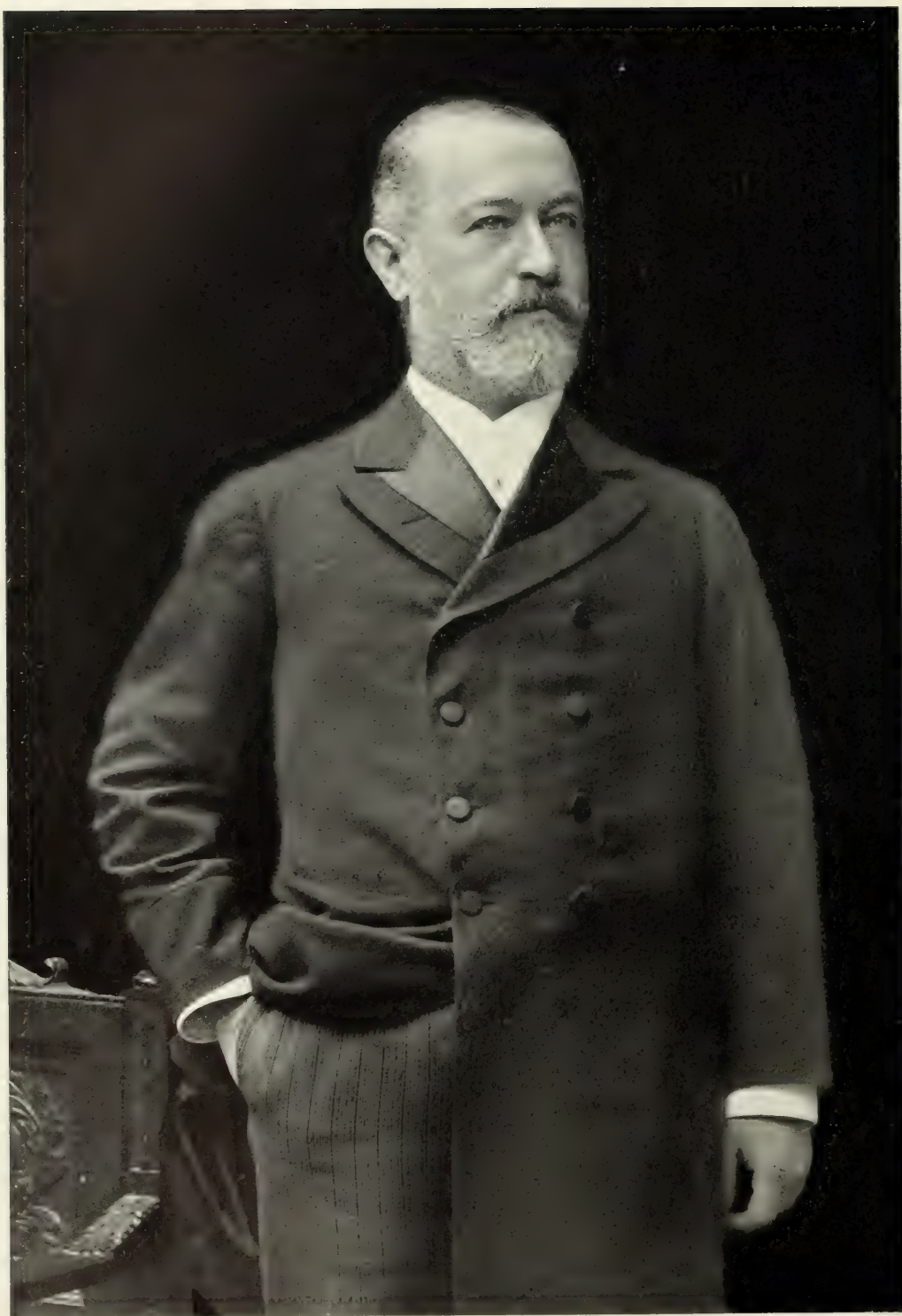
they remain in or near the large cities. Few of them become landholders. Many of them return to Italy when they have saved enough money to begin life there again on a higher plane than the plane of the peasantry. The grave problem presented by their coming is the problem of city government. The Italian quarter presents tenement troubles, local police and sanitary troubles, local political troubles. If we ever had a chance to avoid the evils of the slum, the coming of great numbers of southern European folk brings this Old World curse in spite of all that we can do.

The immigration of very large numbers of Russian Jews also adds to our urban difficulties. Most of them—practically all, in fact—remain in the cities. They are the very reverse of the Irish and the Germans. They live together. They intermarry. They make a world of their own. It is true that they do not become objects of charity—they are both too capable and too proud. And they care for one another. The richer Jews are the most liberal people among us in caring for their unfortunate. But they do add greatly to the difficulties of American city life and government.

Think for a moment of what American cities ought to be. We have a new country, an abundance of land, a chance so to build our cities as to avoid the urban shame of the Old World; for all the great European cities are centuries old. They have always had an oppressed and unfortunate class. The slum, with all that the slum implies, had its beginning in the social crimes and misfortunes of past centuries—the very crimes and misfortunes that our Republic was meant to avoid. Almost every large American city, except New York, could have been made—one might say, ought to have been made—with wide streets, well-shaded with trees, with spacious suburbs, with physical conditions imposed from the beginning which should make slums impossible.

But instead of this happy result, we are going through the experience of Europe, partly because Europe empties its slums and ghettos into our cities; and the new high-tide of immigration of people who huddle in our already most densely populated areas constantly makes our city problems more difficult.

In 1900, New York City, for instance, had



Photographed by Aime Dupont

MR. JACOB SCHIFF

BANKER, RAILROAD FINANCIER AND BENEFactor OF HARVARD, COLUMBIA AND OTHER INSTITUTIONS,
WHO HAS BEEN ACTIVE IN THE RELIEF OF THE KISHINEFF VICTIMS

(See "The March of Events")

more than a million and a quarter foreign-born inhabitants. A fourth of them were Germans, a fifth were Irish, an eighth were Russian (mainly Jews), more than a tenth were Italians; and these last have come in increasing numbers since 1890. Of the population of the whole city three years ago only a fifth were native whites born of native parents.

Many a foreign-born man is a better citizen than many a native; and there is no trace in the present American temper of the old Know-Nothing spirit. But the new immigration of the least desirable part of the European population adds incalculable difficulties to our city life just when we were hoping to solve the grave problem of municipal government. We should not be just to ourselves if we did not frankly recognize this fact.

THE PRESIDENT'S VISIT TO TWENTY-TWO STATES

MR. ROOSEVELT returned from his transcontinental outing with the roar of the applause of twenty-two States in his ears; more persons have seen him and talked with him and heard him speak than have ever heard any other man while he was President; and they have all caught his contagious earnestness and optimism. He seems not to have been wearied, and certainly the people everywhere enjoyed his presence. We may know a President's character and manner and his features and even his idiosyncracies—at what time he rises, what kind of clothes he wears, what he eats, how he works and how he plays, when he sleeps and what he dreams of, thanks to a vigilant and unpennypackered press; but we all like to see him, nevertheless, if for no other reason, to verify our impressions of him; and we like to have our children see him. We are sure that we know him better after he has been to the town where we live and told us the value of alert citizenship. Certainly we do know him better if he be a man like Mr. Roosevelt—frank and straightforward and outspoken; and we like him better, too.

There is no doubt that Mr. Roosevelt has added to his personal popularity, which was already great, by this long journey. He has been President a little more than two years, and in that time he has been in nearly all the States in the Union except the Gulf States and the northernmost New England States.

He has made journeys to New England, to South Carolina, to Tennessee, to the Middle States, and to the Pacific; and everywhere he has met the people. He is easily approachable, he is a good listener as well as a good talker; and, if any President can find out public sentiment directly, he surely knows it. Every man in authority hears mainly what those who talk with him think that he wishes to hear; but Mr. Roosevelt has had better opportunities than any of his recent predecessors to find out what the people really think.

It is easy to criticize a President for going about. There are men who feel humiliated because the President of the United States goes across the continent, here "riding horseback like mad," there "associating with cowboys," making speeches from car platforms and "chuckling babies under their chins." A good many men disapprove of such behavior, and it is easy to ridicule it. But it is a larger view of the subject to say: "There are parts of the Union to which a President never before made a visit. The people who live there feel especially pleased that they have had a chance to see and to hear him. Mr. Roosevelt has always been fond of outdoor life and of vigorous, outdoor men. He has long had a habit of going West. Why should he remain restive in the White House at a dull time when he may enjoy himself and give others pleasure by following his life-long habit of travel and recreation?"

This is the larger and the saner view. It is the view, too, that most of the people take. But there is this to be said finally—whether or not it were the larger and saner view and whether most of the people liked it or not, it is Mr. Roosevelt's way, and Mr. Roosevelt is a man who knows his own way and generally has it. He knows, too, and no man knows better or has profited more by the knowledge, that the American people are an outdoor people, fond of action, fond of vigor and democratic in their manners. The President must command their respect, but to command their respect it is not necessary that he should be a secluded oracle. If Mr. Roosevelt fails as President in any respect it will not be because he likes to mingle with the people. It is a wholesome thing both for President and for people to meet face to face, if they meet frankly.

MR. ROOSEVELT'S FOREGONE NOMINATION

A YEAR before the party State conventions are held to select delegates to the national nominating conventions, more than enough States have committed themselves to Mr. Roosevelt's nomination for the presidency to make it certain; and this is without precedent. Among the important States committed to him are such as Ohio, Illinois, Indiana, Massachusetts and Pennsylvania. More than that, there is no other candidate in the field. The men who had shown symptoms of candidacy have, by choice or by necessity, become his supporters. Nor has that part of the Republican party which would like to see Mr. Roosevelt miss the nomination any candidate to oppose him. This faction of the party played with Senator Hanna for awhile, but without any encouragement from him. Unless some very violent and unexpected change comes in public opinion—so violent as can hardly be conceived—Mr. Roosevelt will receive the nomination by acclamation.

Although there has been a certain unusual and even unnecessary haste about deciding the matter, it is not only gratifying to the President, for his party has paid him a very uncommon compliment, but it also gives him a distinct advantage of position for the remaining part of this term. The real opposition to him in his own party came from the Republican veterans of the Senate who resent the rise to power of any man outside their group or beyond their influence. Mr. Roosevelt, with his party thus committed to him, is much stronger than he was before this popular indorsement. He has clearly won, and he has won by a direct appeal to the people; for that is the political significance of his many journeys and speeches.

THE DEMOCRATS STILL AT SEA

BUT the Democratic party does not yet know, nor can it even guess, whom it will nominate for the presidency. Democratic public opinion, however, has been expressing itself with some clearness in a negative way. It has become plainer and plainer that Mr. Bryan has lost his hold. After many of his staunchest followers have publicly confessed their mistake in holding to the doctrine of the free coinage of silver at the ratio of 16 to 1, he still clings to it; and in the South, where his following was largest

and most enthusiastic, he now has few political friends. He cannot say who shall be nominated. It is even doubtful whether he could prevent the nomination of a man whom he should oppose. It would be pathetic if it were not ridiculous—the spectacle of Mr. Bryan, whose opinions nobody now cares for, passing judgment in his weekly personal organ on one Democratic presidential impossibility after another, “trying on” at last a North Carolinian judge whose conduct has discredited him in the minds of many of the people in his own State. This method would cheapen the Democratic nomination if it had any effect at all. The party has made progress, therefore, in getting away from Mr. Bryan's leadership.

The enthusiasm with which Mr. Cleveland's recent addresses have been received, while it does not mean that he will be nominated, does mean that Democratic opinion is swinging back toward the real principles that it stood for in the days of Tilden and Cleveland. This is a state of mind that may logically lead to the selection of a candidate who will really represent the party. Anybody who knows American politics knows that at least half the voters in the Union are or were, and might again be, Democrats. The votes cast by the party at the elections of the last eight years have not been a fair measure of its strength. They have been an evidence of the weakness of its leadership.

As the presidential campaign looks at this distance, Mr. Roosevelt has a better chance of election than a presidential candidate has often had the year before the election; but, great as his popularity is and strong as his party is, both would show weaknesses that are not now apparent if the Democrats had a positive policy and a positive candidate. The President and his party are themselves strong, but they are also thus far fortunate in the quality of the opposition.

THE TANGLED AND SCANDALOUS POST-OFFICE DEPARTMENT

THE scandals that have been disclosed in the Post-office Department do not take the thoughtful part of the public wholly by surprise. There are two general reasons why irregularities may easily have come into existence there, and irregularities tempt to crime.

In the first place, the Post-office Department

is an irregularly developed institution, illogical, zigzag, full of contradictions, where precedents overlap statutes and rulings contradict laws—the service has grown so fast and in so many different directions that the various parts of the great machine are not geared together and the work is not properly coordinated. The department, for instance, makes contracts with railroads to carry mail matter at a higher rate than the express companies make contracts with the same railroads for a similar service; and some of these contracts are made in such unbusiness-like ways that some railroads receive pay for more matter than they carry. Yet whenever efforts have been made in Congress to correct some of the evils, they have failed often because the proposed change was opposed by some "interest."

The other reason why irregularities are not greatly to be wondered at is that the Post-office Department has for some time been less free from political influence than any other of the great departments of the Government. The present head of it does not owe his appointment to his knowledge of postal work—which has become a great branch of knowledge as large and as intricate as Government finance, for example, or as agriculture; nor does he owe it even to his conspicuous administrative ability. His application for the appointment is understood to have been declined by Mr. McKinley. It is Mr. Payne's partizan political service that distinguishes him.

These influences do not of necessity lead to irregularities, but they make the way to them easier than it would be if the department were logically organized and were administered from the top by experts. The loss of money by irregularities or by crimes will be repaid if it lead to such a reorganization of the whole business as is necessary to make it a logically constructed machine—as is necessary also to restore public confidence. The administration is bound to suffer somewhat in the public esteem from these scandals, and it may suffer much.

THE GREATER AND CONTINUOUS POSTAL FRAUDS

THE definite criminal accusations that were made up to the time the President returned to Washington, and the charges preferred against officials, were enough to show

a disgraceful state of things. The most conspicuous arrest and indictment for taking bribes was that of August W. Machen, Superintendent of the Free Delivery Division.

Now the loss of money involved (so far) in these irregular, or criminal, transactions is a trifle. The scandalous thing is the loss of character by the men implicated. Yet there are enormous losses in money suffered by the Department through a kind of fraud that is known to everybody who knows anything about the workings of the department—a fraud that goes on year after year and has become almost sanctioned by custom—a fraud as large, perhaps, as the annual deficit of the department. It is the fraud that the department suffers in dealing with some of the railroads.

At certain intervals the Government weighs the bulk mail that a railroad carries and a new contract is based on this weight. At the time when the weighing is done some railroad officials cause tons of mail-matter to be sent—mail-matter that is prepared for the special purpose of making the average weight greater—which to all intents and purposes is spurious mail-matter. And the department permits itself thus to be imposed on. In such transactions as these either fraud or incompetence is apparent.

If the Post-office Department is to be really reorganized, these venerable and enormously costly abuses must be discontinued. In comparison with them the peculations of a few corrupt officials, such as have yet been made known, are almost inappreciable.

STRIKES THAT POINT TO HARD TIMES

THE strikes and lockouts that were hindering industry in June—chiefly building and traffic, but a good many manufactories also—were more numerous, we think, than they had ever been before; and, taken all together, they were more serious than strikes have been before, except such great strikes as the coal strike of last winter and a few railroad and iron-mill strikes that are easily recalled. The sum total of the interruption of work is an enormous loss. It is a loss, too, that is greater than the public knows because it is widely scattered and is, for that reason, incalculable. It is a loss of wages, a loss of income, a loss of trade, a general discouragement to many forms of

industry. No single journal, monthly or weekly or daily, can keep a record of them.

Most of these strikes are ill-advised, many of them are foolish, and some of them are foolish to the point of insanity. They are all hurtful. So far from any good result coming from this epidemic of strikes, see the possible consequences—loss of savings, an increasing hesitation of capital, in some cases a definite curtailment of trade and an increase of prices. All these forces work gradually, but they work steadily to one result—hard times. A check on even the greatest prosperity must come at last if industry continues to suffer hindrance and discouragement.

All these facts point clearly to the conclusion that the widespread trouble must be treated as a social disease. Men of the two industrial classes must become better known to one another; and their organizations must be turned rather to disciplinary than to belligerent uses. There seems to be no other practical way out of such a losing and threatening condition as we are drifting into. There are a few men on one side or on the other of almost every controversy, or a few men who are on neither side, but in any case a few men in the community who by proper and prompt action could avert an open quarrel. Every such man must recognize his opportunity and his duty. In other words, this is a subject that the public and public opinion must take hold on vigorously, else we shall drift into a hesitant and stagnant and perhaps-violent state. Of the three misfortunes that the early summer has brought us—floods, drought and fire, and strikes, by far the worst is the strikes. We still go forward with sails spread to a favorable breeze; but no amount of good fortune can indefinitely save us from the consequences of such folly.

The somewhat general movement toward counterorganizations of employers does good or harm according to the spirit that prompts it. An organization meant simply to kill another organization seldom succeeds in bringing good results. But the federation of employers in the building trades in New York City is a distinctly sane and conservative action. The workmen of every trade have their union—the bricklayers, the woodworkers of several sorts, the iron-workers, the plasterers and so on; and many of these unions of allied trades are “federated”—they have a composite body which represents them all, so

that on occasion they may all stand together, and so that at all times they may work in intelligent sympathy with one another.

The employers of the different trades also have had their separate organizations; and now they, too, have “federated” these organizations. They also have a composite body in which all are represented. They can, on their side, work in intelligent sympathy with one another and on occasion all stand together. In certain large matters one federation can deal with the other federation and settle differences at once for all the many groups in each federation.

Since there must be organization, the more perfect it is made the better. The better the leadership, the more conservative and just their conduct is likely to be and the greater the respect in which they hold one another.

THE PATRIOTIC QUESTION INVOLVED IN LABOR-UNIONS

THE most important subject before public opinion in the United States is the conduct of labor organizations; and by their management shall we prove our social sanity. For a very considerable part of the labor problem consists in the management of the unions. Under incompetent leadership they can be allowed to resort more and more to force and more and more to restrict output; or, under better leadership, they may become more conservative bodies of reasonable men.

Upon the direction that they take during the next decade or two will depend a far larger issue than is involved in any other subject of national welfare. For the principal advantage that the United States has in the struggle for foreign trade in manufactured products is the efficiency of our skilled labor. In an important sense the American workman has our commercial supremacy in his hands. If he be shortsighted enough to hold us back from the national opportunity, we shall find ourselves hindered in the same way that all economists agree that English industry is hindered—by the restriction of output and by the loss of adaptability to new conditions.

Archbishop Ireland lately declared in a very impressive manner that during a recent visit to Europe he often heard two predictions about the United States. Those who secretly or openly hope that the Republic may fail predicted that the labor-unions would finally overturn the democratic structure of society—

that they would check the growth of American industry and bring a fixed class feeling, and that American life would evolve the same social difficulties that the Old World suffers from. It is upon the labor-unions that the enemies of republican institutions put their hopes, regarding them as fatal to democratic ideals.

The foreign friends of American institutions also think first of the labor-unions; and they anxiously await the demonstration of their ultimate sanity—their development in accordance with the American spirit of fair play. Both the friends and the enemies of the United States consider the labor question the test question of our fitness for commercial supremacy, and, in fact, of our democratic existence. If we stand that test we shall be safe, and we shall win.

Now, it is hardly necessary to grant that republican institutions are in danger from labor-unions; for we flatter ourselves that they are much too firmly established to warrant such a fear. But our prosperity, our commerce, our normal industrial development—these surely will be imperiled if the unions do not develop in accordance with the American spirit of fair play and of just dealing. The matter at stake is large enough without granting that it includes the whole fate of the Republic; and there is no more serious problem before us.

LABOR-UNIONS AS AN INSTITUTION FOR TRAINING MEN

SUCH considerations are enough to make it plain that the right guidance of the unions is a patriotic duty. Now every man who has horse sense knows that such organizations cannot be crushed, nor can they be greatly affected by criticism, nor by laws to regulate them, nor by opposition. They can be guided only by a sympathetic and right-minded public opinion, which shall infuse into them the American spirit of common sense and of fairness.

Every open-minded man who has come in personal contact with the better class of labor-unionists and labor leaders has seen something very like a revelation. Even a little first-hand knowledge of union life shows that most of what is written about it is worse than nonsense and that most of the criticism that is published is only an invitation to pigheadedness and to wrongdoing. To an

angry union man or to one who has, or thinks he has, a grievance, the world is divided into two classes—the oppressed and the oppressors. When any one who speaks for the oppressors—or is suspected of speaking for them—thunders forth only threats and warnings, he adds fuel to the fire. Men were never managed in that way.

The right view to take of the unions is to regard them as machinery for the training of their members—for training in economic knowledge, in self-restraint, in the patriotic view of American industry. The strongest and wisest labor leaders so regard them. Primarily they are organizations for self-protection, and their fundamental purpose is to get power to fight. But if they are properly led they become great organizations for training men as well as for massing them.

So far public opinion and public leaders have paid too little sympathetic attention to them. It may fairly be said that most industries and most communities so far have the kind of labor-unions and the kind of labor leaders that they deserve to have. They can be made instruments for the misguidance of men or for their larger and patriotic development; and the public will have itself to blame if they are misdirected.

THE BIG PENSION ROLL OF A LITTLE WAR

SO long ago as the first of May nearly 60,000 claims for pensions had been filed for injuries caused in our little war with Spain. At the rate they have been coming there will be half as many claims on file by the end of the year as there were men in the war, most of whom did not go outside the United States. About 20,000 soldiers in all went to Cuba, and a few went to Porto Rico for a very brief time. Disease played havoc in a good many camps, but only a few hundred were wounded in war. A total of 243 were killed in Cuba, including those who died from wounds.

Yet 12,000 claims for pensions have already been allowed; and, although more than 18,000 have been rejected, many of the remainder will have to be put on the list. It is already plain that the claim agent is likely to cost us more than the war cost, for his work will go on year after year, year after year. The pensioners on account of the Civil War are now almost as numerous as they ever were; and we may expect forty

years hence the application of dependent widows of veterans of the little war with Spain—from women who are not yet born. Already many a man who, when the war ended, had no idea of applying for a pension has discovered how easy it is both to trace some physical ailment to "exposure" and to get paid all his life for it. The scandal of it reveals a pitiful weakness of human nature and a pitiful weakness also of representative government. It is bad enough to pay millions and millions of dollars wrongly out of the treasury, but it is worse to know that so many men who responded to a patriotic impulse and would have been brave in battle, lie and sneak. If there were any honorable way to abolish the whole pension bureau it would be a great gain for American character.

THE WIDER HORIZON OF TWO OCEANS

THE President's speech in San Francisco about our control of the Pacific (which so strangely aroused a part of the German press) contained this passage:

"Now in our own day the greatest of all the oceans, of all seas, and the last to be used on a large scale by civilized man, bids fair to take in its turn first place of importance. When the nineteenth century opened, the lonely keels of a few whale ships and a few merchantmen had begun to furrow the vast expanse of the Pacific; but as a whole its lands and its shores were not materially changed from what they had been in the dim ages when the Phœnician galleys traded in the purple of Tyre, the ivory of Lybia, the treasures of Cyprus. The junks of the Orient still crept between China and Japan and farther India; and from the woody wilderness which shrouded the western shores of our own continent the red lords of the land looked forth upon a waste of waters which only their own canoes traversed. Now, at the opening of the twentieth century, the change is so vast that it is well nigh impossible for us wholly to estimate its importance."

Although the President prudently did not go so far as to say that the traffic across the Pacific will become greater than the traffic across the Atlantic, this prediction has many times been made; and it takes a strong hold on the imagination. Asia and Australasia have a larger population than Europe; and, if we are prudent and energetic, our trade with them will be larger than any other people will have. The outlook is big enough to warrant great predictions.

But the Eastern nations are not such

traders nor consumers nor producers as the Western nations, nor will they become so within any measurable time. The Atlantic will bear more valuable burdens of commerce for many a generation—probably for all time—than any other ocean; and the greatest international traffic in the world will continue to go on between the great nations of Europe and ourselves. It is the quality of men that counts in trade, as well as their numbers—even more than their numbers.

But the sea-going pioneer has now done the last great task that was left. A trade that keeps boat-builders at work, that fills great harbors with life, that is making the ways across the widest ocean as familiar as the long-traveled ways across the Mediterranean and the Atlantic—these changes have already come; and the United States already fronts westward as well as eastward. Moreover, the national consciousness, even in the eastern States, is fast adjusting itself to this changed view. It lifts the horizon much wider. To have two oceans instead of one ocean not only swells the pride—it also enlarges the vision.

The shut-in German press, which became excited by the President's very natural speech, forgot the long coast-line that we have on the Pacific—first the long line of Alaska, then the line from the Puget Sound to the southern end of California, in all 10,680 miles—such a stretch of coast as no other country, we think, has on any ocean; this to say nothing of the Hawaiian and the Philippine Islands, which are ours. If this does not give us a larger stake in the Pacific than any other nation can have, it is difficult to see what constitutes a nation's claim on an ocean. Yet we make no claim except that the trade with them that lives beyond it shall be free to us. The Orient must be ours by the peaceful conquests of trade.

THE EXAMPLE OF ALASKAN TRADE

TO Alaska alone, the many-sided value of which we do not yet fully know, a fleet of fifteen steamships and as many sailing vessels has already gone this summer; and most of them will make from three to five trips before the short summer of open water ends. There is now no very great rush to Alaskan gold-fields, for mining there is becoming a steady and well-organized industry. Yet these boats have carried as

many as 5,000 passengers to Nome alone. There was a time within easy recollection when not more than 5,000 passengers a summer crossed the Atlantic from New York.

The exports from the Pacific Coast ports to Alaska for the last nine months reported reached the value of nearly \$4,500,000. The imports from Alaska were of course very much greater, including gold. This Alaskan trade is only a coastwise traffic with a yet undeveloped and even unexplored territory, which can be carried on only for a short season. The President was justified in predicting as great a population at some time for Alaska as the Scandinavian peninsula now has. As for the populous lands of Asia, nobody yet knows what their trade will be worth to us if we develop it skilfully.

THE HAULING OF THINGS AND THE GOING OF MEN

TWO definite facts that convey a clearer idea of the enormous increase in our activity and our wealth than volumes of statistics and of general statements are these—that the Pennsylvania Railroad Company in its large plans for improvement and equipment expects practically to double its capacity, and that the Southern Railroad Company will lay a double track from Washington to Atlanta. One of the great roads from the eastern seaboard to the West needs twice its already great equipment; and the greatest road along the eastern seaboard to the South and Southwest has attained that volume of traffic which the eastern and western roads attained when the great granary of the Mississippi Valley first began to produce a volume of foodstuffs that outran all preceding human experience. This has happened, too, in spite of the smaller bulk per ton of the principal Southern staple since the introduction of the round cotton bale and since a large part of the cotton crop is now shipped from mills and not from fields.

Consider the cotton crop. It was less than 7,000,000 bales twenty years ago, and it did not reach 10,000,000 bales till 1898. This year's crop will be more than 11,000,000. Twenty years ago the seed was not regarded as an important commercial product, but now it is worth many millions of dollars. The cotton alone of this year's crop will bring \$500,000,000—the most valuable crop that we grow except corn. During the last

fiscal year our exports of cotton and its products were more than twenty-five per cent. of the value of all our exported commodities.

And there is now more than one Southern staple. The hauling of the fruit and vegetable crop is a larger task than it once was to haul all the cotton grown.

Westward, southward, northward, eastward—not only from New York, but from any other trade centre in the Union, more cars, more trains, more passengers, more men going and coming, and more products of man's industry to transport. The internal trade of the United States is the largest trade in the history of commerce, and the volume of travel is a thing not even dreamed of a generation ago.

ENGLAND'S DEEP-ROOTED FREE TRADE

NO single political utterance has for many years caused so nearly a universal discussion or stirred political feeling so deeply, especially throughout the whole British Empire, as Mr. Chamberlain's renewed proposal of a customs-union of the mother country and the British colonies. It amounts to nothing less than a proposal that England should give over free trade and adopt protection. Mr. Chamberlain threw forth this explosive proposition first in a speech at Birmingham on May 15th. He followed up the subject in the House of Commons a few days later, when the Prime Minister, Mr. Balfour, practically committed himself to it.

The starting-point of Mr. Chamberlain's thought is not to adopt a protective tariff for the sake of protection in the usual direct way, though his programme comes to that at last. His starting-point is political rather than economic. He would hold the empire together, and to hold the empire together he must help the colonies. "Unless there is a closer fiscal relationship there cannot be close political union, and the bonds of union and of a united empire will be beyond the bounds of attainment."

But this leads necessarily to the policy of protection, and leads to a duty on imports of food. Finding himself face to face with this proposition, Mr. Chamberlain hinted that the greater part of the income from such a food-duty ought to be spent in old-age pensions.

There is no danger, or hope (as one may regard it), of an immediate change in England's

fiscal policy; but the subject has at once taken precedence over all others both at home and in the colonies; and it will give the principal party-cry in the forthcoming English elections.

The London *Times*, which supports Mr. Chamberlain, and which, like Mr. Chamberlain, still seeks to hold to the free-trade policy that has been in force since 1846, explained his proposal in this way:

"The echoes of Mr. Chamberlain's speech are still rolling round the world, some of them, as might be expected, returning his ideas distorted beyond recognition. All the worthy people who are still in the tribal stage of development, and cannot conceive of life save as governed by a fetish, are terribly distressed by the fear that their own tribal fetish is threatened with loss of its sacrosanct character. Here the fetish is called Free Trade, in Australia it is called Protection, and the horror of the worshippers is about equal in the two cases. Mr. Chamberlain has not laid a sacrilegious hand upon the shrine. He has merely asked the people to consider well whether the presence of the shrine is alone sufficient to protect them from every peril, and to procure for them all the prosperity that is attainable. He has only reminded them that freedom of trade is a means, not an end; and that free trade is made for the nation, not the nation for free trade. We have derived great advantages from free trade, and we shall in any case continue to do so. But they have not been unaccompanied by drawbacks which events are forcing into increasing prominence. Mr. Chamberlain wants the country to consider the whole question, and to ask whether everything done in the name of free trade has necessarily been well done. We have gained great markets for our manufactures, which, however, are in many cases being wrested from us by peoples who practise protection. In other words, the policy which won the markets in a particular set of conditions does not avail to keep them when these conditions have changed."

The effect of such a reversal of policy, if it could be carried out, would be world-wide. The effect on the United States, for instance, would be to give food products from the British colonies an advantage in the English market over our food products. But, although the discussion marks the rising tide of the protectionist feeling in England, and will strengthen the protectionists of every other country, the free-trade forces rallied on June 9 and the debate in the House of Commons showed that free trade is about as firmly anchored in the British mind as the Monarchy itself. The real question—in present politics,

at least—is what effect the proposal will have on Mr. Chamberlain's career.

BRITISH CREDIT AND THE RISING RATE OF INTEREST

THE British Empire may or may not be at the parting of the ways, but the solidity of British credit has had a most remarkable demonstration. The Boer war cost more than \$1,000,000,000 and the debt of the nation has been enormously increased. Increasing, also, is the scale of Government expenditure for a greater navy and for many other purposes. Yet when a loan of \$175,000,000 was asked for by the Government, at three per cent., \$6,000,000,000 were offered—about thirty-five times as much as was needed. The remarkable thing about these subscriptions is that they came from different nations—the Credit Lyonnais of France asked for more than the whole loan; so did German bankers; so, too, the Rothschilds; and there were enough small offers from individual investors to take up the whole amount.

It is true that preceding British securities yield only two and one-half per cent. interest, and this loan bears three per cent. But this increase of interest does not wholly account for the enormous subscription—a subscription that outruns any preceding experience even in government borrowing. It is an emphatic commendation by the whole world of the English financial character and of confidence in the British Government, however heavy its debt may be. How heavy a government's debt may safely be depends, of course, on its possible income, but it depends also and even more upon its character. The offer of such an enormous sum of money as \$6,000,000,000 even to the strongest borrower in the world is a stupendous fact.

The rate of interest is rising, as the British Government's offer of a three per cent. loan instead of a two and one-half per cent. loan shows. So, too, New York City, which some time ago borrowed at two and one-half per cent., lately paid three and one-half per cent. We might account for the rise of interest in the United States by the enormous investments that have been made in industrial securities, in railroad betterments and such things; but it seems not to be confined to the United States. Abundant as money is in the world, there is an increasing demand for it. Nearly

two centuries ago Holland and England borrowed money at three per cent. or less; but the rate rose, of course, with the wars that came before the end of the century. The low rate that was reached a few years ago has been raised by other causes—not so much by the waste of war as by the increasing demands for capital even over its unprecedented accumulation. The cause of it involves the intricate play of great economic forces the whole world over.

THE CUBAN REPUBLIC THE BEST OF ALL SPANISH GOVERNMENTS

WITH governments, as with other enterprises, much is gained by a good start; and surely the Cuban Republic has made a most hopeful beginning. It celebrated the end of its first year on May 20th, not with a noisy enthusiasm, but with a deep satisfaction. Its treasury has a surplus of \$3,000,000; its schools, which were begun under the American occupancy, have been maintained and increased in number; the good sanitary condition of its cities kept up; the death-rate has been only twenty-one per thousand of the population; there has been an orderly and well-managed government; and, best of all, the people, who had never known an orderly government till the war was ended—whose experience of government, indeed, had been such as to encourage treachery, brigandage and subterfuge—have been quiet and industrious. The economic conditions of the island have not been favorable this first year; but the people have thus far proved their capacity for self-government to the full satisfaction of their well-wishers. The settled condition of the country has encouraged investments, especially by Americans, in railroads, in hotels, and in other improvements: and the island seems sure to become one of the great winter resorts of the world—a source of income not to be despised.

We hear nothing now like the predictions of governmental failure that used to be made, nothing of American annexation. True, there are serious problems—the provincial assemblies, for example, and the project to pay the soldiers of the old Cuban army. But the Government is living up to its obligations and promises. A permanent treaty with the United States, embodying the Platt amendment, has been signed by the diplo-

matic officers of the two Governments and awaits ratification by the Cuban Congress and our own. By this treaty Cuba binds itself practically to submit to our approval of its foreign relations, not to contract debts which the ordinary revenues cannot meet, and to give the United States the power to intervene in case of danger to its independence. The one chapter yet to be written about our dealings with the new republic is the chapter that shall chronicle the ratification by us of an encouraging trade treaty.

No other Spanish population has an independent government so good or so full of promise as the Cubans; and they have been fortunate in their first President.

THE INFERTILITY OF THE "CIVILIZED"

THE recent long discussion of the decline of the birth-rate among educated people in the United States has provoked several serious inquiries into the subject; for there is a very serious side to it. Among the investigators is Doctor George J. Engelman, of Boston, who shows in the *Popular Science Monthly* that the native white American continues to become decreasingly prolific but that the college-trained part of the native white population is more prolific than the rest. He even goes so far as to say that the white better-class American is less prolific than any class in any other country. The average birth-rate in France is more than twenty-two per one thousand of population—a rate that keeps the population practically stationary; the birth-rate of the foreign-born in Massachusetts is fifty-two per one thousand; of both native and foreign-born twenty-eight per one thousand; but of the native it is only seventeen per one thousand. In other words, the native-born in Massachusetts are not reproducing themselves. They have fewer children than the French have. The best calculation that can be made shows that the average number of children to the white native family a century ago in the United States was more than six; in 1830 it had fallen to less than five; in 1860, to less than four; in 1872, to less than three; in 1900, among the "upper classes" in Boston, to less than two. The inquiries made by other recent investigators into the number of children of college-bred men now living hardly confirm President Eliot's investigation of a few representative Harvard classes, but they all show a very small birth-rate.

The birth-rate is decreasing among all civilized peoples. But life is also better preserved. The decreasing rate of infant mortality will for a time keep the net increase of the upper classes at what we are accustomed to regard as nominal among most peoples (the French excepted); but if the birth-rate continues to decrease, the "lower" classes will the more rapidly become the upper classes—the population constantly replenishing itself from below.

Many fields of speculation are opened by such a sweeping generalization as the gradual shrinking of the family in the upper classes. But two obvious conclusions are that immigration seems even yet to be necessary for the United States, for the native whites increase more slowly in proportion as they become well-to-do or rich; and that the Negro and the Jew are sure to gain relatively on the other races of our population.

OUR PHYSICIANS AND OURSELVES

IT is a matter of national pride that the best American surgeons and physicians hold high rank—in some departments the very highest rank. Yet every man of middle life who has had the usual experience and the usual observation of an American knows how murderously incompetent a very large number of practitioners are—it is a public scandal, in fact, in almost every part of the country.

Doctor Frank Billings, of Chicago, therefore, did good service for the public as well as for the profession when he insisted on a very much higher standard of medical education, in his recent presidential address before the American Medical Association at New Orleans. Medical education, he pointed out, now requires laboratories and expensive apparatus and great teachers and investigators. We can no longer be content with ill-equipped schools at which more or less exhausted practitioners lecture to young men who have not had proper scientific training even to understand modern medicine. There ought never to be a thought of permitting an uneducated man even to begin the study of so serious a subject. The best schools now require for admission a good college degree or its equivalent.

Then he made a sort of inventory of the medical schools that exist in the United States. There are one hundred and fifty-six

of them, which give five thousand diplomas a year. Twenty-five years ago there were only sixty-five; but since then nearly one hundred have sprung up, some because their owners could make money by them and some because physicians could get a certain distinction by becoming lecturers and professors in them. There is one physician for every six hundred inhabitants. This proportion will be maintained by the graduation of about three thousand men a year. The addition of five thousand a year to the profession will give one physician to less than six hundred of population—too many, says Doctor Billings, speaking for the profession.

Whether this be too many or too few the law of supply and demand will determine. But from the point of view of the public as well as the profession it is more important that they be well trained than that they be few or many. Doctor Billings's remedy is, if it were possible, to abolish all the schools but the best, so that we should have left only the great medical schools that are not conducted for profit and that are equipped with good laboratories and the best teachers.

The legal requirements for license to practice cannot be relied on in many States as a sufficiently severe test. Most States license quacks and lunatics, and all the States permit them to kill the ignorant. The only practical way the public has to defend itself—the only way that any individual may defend himself and make sure that he has a competent physician—is to find out where he was trained and what his experience has been and what his standing is in the profession. But even these precautions give one no insurance against a learned impractical and unskilful man. There is unfortunately, too, another defect in this method—only a very small part of the public can make use of it. The people who suffer most from incompetent practitioners suffer even more from their own ignorance.

A good many of us will continue to be physicked for the wrong ailment, cut open in the wrong place, and permitted to die for lack of proper diagnosis; and there seems to be no escape from this horrible fate unless in our youth we ourselves learn the simple laws of good living and of proper eating and of right exercise, and insist in the meantime that the community (in this case the State) shall keep

the quacks and the incompetents beyond our reach. We have a strange weakness for them; and the sorry figure we cut in the sight of the gods is pitiful—dying, thousands of us every year, for the lack of the same common sense about our own bodies that we use in caring for those of horses and dogs.

A GROUP OF EMINENT MEN

THE group of noteworthy men whose portraits appear in this number of THE WORLD'S WORK represent a very

wide range and great variety of activity—General Young, the Chief of the new General Staff of the United States Army, and probable successor of General Miles as General in Command; Mr. Jacob H. Schiff, the eminent financier and philanthropist, of New York; Professor Babcock, of Wisconsin, whose scientific achievements are explained in an article in this number; and M. Pobedonosteff, the Procurator of the Holy Synod, the civil head of the Church in Russia.

FINANCIAL CONDITIONS AS THE SUMMER FINDS US

[THE WORLD'S WORK publishes every month an article in which some timely and vital subject of the financial world is taken up]

SO many confused and contradictory elements present themselves in the financial situation of the summer that it is more than usually difficult to draw conclusions for the future. The salient feature of the present situation is undoubtedly a widespread feeling that the great boom which began in 1897 or 1898 has culminated, and that the general tendency must henceforward be in the main reactionary. This is particularly the judgment of the Stock Exchange as expressed by the prolonged decline in prices, which may be said to have continued almost uninterruptedly from last October to the end of May this year. In the course of that downward movement prices of some of the soundest securities on the list have been cut down from thirty to forty points. This shrinkage has accompanied no discovery of impairment in the actual value of the enterprises measured by their earning power. Most of these companies, in their recent published statements, have reported increased profits, and in many cases larger actual returns to the investor. It is apparent, therefore, that the cause for such contraction in the market's valuation of the properties must be looked for deeper down. In general the assumption of the investing public is that values on the Stock Exchange reflect and measure general con-

ditions in the financial and industrial community, and that at times the stock market is particularly serviceable as a forecast. It is unquestionably for this reason that so widespread interest and concern have been shown regarding this decline in prices.

A movement of prosperity may be measured in several ways. Prices for the enterprises concerned are one important means of measurement; activity of trade, as indicated by the railway traffic and bank exchanges, is another; profits of companies and individuals engaged in industry give still another; condition of reserves and liabilities of banking institutions, measuring the surplus resources of the community, is a fourth. Applying these four means of measurement to the present situation, it will be found that prices in the stock markets are lower; that trade activity has thus far pretty fairly held its own as compared with recent years; that profits are substantial, though in many cases much curtailed by higher cost of labor and materials, but that the banking situation clearly shows the public's free resources to have been very largely utilized already.

It will help to a clearer judgment of the present situation if the usual course of events in a great industrial boom is reviewed. Speaking generally, such a movement of expansion begins only after a period of severe contraction, when individuals and corpora-

tions have been cutting down expenses and laying by reserves in expectation of continuance of hard times. During such periods—as, for example, in 1896 and 1897 in this country—corporations which have gone through bankruptcy in the preceding crash are reorganized on a thorough and conservative basis. Their fixed liabilities are cut down, their dividends suspended to save up earnings, and their working capital is raised through issue of new stock rather than bonds. Inasmuch as no one can be absolutely sure, at such a time, when a return of good times is probable, it is necessary to prepare such corporations on the basis of extreme economy. Much the same process is at work on such occasions in private trade and industry; and, in fact, in household and personal expenses. The result is that economy is the watchword on all sides, and that savings mount by degrees to large proportions.

When such conditions have continued for a longer or shorter period, as the case may be, some fortunate accident is apt to happen through which the pressure of hard times is suddenly relieved. In England eight years ago, when the financial and industrial markets were at a low ebb of depression, such a happy accident occurred in the shape of the discovery of unexpectedly rich gold deposits in the Transvaal mines which London owned. The resultant inflow of wealth, the resultant increase of financial confidence, led to the movement of financial and industrial expansion during the four succeeding years, not only in England but throughout the European continent. The same thing happened in the United States in 1879, where even resumption of specie payments was, perhaps, a less important influence on the movement of prosperity than the immensely profitable harvests in this country, coming along with foreign crop disaster. The upshot then was an enormous increase in our exports, an instant revival both in public wealth and in public confidence; and, as usually happens at such times, it was found, when the industrial community awoke from its lethargy, that it had made already much more substantial progress toward complete recovery than any one had imagined.

This is exactly what occurred in our markets during 1897, when Europe's harvests failed and our own abundant crops supplied the needs of the consuming world at highly

profitable prices. That stroke of fortune came just when economies in manufacture and production generally had been so rigidly applied that the United States found itself able to undersell half the outside industrial world. The manufacturer had learned the trick of manufacturing cheaply. His raw materials were to be had at the lowest prices; labor was glad to work at the wages of hard times; Yankee ingenuity, under the spur of threatening competition, had contrived new labor-saving and expense-saving methods; and on top of all, this happened in the face of a foreign "boom," when Europe's demand for manufactured goods was so insatiable as to run far beyond the capacity of Europe's manufacturing establishments. This was the real beginning of the so-called American invasion which has played so notable a part in the world's industrial history of 1898 and 1899.

When confidence revived, under such conditions, the first step in the community thus favored is resumption of plans for carrying forward new enterprises. It is then invariably found that home consumption has been reduced to abnormally low proportions, doubts about credit have restrained the merchant and the retailer, doubts about future income restrain the private purchaser from buying goods for more than hand-to-mouth requirements. Therefore, the first phenomenon witnessed at such times is a buying movement by the home consumer to replenish depleted stocks of merchandise. The next result is larger purchases by the individual, who begins to realize that the pressure of hard times is over. From this recovery in trade it is an easy step to the belief that investments generally, which depend for their profits on the state of trade, are safe and inviting. Money is easy at the banks; profits in business and the wages of labor are gradually pushed up, and the situation presently arises of a very large surplus fund of capital pressing eagerly on the market for investment.

This is the situation which arose with us in 1900 and which presented at the time some of the most remarkable phenomena ever recorded under such conditions. It is the teaching of experience, throughout all the long history of financial expansion and contraction, that at such a time the promoter comes upon the scene, capitalizing existing enterprises or projected enterprises at all

sorts of valuations, and offering his shares to the excited investing public. This chapter of the boom, witnessed in so remarkable a shape during 1901, was so far from new that a precedent in almost all essential conditions may be found as far back as the days of the South Sea craze of 1720. The difference in the capital offerings of the present era from those of two hundred years ago arises chiefly from the fact that financial knowledge and financial criticism have developed since in such degree as to supply a partial safeguard to the investing community.

But it almost invariably happens, also, if the conditions underlying the movement of expansion have been permanent enough, that popular confidence, growing by what it feeds upon, develops eventually into public recklessness. Unfortunately, it is also the teaching of financial experience that the promoter and organizer is swept from his sober judgment by the excitement of the moment as completely as the investing public. The climax of this movement in the present boom was reached in the great spring speculation of 1901. It is probable that the movement reached at that time a height which has never been surpassed in the history of finance. There were not the recklessness and the madness which distinguished speculation in the earlier chapters of financial history; but the volume of capital involved, the magnitude of the total profits commanded by the Stock Exchange operations, and the extravagant ideas of the market's future possibilities which found lodgment not alone in the brain of the public but in the minds of experienced financiers and legislators, were such as can hardly find a precedent in the records of finance.

The subsequent incidents of a boom are as plainly marked by precedent as those which we have reviewed. It is perfectly inevitable that when a whole community is carried away by exaggerated notions of the financial situation, plans for new enterprises dependent on the support of the investing public should be evolved in a degree which the public's resources never can adequately meet. With equal certainty comes the hasty capitalizing of enterprises, conceived in mistaken hopes or in outright fraud, which fall to pieces almost as soon as their shares have reached the public's hands.

Therefore the usual course of events at

such a time is, first, that the public clamors for all the new securities offered by promoters; next, and not long afterward, that promoters are driven to all conceivable devices to attract a public which has become satiated, reluctant and suspicious.

It will not be difficult to recognize the recent movement of our own finance in this general description. The characteristic movement in the great speculation at the start of 1901 had been the buying up, on the open market, of shares in powerful corporations by other companies still more powerful. The expectation plainly was to acquire control of such companies by the purchase of their stock, to issue new securities of the purchasing corporation, and to sell such new securities to the outside public as a means of getting sufficient capital to carry the acquisitions permanently. When this movement started it was found easy to sell the new shares to the general public and thus to raise the necessary capital both in safety and at advantageous figures.

After the crash of May 9, 1901, when the speculative movement by the general public had collapsed, it became less easy to command such outside capital. Recourse was had immediately, therefore, to the issue of bonds instead of stocks—that is to say, the public's capital was obtained by making it, not a partner in the enterprise, but a creditor. The general public growing still more reluctant to engage on any basis, it became necessary presently to employ the services of the powerful banking syndicates who, as the Wall Street language of the day expresses it, undertook to "underwrite" the new securities. This simply meant that, for a large consideration, often taken from the company's own capital, they loaned their credit to projectors of the enterprises, contracting both to supply the necessary capital if the public should not subscribe sufficiently, and to hold the securities involved until they could be distributed at leisure to investors.

But to such a process, it should be evident, there is a necessary end. If the issue of new securities under such conditions is continuous, and if public wealth and public confidence do not increase proportionately, the time must inevitably come when banks from which the syndicates have obtained their capital find their own resources so far strained that it is difficult to supply the needs of ordinary customers.

This is what happened in the past twelve months. It is precisely what is meant by the now familiar term of "undigested securities," referring to the mass of new stocks and bonds of corporations issued, underwritten by syndicates, unsold to the general public and as yet unsalable.

Six months ago the situation had become sufficiently defined to convince observant financiers that such a state of things had now arrived. It was necessary for some one to relieve his load in order to set free a sufficient portion of the tied-up capital. At times it is possible that such necessities should be made good by resort to foreign money markets. Unfortunately, so huge had been the instantaneous requirements of the "boom" in company creations during 1900 and the spring of 1901 that foreign capital had already been absorbed in unprecedented quantities. The so-called panic of May 9, 1901, coming as a consequence of collision between two powerful banking interests engaged in this capital creation, had inspired the foreign mind with such misgiving over the whole position that from that time forward there has undoubtedly been a continuous movement to recall the foreign capital invested here. It is this movement which has found expression in the continuous high rates of exchange at times when this market normally should be importing gold. It is this which has also had a leading part in causing this spring's gold exports at a time when loss of bank reserves was extremely inconvenient. The phenomenon simply meant that foreign capital was going home.

But more than this, the situation thus described was the cause and is the explanation of the prolonged and violent decline in values on the Stock Exchange. Such a decline is what invariably occurs at such a juncture, and it may fairly be called a measure of relief. The public, to begin with, which had refused to buy at the higher valuations formerly prevailing, may usually be relied upon to purchase when, without actual impairment of intrinsic values, securities have fallen twenty or thirty points from their inflated level. Aside from this, the fall in values and the extensive selling of securities long held in the hands of syndicates and speculators set free a very large amount of banking capital which can at once be devoted to the ordinary banking purpose. This is precisely the process which has been

at work during the past few months, and which, however painful in its operation, is the surest way to safety.

It is inevitable, however, that a decline of such proportions on the Stock Exchange should start conjecture whether the general movement of prosperity is at an end. In itself, a rise or fall in prices on the Stock Exchange has little bearing on the general question of prosperity; it is rather as an index and reflection that it has its special value. We have shown, however, that the causes for the break in Stock Exchange securities were peculiar to the market for securities. It is unquestionably true that these causes, notably the tying up of capital, operate in some considerable measure throughout general trade. On the other hand, it must always be remembered that this very process of relief through Stock Exchange liquidation is directly a benefit to trade in general, which is enabled thereby to enjoy the use of capital which might otherwise have been withheld from it.

But there is more than this to say of the present situation. On most previous occasions, when financial reaction of this sort has swept over the country, it has found the country's trade and industry in an inflated and more or less disorganized condition. The consequences of the readjustment turned out therefore to be as serious to trade on such occasions as they were to the Stock Exchange. These signs are not visible now. The phenomenon which has almost invariably attended such reaction—a sudden shrinkage in consuming power and mercantile demand—has not been witnessed at all this season. On the contrary, the almost uniform report from such stable industries as the iron and cotton trades is that demand is continuing in such volume that production is able to do little more than keep pace with it. Even the familiar index of the bank exchanges throughout the country stands in favor of the present industrial situation. At New York, where the security market reaction has been felt most severely, clearing-house exchanges have decreased very heavily. Throughout the West, on the other hand, there was an increase not only as compared with May of 1902, but with the same month in all previous years. It is probably true that prices in many lines of trade have been raised to an excessive height. It is also beyond dispute that

numerous industries have been disturbed and unsettled by the excessive cost of materials which go to make up their manufacture. It would not, therefore, be unreasonable to expect some readjustment of prices in these directions. But of anything more than this there is at present little sign.

Behind all questions of ordinary trade and distribution stands the problem of the season's crops. This is, however, a problem no more peculiar to the present year than to any other year. The situation at the moment is extremely singular, and is of such a character as to make prediction more than usually difficult. Starting out with a winter wheat crop promising much the largest yield in the history of the country, the farming community was confronted during May with an exceedingly unfavorable season in the rich Missouri grain belt. What will be the later

influence of the heavy rains and floods throughout that district it is impossible to predict with any certainty. The main question is, however, that the country's industrial position continues sound. More than this, there is the strong and not at all unfounded confidence in the American manufacturer's capability, at a time of need, to reënter foreign markets, which he has largely lost through the high home prices of the past two years. It has been the unhesitating testimony, even of European observers, that a period of real reaction in American consumption and American trade prosperity would be followed instantly by the resumption of the "American invasion." It would not be a very rash conjecture to assume that this possibility was strongly present in the mind of Mr. Chamberlain in his recent call for a change in British policy with regard to foreign importations.

THE CODFISHERS OF NEWFOUNDLAND

"HUT, B'Y," WAS THE SKIPPER'S REPLY, "THE SEA'S THE MINE FOR ME. 'TIS EVERY MAN'S MINE, 'TIS FREE T' WARK IN, AN' 'TIS NEVER WARKED OUT"

BY

NORMAN DUNCAN

TO say that the colony of Newfoundland, into somewhat closer relations with which this country has been brought by the recently negotiated Bond-Hay treaty, is a wilderness of bog, burnt land, rocky, barren and stunted forest—a great, fog-wrapt rock, thinly dusted with sterile earth—desolate, inhospitable, uninhabited from coast to coast, is, so far as the character of the interior is known at this present time, nearly true, but vastly unfair; for, as the old Burnt Island skipper said, with a wrathful snort, "Hut! Don't be tellin' me 'tis but a heap o' the leavin's o' creation. Look you, lad," with a thick forefinger impressively shaken, "the good Lard done enough for Newf'un'land when He made it. Didn't Um take care t' build a harbor t' every ten miles o' coast? Well, zur," the whole tarry fist now required for emphasis, "how d'ye account for that?" Evidently, in this way: that in the construction of the island the good Lord was concerned about nothing save the coast-line,

which, having generously stocked the sea with fish, he designed as a habitation and shelter for fishermen—but six thousand miles of quiet harbor and rugged head land to forty-two thousand square miles of wilderness! That coast-line is the real Newfoundland.

"Oh, ay!" said the skipper's friend, voicing a thought that was then first passing from mind to mind in the outports. "But, never you fear, the Lard put things in them rocks an' bogs. Iss, zur," sagely, "the Lard hid things there!"

"Hut, b'y!" was the skipper's reply. "The sea's the mine for me. 'Tis every man's mine, 'tis free t' wark in, an' 'tis never warked out."

Whatever there may be in the great rocks of the interior—the prospectors are not loquacious—to the writer there is no Newfoundland apart from that long strip of jagged rock against which the sea forever breaks: none that is not of punt, of wave,

of fish, of low sky and of a stalwart, briny folk. Indeed, though he has joyously lived weeks of blue weather in the outports, with the sea all a-ripple and flashing and the breeze blowing warm, in retrospect land and people resolve themselves into a rocky harbor and a sturdy little lad with a question—the harbor, gray and dripping wet, a cluster of whitewashed cottages perched on the rocks, toward which a tiny, red-sailed punt is beating from the frothy open, with the white of breakers on either hand, while a raw wind lifts the fog from the black inland hills, upon which ragged patches of snow lie melting; the lad, stout, frank-eyed, tow-headed, browned by the wind, bending over the splitting-table with a knife in his toil-worn young hand and the blood of cod dripping from his fingers, and looking wistfully up, at last, to ask a question or two concerning certain old, disquieting mysteries.

"Where do the tide goa, zur, when 'e runs out?" he plained. "Where do 'e goa, zur? Sure, zur, *you* is able t' tell me that, isn't you?"

So, in such a land—where, on some bleak stretches of coast, the potatoes are grown in imported English soil, where most gardens, and some graveyards, are made of earth scraped from the hollows of the hills, where four hundred and nineteen bushels of lean wheat are grown in a single year, and the production of beef-cattle is insignificant as compared with the production of babies—in such a land there is nothing for the young man to do but choose his rock, build his little cottage and his flake and his stage, marry a maid of the harbor when the spring winds stir his blood, gather his potato patch, get a pig and a goat, and go fishing in his punt. And they do fish, have always fished since four hundred years ago the island was settled by adventurous Devon men, and must continue to fish to the end of time. Of a total male population of one hundred thousand, which includes the city folk at St. John's and an amazing proportion of babies and tender lads, about fifty-five thousand men and grown boys catch fish for a living. Out of a sea that is cold, rock-bound and swept by great winds they take every year, by hook and trap, more than 150,000,000 pounds of cod (dry), of which they consume one-fourth and sell the rest to the Catholic countries of the world for \$4,450,000. This

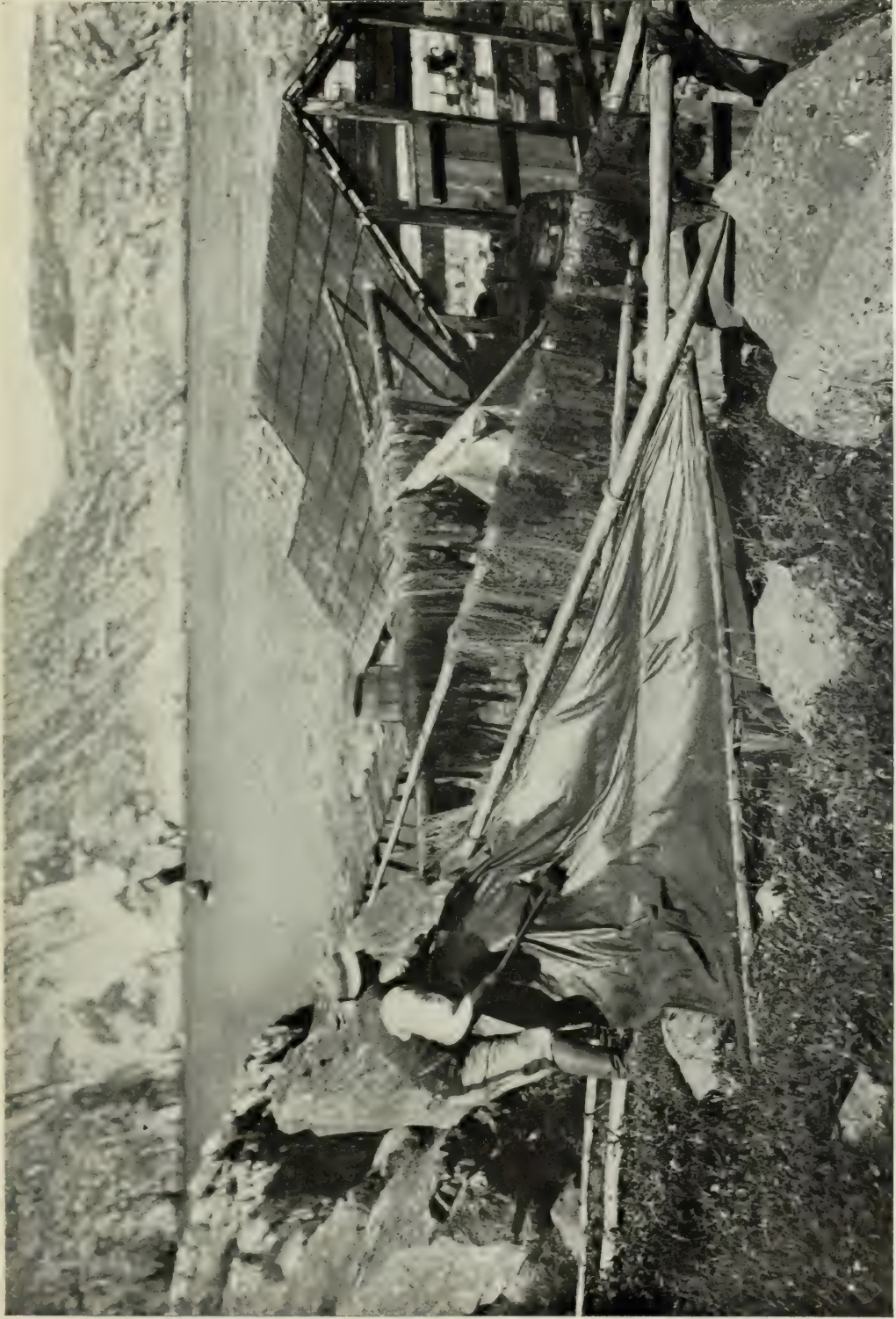
dried fish, some salmon, herring, lobsters, cod oil, whale oil, seal oil and skins (the value of the seal fishery is approximately \$400,000 for a haul of about 275,000 seals), lumber (\$15,000) and copper and iron ores (\$600,000) comprise the articles of export; the articles of import include everything else.

"Still an' all, they's noa country in the world like this!" said the old skipper. "Sure, a man's set up in life when he heves a pig an' a punt an' a potato patch."

"But have you ever seen another?" I asked.

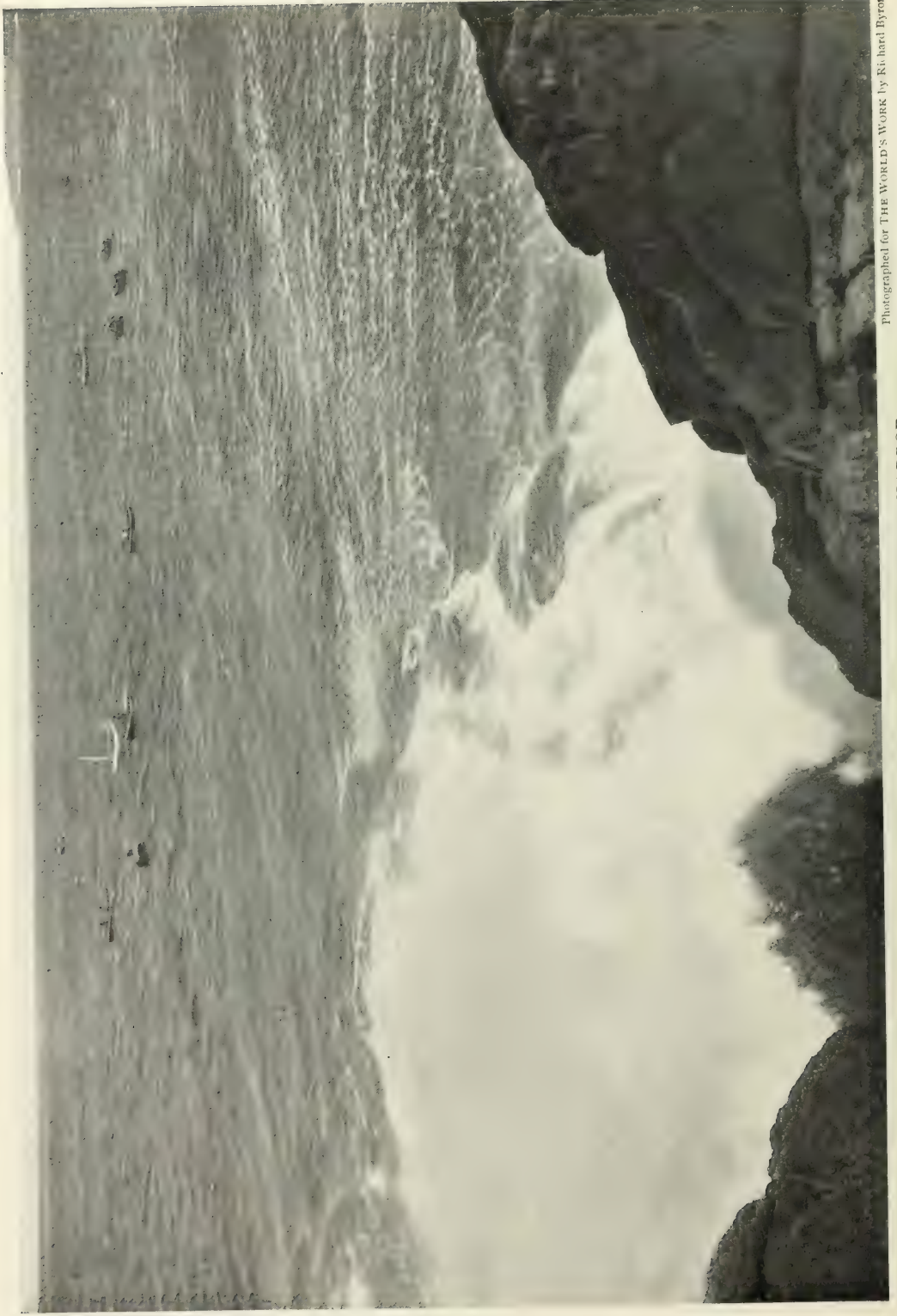
"I've been so far as Saint John's, zur, an' once t' the waterside o' Boston," was the surprising reply, "an' I'm thinkin' I knows what the world's like."

So it is with most Newfoundlanders: they love their land with an intolerant prejudice; and most are content with the life they lead. "The Newfoundlander comes back," is a significant proverb of the outports; and, "White Bay's good enough for me," said a fishwife to me once, when I asked her why she still remained in a place so bleak and barren, "for I've heered tell 'tis wonderful smoky an' n'isy 't Saint John's." The life they live, and strangely love, is exceeding toilsome. Toil began for a gray-haired, bony-handed old woman whom I know when she was so young that she had to stand on a tub to reach the splitting-table; when, too, to keep her awake and busy late o' nights, her father would make believe to throw a bloody cod's head at her. It began for that woman's son when, at five or six years old, he was just able to spread the fish to dry on the flake, and continued in earnest a year or two later, when first he was strong enough to keep the head of his father's punt up to the wind. But they seem not to know that fishing is a hard or dangerous employment; for instance, a mild-eyed, crooked old fellow, with a long white beard and a staff—he was a cheerful Methodist, too, and subject to glory fits—who had fished from one harbor for sixty years, computed for me that he had put out to sea in his punt at least twenty thousand times, that he had been frozen to the seat of the boat many times, that he had been swept out with the ice six times, that he had weathered six hundred gales, great and small, and that he had been wrecked more times than he could "just mind" at



Photographed for THE WORLD'S WORK by Richard Byron

A FISHERMAN GREASING THE SAIL OF HIS BOAT



Photographed for THE WORLD'S WORK by Richard Byron

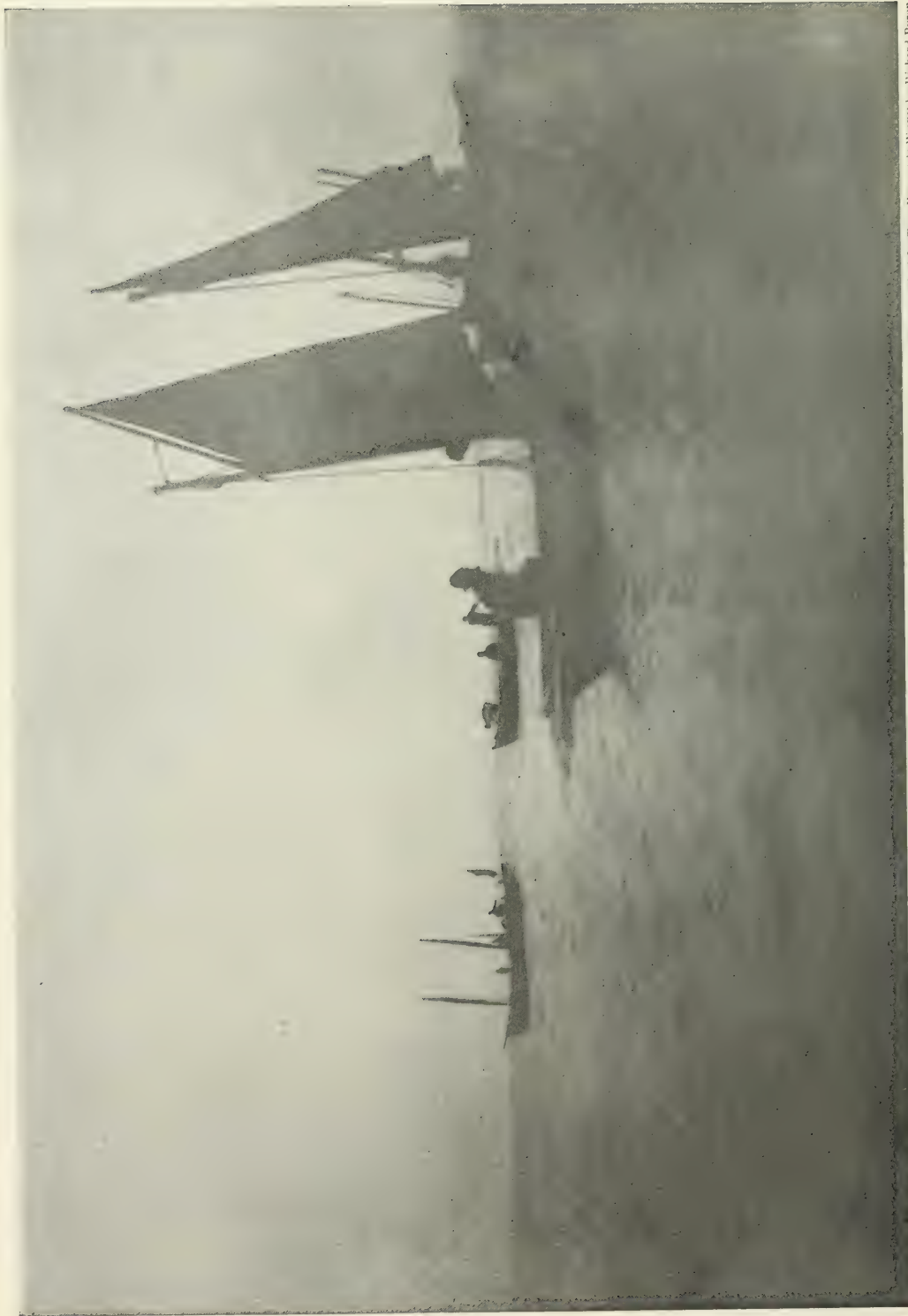
FISHERMEN LYING OUTSIDE THE HARBOR

THE WIND IS TOO HEAVY TO RUN IN



Photographed for THE WORLD'S WORK by Richard Byron

ONE OF THE LARGE AND MORE PROSPEROUS FISHING SCHOONERS



Photographed for THE WORLD'S WORK by Richard Byron

5 A. M. OFF ST. JOHN'S

WEIGHING ANCHOR AFTER BEING OUT ALL NIGHT



Photograph for THE WORLD'S WORK by Richard Byron

GATHERING THE FISH INTO THE END OF THE TRAP, WHERE THEY EMPTY INTO THE BAG NET



PUTTING THE BAG NET UNDER THE TRAP

Photographed for THE WORLD'S WORK by Richard Byron



Photographed for THE WORLD'S WORK by Richard Byron

TAKING THE BAG NET FROM THE TRAP AT SUNRISE



"FROM EARLIEST DAWN, WHILE THE NIGHT YET LIES THIN ON THE SEA"



Photographed for THE WORLD'S WORK by Richard Byron

ON THE SEA, HE LIES OFF SHORE, FISHING—TOSSING”



Photographed for THE WORLD'S WORK by Richard Byron

EVERY EVENING THE FISH ARE COLLECTED AND PUT IN A DRY SHED



Photographed for THE WORLD'S WORK by Richard Byron

THE CITY OF ST. JOHN'S
SEEN THROUGH THE FOG THAT HAS BLOWN INTO THE HARBOR



Photographed for THE WORLD'S WORK by Richard Byron

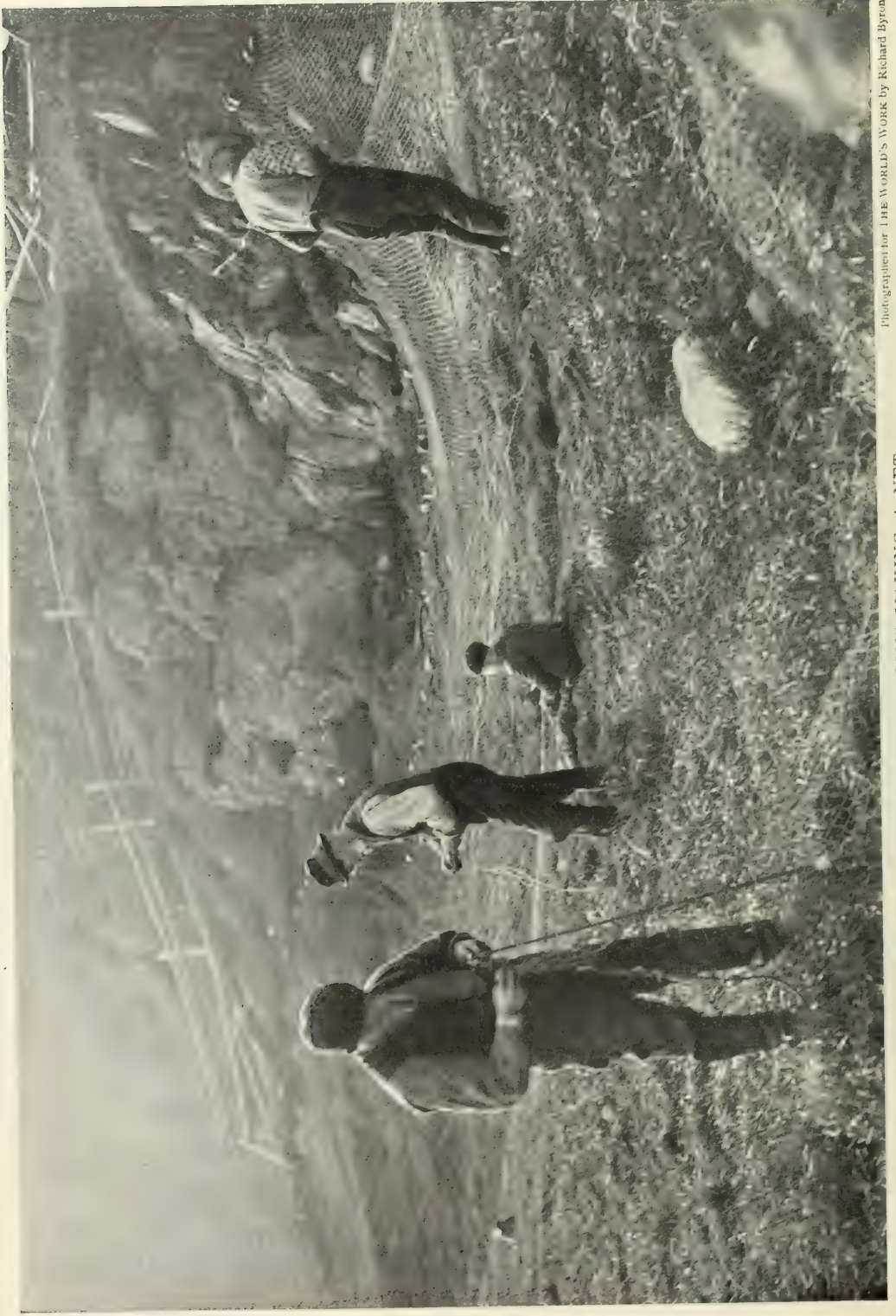
THE FOG DRIFTING IN OVER ST. JOHN'S



Photographed for THE WORLD'S WORK by Richard Byron

ANOTHER VIEW FROM THE SAME PLACE, TAKEN A FEW MINUTES LATER

WOMEN HURRYING TO TAKE IN THE DRYING COD BEFORE THE FOG



THREE GENERATIONS MAKING A NET

Photographed for THE WORLD'S WORK by Richard Byron

the moment; yet he was the only old man I ever met who seemed honestly to wish that he might live his life over again.

The isolation of this people—the tragic fact that through generations of intelligent and heroic effort the place and nature of their calling has cut them off from even bare knowledge of the world's progress—does not appear so appealingly in the bald statement that in the remoter parts they use spinning-wheels and hand-looms, cure the sick with charms, never saw a brick or a horse, have faith in mermaids, sing the West Country ballads of the sixteenth century, and argue, like enough, that hell is or is not at the centre of the earth, as it appears in the simple case of the maid from Punch Bowl Harbor, who came into the surgery one raw, black June night with a gust of wet wind that fluttered the doctor's papers, set the lamp flaring, and, at last, escaped by way of the fireplace to the gale from which it had strayed.

"I'm Tim Hodd's maid, zur," she gasped, "an' I'm just come from the Punch Bowl in the bait skiff."

She stood with her back against the door, one hand still on the knob and the other shading her eyes—a slender girl with a shawl thrown over her head, and now dripping. Wisps of wet hair clung to her forehead, and raindrops lay in the flushed hollows of her cheeks.

"And what's the matter with *you*?" the doctor asked sympathetically. But he did not need to ask—the flush and gasp told the story quite well enough: she was dying of consumption.

"Me lights is floatin', zur," she answered.

"Your lights?"

"Ay, zur," laying a hand on her chest. "They're floatin' wonderful. I've been tryin' t' kape un down, zur; but 'tis noa use."

The doctor raised his eyebrows. What had the maid been doing to keep her lungs in place, he wondered.

"I've been takin' shot, zur, t' weight un down," she went on; "but, zur," with a sigh, "'tis noa use, at all. An' Jim Roth's my man," she added hurriedly. "I'm t' be married to un when he comes up from the Labrador. Does you think, zur——"

She paused—in embarrassment, perhaps; for it may be that it was the great hope of this maid, as it is the hope of all true New-

foundland women, to live to be the mother of sons.

"Ay?" said the doctor.

"Does you think, zur," she whispered, "that you can cure me afore the Labrador fleet comes hoame?"

From this barren coast, and thus remote from the world, the Newfoundland fish are caught. There are two classes of fishermen—the hook-and-line men and the far more prosperous trap men. The former fish off shore from their punts, but most of the trap men go far north to the Labrador coast, live aboard or in turf huts ashore through the season, and return when the fall winds are blowing and the seas run high and the nights are bitter and black. I have known half the out-bound Labrador fleet to be jammed for weeks in the ice in June; and I have heard a hundred dread tales of the loss of returning vessels—of which, that of the rich-laden *Mary* occurs to me. Her skipper, in a panic which his poor wife could not allay, ran for land from a great December gale and lost his catch, his schooner, his wife, himself and all his crew save the cook, when she struck in the dark. Most of the schooners are saucy little cockleshells of from fifteen to thirty tons. They lie at anchor off shore from the Straits even so far north as Cape Chudleigh—a wild coast, bold, inhospitable and sparsely provided with harbors. "May God d——n the man that made that anchor!" said a pious young skipper, though he was a class-leader, as he pointed to a new anchor lying on the deck with one arm missing; and it seemed to me, when I had heard the story of the lee shore and of the gale in which that arm snapped off, that the extraordinary outburst was quite justified—the skippers of the Labrador craft have a right to expect honestly made anchors for their money. Practically no news of the adventurous voyage comes down; so the return of the schooners with the green catch, which is always unexpected, is celebrated with such joy and festivity as perhaps the return of the viking ships aroused in the harbors of Norway long ago; nor are the sagas wanting, such as the following extract from a doleful one:

"We didn't get no fish, me b'ys,
An' I'll tell the reason why.
We had a bow in our leader,
Like a rainbow in the sky.

"We had two damaged cod seines,
 An' a lot o' rotten rope—
 'Twere bought from Hyde an' Meekin
 Ten years afore they broke.

"An' one o' them was a small one;
 He weren't worth a rap;
 He were fourteen years a cod seine,
 An' sixteen more a trap!"

But the hook-and-line man has a lonely time of it. From earliest dawn, while the night yet lies thick on the sea, until in storm or calm or favoring breeze he makes harbor in the dusk, he lies off shore, fishing—tossing in the lop of the grounds, with the waves to balk and the wind to watch warily, while he tends his lines. There is no jolly companionship of the fore-castle and turf hut for him—no new scene, no hilarious adventure; nor has he the expectation of a proud return to lighten his toil. In the little punt he has made with his own hands he is forever riding an infinite expanse, which, in "fish weather," is melancholy, or threatening, or deeply solemn, as it may chance—all the while and all alone confronting the mystery and terrible immensity of the sea. It may be that he gives himself over to aimless musing, or, even less happily, to pondering certain dark mysteries of the soul; and so it comes about that the "mad-house 't Saint John's" is inadequate to accommodate the poor fellows whom lonely toil has bereft of their senses—melancholians, idiots and maniacs "along o' religion." Notwithstanding all, optimism persists everywhere on the coast. One old fisherman counted himself favored above most men because he had for years been able to afford the luxury of cream of tartar; and another, a brawny giant, confessed to having a disposition so pertinaciously happy that he had come to regard a merry heart as his besetting sin. Sometimes an off-shore gale puts an end to all the fishing; sometimes it is a sudden gust, sometimes a big wave, sometimes a confusing mist, more often long exposure to spray and shipped water and soggy winds. It was a sleety off-shore gale, coming at the end of a sunny, windless day, that froze or drowned thirty men off Trinity Bay in a single night; and it was a mere puff on a "civil" evening—but a swift, wicked little puff, sweeping round Breakheart Head—that made a widow of Elizabeth Rideout o' Duck Cove and took her

young son away. Often, however, the hook-and-line man fishes his eighty years of life, and dies in his bed as cheerfully as he has lived and as poor as he was born.

"I be past me labor, now," he says, somewhat sadly, while he waits. "But, believe me, zur," he adds, summing up his life's achievements, "I've cotched a wonderful lot a fish in me time!"

All this perilous toil falls far short of winning a just reward. Things that are damaged, or left over, or out of date, are offered in the cabins of the outport trading schooners. Little more than the bare necessities of life (adulterated, when possible) are exchanged for the catch; and, for the most part, though there are some glorious exceptions, the traders are an unscrupulous lot of fellows, dealing sharply with their simple customers and among themselves. A mixture of "pain-killer," water, pepper and various other nasty ingredients has commonly been sold as brandy for the sick, and "They're wonderful easy fooled," said a trading clerk to me once. "Up in Red Bay a man come aboard o' me t' get some stuff for a pain in the chest; but, sure, I was out o' that kind o' medicine, an' so I sold un some liver-pills. Difference? No; he didn't know no difference." They make the fisherman pay high for all that he gets; he must pay the profit of the manufacturer in England, the profit of the English wholesaler, the profit of the St. John's importer, and the enormous profit (usually about 100 per cent.) which the trader feels compelled to charge to protect himself against bad debts and bad seasons. Moreover, he must pay the duty (direct taxation of any degree or kind whatsoever, by the way, would turn the Government out of office), which, by this time, so corrupt, incompetent and extravagant have former administrations been, must be nearer forty than thirty per cent., with nothing in the way of public improvements to show in the outports. Besides all this there is an antiquated credit-system of dealing, fruitful in hardship and dishonesty.

Cash is not in circulation in the outports; if by some happy chance an outporter lays hands on a twenty-cent piece he stows it away in a secret place. It is even said that the notes of the defunct St. John's banks (they failed in '94) are still jealously hoarded, and occasionally produced. The

fisherman mortgages his next summer's catch for an outfit of salt beef, flour, salt for curing, etc., and having once done so, he is likely to live in debt for the rest of his days; if he is idle and unlucky, he can't get out; and if he is an honest, industrious fellow, the unscrupulous among the traders take good care that he doesn't.

"When you goa down on either room,
Where the fish is culled nohow,
An' dare t' stand up for your rights,
There's bound t' be a row!"

is a song they sing in harbor where two traders have their "rooms." But whether the sentiment of the song is true or not, the Newfoundland fisherman himself thinks it no sin to outwit his dealer; he has the same feeling for a trader as the American public has for a corporation. There was once a fisherman—he chanced to be a Catholic—who, in old age, came to die. He had lived in debt all his life, and, no doubt, had never once given his whole catch to the dealer who supplied him, but had wrongfully slipped many a quintal over the side of a rival schooner and traded it out on the spot.

"Send for Fawther Rafferty," he said. "Send immediate!"

He wanted to confess his sins, to be shriven, and to depart in peace; but his old priest had been transferred to Trinity Bay—a young man, just back from Rome, was now the spiritual head of the parish.

"Sure, 'tis Fawther Codlin," they told him.

"Noa, noa!" the old man protested. "Fawther Codlin's a fine young man—a clever young man, I doubt me not; but 'tis old Fawther Rafferty I wants t' hear me confession."

"An' why?" they asked.

"Sure," the dying man gasped, "*he* knows the customs o' the country."

It is a curious fact that the out-harbor fishermen are governed wholly from the capital, St. John's, a city of 30,000 people. All authority is seated in the general government there; there is no municipal government in the outports, and very little of it at the capital. Thus, since practically the only source of revenue is the customs duties, the outporters are compelled to bear the burden of the support of the health department, fire department, police department, public library and even the street-lighting plant of St. John's,

which is but a name to them. St. John's lives by the fisheries; nothing worth while is produced there, but, according to the unsophisticated stranger, there is a noisy and vituperative wrangling over the wealth that comes down from the coasts. There are some few factories, to be sure, but they are too ingeniously managed by half; for instance, a certain brand of tobacco, made at St. John's and exclusively consumed by fishermen, is sold in the French island of St. Pierre for half what it costs the Newfoundland "bay noddie"; and the manufacturers pay \$15,000 yearly to the proprietor of a rival concern to induce him to keep his plant shut down. At St. John's, too, is the aristocracy of the colony—merchants, middlemen, lawyers, physicians, office-holders, tricky and abusive politicians, and colonial knights (the visitor may observe, on a sign-board above a little corner store, "Sir Robert Morburn, grocer. Cheap teas."). There is neither sympathy nor mercy for the fisherman here, though there is a most enthusiastic reception for what he takes from the sea; he is regarded as legitimate prey; is most marvelously lied to before election, and abused, ridiculed and reviled afterward. But through it all he preserves an humble faith in "all those set in authority over him."

A doctor of the outports—the incident is related because, though it may appear an extraordinary case, it yet aptly indicates what has for years been the attitude of the "upper" classes toward the fishermen, without whom Newfoundland would lie waste and deserted, the shame of the fair earth—a doctor of the outports was once called to a little white cottage where three children lay sick of diphtheria. He was the family physician; that is to say, the fisherman paid him so much by the year for medical attendance. But the injection of antitoxin is a "surgical operation" and therefore not provided for by the annual fee.

"This," said the doctor, "will cost you two dollars an injection, John."

"Oh, iss, zur," was the ready reply. "I'll pay you, zur. Go on, zur!"

"But you know my rule, John—no pay, no work. I can't break it for you, you know, or I'd have to break it for half the coast."

"Oh, ay! 'Tis all right. I wants un cured. I'll pay you when I sells me fish."

"But you know my rule, John—cash down." The fisherman had but four dollars—no

more; nor could he obtain any more, though the doctor gave him ample time. I am sure that he loved his children dearly, but, unfortunately, he had no more than four dollars; and there was no other doctor for fifty miles up and down the coast.

"Four dollars," said the doctor, "two children. Which ones shall it be, John?"

Which ones? Why, of course, after all the doctor had himself to make the choice. John couldn't. So the doctor chose the "handiest" ones. The other one died.

"Well," said John, unresentfully, the day after the funeral, "I s'pose a doctor haves a right t' be paid for what he does. But," much puzzled, "'tis kind o' queer!"

The Newfoundland outporters are hardy, courageous, boldly adventurous, simple-lived, God-fearing, warm-hearted—a physically splendid race of men. Cowards and weaklings have for four hundred years been the unfit of the place; they occur, of course, in the best-regulated families, but do not long survive, for exposure kills off the weaklings, and in the midst of many dangers the cowards lose their lives. Children learn to sail a punt at six or seven years old; and at every age they are encouraged to play at the highly dangerous game (called "copying") of prancing about on floating ice; the skill acquired in leaping from one sinking block to another would make the trumpeted river-driver look like a blundering child. As men, they know their punts as intimately as a cowboy knows his horse; and they will say of their boats in a gale, "I thought she'd not live through it, t' day," with the same unconcern that a cowboy might say of his horse, "He nearly throwed me that time." The race is truly hardy and courageous. It was John Butt, with nothing more than a broken collar-bone and a split forehead to show for it, who survived two wild, snowy nights and a day on a twenty-foot ice-pan, over which for many hours broke great seas, heavy with jagged fragments of ice; and it was a reckless Green Bay skipper who let the wind blow the masts out of his schooner rather than reef her, because he had been told that his crew thought him "nervous"—a mad sort of courage, to be sure, but proof positive for all time that he was no coward.

Of late the old colony has been given a

poke in the ribs by the spirit of modern progress; there is a great rubbing of eyes, and yawning, and staring about going on in the land. Long ago there was a Newfoundlander who proposed to train a school of whales for tugboats, and even went so far as to choose a suitable harbor for stabling. That was the old-fashioned enterprise. So narrow was the obvious sphere in which the impulse could work that the imagination of the folk busied itself in strange directions. However, that was long ago. Two years ago the advance agent of the new idea arrived in a small out-harbor in the person of a small-eyed, dark little man from the States. After he had been in the place a day or two, I met a stalwart native wearing smoked glasses, who, in reply to my surprised question, said gravely, "Ay, lad, 'twas a wonderful escape I had. Sure, if I hadn't had sixteen dollars saved up, an' if I hadn't met the eye-doctor from the States just when I did, I'd gone blind in two months an' deaf in three. Sure, lad," impressively, "he told me so. 'Twas a marcifil escape!" But nowadays, what with prospectors, capitalists who propose to establish million-dollar pulp-mills, the opening of the great Belle Isle iron mine, the establishment of the lumbering industry in a small way, and an influx of talkative (and most objectionably officious) tourists, who come by the comfortable if somewhat billowy little railroad,* the folk are everywhere seeking new ways for doing old things. The Government project of establishing cold-storage plants for bait, whereby the fishermen may be helped over the days when there is neither squid nor caplin to be had, is a significant enterprise; and significant, too, are the words of a Notre Dame Bay trader to three stormbound rivals of the same locality: "I tell you what, b'ys, we ought t' form a Notre Dame Bay trust, like the Yanks. We could import our own goods an' export our own fish. That way we could cut out the Saint John's fellows."

"Hut!" replied a skeptical trader of the old school. "They Saint John's fellows would knife we fellows in all the foreign markets."

They would, indeed—have already done so; so it may be some time yet before the Newfoundland fish business is established on what may delicately be called a decent basis.

* Extract from a St John's newspaper: "A lady who got seasick on Saturday's train lost a set of false teeth near Holyrood. They have been found, and if the owner will inquire from the station master at the above place she will get them."

ENGLISH "COMMERCIAL GENTLEMEN"

A COMMERCIAL TRAVELER'S EXPERIENCES IN AN INTERESTING GUILD THAT HAS NO COUNTERPART IN AMERICA

BY

FRANK J. POOL

ON my initial trip as commercial traveler in England a kind friend told me that I must state I was a "commercial" on entering an inn, and he added that the "commercial room" had peculiar customs. Arriving on a morning train in a famous university town, I was soon in the courtyard of an old-fashioned inn which had been recommended as the best commercial hotel. I was welcomed by the "boots" and directed to a "commercial room" marked "Private"—a warning to be heeded. It was a large room on the ground floor, bright and cheerful, with a long dining-table in the centre, a big side-board at one end, small writing-desks by the windows and comfortable easy chairs before a generous fireplace. The desks were covered with the leather writing-cases of the "commercials" awaiting the result of the day's work; overcoats and umbrellas were on the hat-rack—the room had a habitable air. Two men who were writing when I entered looked up and bade me a cheerful good-morning and then returned to their work. After returning their greeting I went out to interview the "boots."

The "boots" is really the most important person in the inn and has much to do with its popularity from the "commercial" point of view. He helps you unpack your sample-trunks, provides a man to carry them to your customers, is posted on the arrival and departure of trains, and will arrange a suitable plan of campaign for a stranger. As I carried no samples, all I had to do was to arrange a route, with his help, and sally forth. But as the average English buyer does his work slowly and in small quantities, very few pages of my new order-book had been used before thoughts of dinner began to suggest themselves.

The "commercial" dinner is served promptly at one o'clock or at quarter past one. Should twenty "commercials" be stopping at the

house and but one be present at this dinner hour, the soup is served. It was a few moments after the hour when I reentered the "commercial room" to find sixteen seated at the long table, now covered with white linen and decorated with flowers. At the head of the table, engaged in serving the soup, sat Mr. President, who occupies this position by virtue of having remained in the hotel longer than any other person present, and at the other end is Mr. Vice, the second in length of stay. This I did not then know. After hesitating for a moment I slipped modestly into a vacant chair. In a few seconds I was conscious that every eye in the room was fixed upon me. Presently the President, a ruddy-faced old man of about sixty, said, "Perhaps the gentleman who has just seated himself is unaware that this is a private room?" This was said courteously, but firmly. My first thought was to telegraph to the American Ambassador and to get out my passport declaring me to be a free-born American citizen, but the savory odor of the soup and my friend's warning prevailed; so, half rising from my chair, I stammered out something about my ignorance. With every desire to relieve my evident embarrassment, and at the same time to uphold the traditions of the table, the President said, "The gentleman is a stranger and wishes to join us." A hearty permission was given at once by all, and I reseated myself.

Just at this moment another late-comer arrived and on entering said, "Mr. President, Mr. Vice and gentlemen, may I join you?" All chorused in a hearty welcome, whereupon the President said: "Be seated, sir. There is oxtail soup; may I serve you?" I afterward learned that this man was known to almost every one in the room and was a prominent official in the Commercial Travelers' Association. Thereafter I never seated myself at table without first asking permission.

Meanwhile I had not been neglected. I had been served by the President, and my neighbors on either hand spoke to me on general topics, but made no attempt to ascertain my "line," nor did any one talk "shop." "Shop," politics and religion are tabooed in the "commercial room" as breaches of etiquette, and a constant offender is barred from the room. Should a "commercial" desire to talk business it must be done in the coffee-room or bar-parlor. In my journey about the country but one attempt was made to pry into the nature of my business, and that was by an American. The only personal point ever touched upon was my nationality. My accent betrayed me almost invariably at first, and although there was at the time a strong feeling against the "Yankee Invasion," I was never made to feel it.

The fish now being on and the cover removed, the President announced: "A boiled cod with white sauce, gentlemen. Mr. Vice, may I have the pleasure of serving you?" To which Mr. Vice promptly responds that he will take some a little later, but in the meantime has some whiting to offer. The President also begs for time—and they proceed to serve the fish. This formal announcement and exchange of courtesies accompanies every course. With the fish comes the matter of drink and also another pitfall for the stranger. The old custom was that the President ordered for the table, the expense being divided equally, but this custom, owing to the number of total abstainers and the diversity of taste, is not followed. The tradition is kept up, however, by an announcement from the President that the table is "free"—that is, each diner orders for himself. If the President be an elderly man, he generally says, "If you desire to give me the honor of ordering for you, pray command me; otherwise the table is 'free.'" On special occasions, however, such as the King's birthday, the President usually has to thank the table for the honor of ordering. Claret, ale and cider are the drinks most frequently used at this time, and the tardy appearance of my half-pint of bitters was the only thing that saved me from another serious breach of manners.

Before drinking for the first time, each man lifts his glass and says, "Mr. President, Mr. Vice and gentlemen, your very good health." Every one says "thank you" with that rising inflection on the *you* peculiar to England.

My gravity was nearly upset by the continuous musketry fire of toasts, followed by an explosive "Thank *you*." By the time the joints were on, further courtesies of this kind were confined to personal exchanges, mainly between the older men.

No fish, joint, fowl or pie that has been cut can come on the "commercial" table. The commercial gentleman does his own carving to preserve the privacy of his table, and will not permit the landlord to do it. He makes of carving a fine art and it is a joy to watch him at work. I use the word "work" advisedly, for it is no small task to carve and serve twenty hungry men with skill and dignity. The roast joint is placed at the head of the table, the boiled one at the foot and the fowls or pies are served by those occupying the centre seats on each side, so that a stranger within the gates, unless he be an expert carver, should avoid those places. But on the few occasions when I found myself entitled to the head of the table, a few words of quiet explanation always brought a kind release.

With the cheese and sweets the waiter passes around a plate on which each diner puts one penny—no more. This is for the support of the Orphans' School and Pension Fund of the Travelers' Association. The money collected is counted by the President, who enters the amount in a book kept for the purpose, signing his name to the amount. It is then cared for by the innkeeper until a quarterly visit from the proper officer verifies the amount and receipts for it. As this collection is taken up at every "commercial" dinner in Great Britain each day, a considerable amount is realized in the course of the year. I once had the honor of presiding at dinner, serving myself as Mr. Vice, announcing a "free table," proposing my own health and signing my name in the book for the one penny collected. I told a traveling acquaintance this story and all the appreciation I received was: "Really? What extraordinary things you Yankees do!"

When dinner is over the men go their several ways until tea time. Tea is a continuous performance lasting from half-past five in the afternoon until nine o'clock; then the cloth is withdrawn and those desiring supper must go to the coffee-room and pay coffee-room rates. Tea is also divided into two species, tea and "meat tea." The first

consists of a pot of tea, toast or bread and butter and the inevitable marmalade or jam. On the sideboard are placed the cold dinner joint, a boiled ham, a huge meat pie and a cheese, and from these the "commercial" serves himself, ordering his tea from the waiter. It is not considered good form to order wine or ale with tea unless hot meats are ordered from the coffee-room.

It was cold and stormy when I reëntered the "commercial room" for tea. A cheerful fire was burning and about it were gathered a dozen men. Several rose at once from comfortable places in front of the fire and offered me their chairs. As I was the latest comer, wet and weary, I was therefore entitled by the custom of the room to a place, only to give way in my turn. Letters are now written and orders and advance notices of visits made out, while the "boots" comes in every few minutes to collect the mail. At nine o'clock, the "boots," coming in with an armful of the old-fashioned carpet slippers, removes your shoes and marks on the soles the number of your room and the hour of your morning call. A cloth cover replaces the linen one on the table. Smoking is now permitted in the room.

As this was my first visit to a university town, I left the "commercial room" before nine o'clock to sit in the barroom and get a glimpse of undergraduate life. I had been seated at a small table only a few moments before the hostess came in to remain the rest of the evening, looking after her guests and chaperoning the barmaids. She passed from table to table with a word for every one and a handshake for the visiting graduate. On coming to my table she noticed that I still wore my muddy shoes. She recognized me as a "commercial" stopping at her house, and sent one of the barmaids to the "boots" for a pair of slippers, only to learn that the supply had given out. Again the maid was sent, this time for the landlady's husband's, and it was not until the maid returned a second time empty-handed did I learn the object of her quest. I assured her that I did not care for slippers and that I had a pair in my bag, whereupon she insisted on having my keys and sending the maid up to my room. I prevailed, however, when it came to helping me off with my shoes, but had to watch them disappear in the hands of a woman.

Returning to the "commercial room" I found

the men gathered about the fire talking cricket, fishing, the odds of the next Oxford-Cambridge boat-race or other matter of local interest. The subject is never business, though sometimes a veteran of the road will tell of the inns and travel forty years ago. I heard a story of a waiter in one of the inns I would presently visit and verified it afterward. This waiter, who had served thirty years in the "commercial room," had a hobby—to order your breakfast for you. The tenderest chop, the sweetest slice of bacon was yours if you only said to him when he came to take your order before going to bed: "You order my breakfast at nine, Paul, with coffee and hot toast." At nine o'clock it was on the table hot and appetizing. When I visited the inn a year later he came to me and said: "Will you breakfast at nine as usual, sir, with coffee and hot toast? Thank you."

With the evening pipe a long "peg" of whisky and water, or ale, is permissible, but the custom of treating is not good form. With each fresh glass, and before drinking, the toast, "Gentlemen, your good health," should be proposed. Due care must be taken to acknowledge all offered. This custom applies of course to strangers as well as to friends. Two pegs of whisky are generally the limit of indulgence. By half-past twelve the "commercial room" is in darkness.

As the custom and tradition contribute to the personal comfort of the "commercial," in a like manner do they impose restrictions and burdens. The social distinction between the "commercial" and his "Governor" is very marked, and he seldom has the benefit of personal intercourse and exchange of ideas. He must keep along in the track beaten by his predecessor without chance for improvement. I have met refined and educated men on the road who have been spoken to by their employers but three or four times in as many years, and then a simple recognition was the favor bestowed. I know of one case where this recognition came but three times in fifteen years.

Again, the purchasing is seldom done by the head of a house, but through a buyer who is oftentimes approachable only through a personal interest. Tradition prohibits a manufacturer from buying certain articles entering into his prime costs. A large

printer, for instance, can be reached through the proper devious channels on the subject of presses and paper, but the ink must be handled by the "machine foreman," ink being beneath the dignity of the head of the house. The foreman cannot make contracts—and therefore purchases are from hand to mouth, with no certainty of future orders or encouragement to carry special lines in stock. A large measure of responsibility is put upon the traveler in the collection of accounts. Goods are generally sold on what is called "Journey Account"—that is to say, payable on the next visit of the traveler, in about three months. Monthly statements are not sent to the buyer, but sent quarterly

to the traveler to collect. Cheques are made payable to his order and he settles with his firm through his bank. As the "commercial" usually lives in a central town in his territory, thus enabling him to spend his week-end at home, he is enabled to make up his accounts and settle every week. Sometimes settlements with the firm are made quarterly, a process which makes the keeping of a set of account books necessary—no small burden under the English system.

In conclusion it is well to state that my experience was only with the major class of "commercial gentlemen," stopping at the best inns, and not with the objectionable "drummer," who is to be found all over the world.

RUSSIA AND THE NATIONS

RUSSIA'S PRESENT POSITION AMONG THE POWERS—THE REASONS FOR HER POLICY—AND THE MEANING OF CURRENT EVENTS IN MANCHURIA, THE PERSIAN GULF AND THE BALKAN PENINSULA

BY

W. M. IVINS, JR.

MACEDONIA and Manchuria are two words grown suddenly familiar, most frequent on mouth and in scarehead, and yet what do they mean and what is the cause of their unexpected prominence? The storm-centres of the diplomatic world for the last year, the Balkan peninsula and northern China, until lately have been out of the public view. In both the most prominent part has been played by Russia. And in consequence the rest of the world, vaguely apprehensive and poorly informed, is asking itself, What does the Russian activity in these far separated countries mean? A question to be answered only by a study of the geography of Russia's European and Asiatic dominions.

On looking at the map the first thing noticeable is the enormous extent of contiguous territory under the Russian flag, and the second is the great length of her land boundaries and the smallness of her coast-line on open and navigable seas. The careful consideration of this boundary line will suggest the reasons for Russia's past history, present

diplomatic and industrial policy, and future aims and aspirations.

The only two comparable empires have little of serious consequence to fear from boundary questions: the United States having but two foreign nations, and those eminently friendly, on her borders, and Great Britain and her dependencies, when not completely surrounded by water or by impassable mountains, touching only on friendly or weak States. But Russia has boundary questions to settle with most of the following countries: Sweden, Germany, Austria, Hungary, Rumania, Turkey, Persia, Afghanistan, Hindustan, China and Korea; the interests of all of which, Persia only excepted, are thoroughly antagonistic.

With each of these many States the boundary question is of the first importance to Russia. The most of the diplomatic correspondence of the last few decades referring to Asiatic matters is devoted to this Russian boundary question, a question which is the cause of most of the recent international bad feeling. But the reason for the Russian

attitude is perfectly clear—it is to be found in her absolute necessity for a proper outlet to the sea. So far this has not been satisfactorily accomplished, and until it has been there is sure to be trouble, as, in order to succeed, she must somewhere break through her present boundaries.

The whole policy of Europe, in the past as in the present, has been to keep Russia shut in from the ocean. The necessity for this action supplies the key to the history of Russian expansion from the time of the Grand Dukes of Moscow until today. It is the key as well to the history of the struggle for the mastery of the Baltic and for the permanency of Turkey as a barrier between Russia and the Mediterranean. Russia's struggle for access to the sea is one which she must pursue until she is either definitively beaten or definitively successful. Today it is the greatest of all international questions.

The historic attitude of the more civilized world is summed up in the little note that the King of Poland addressed to Queen Elizabeth:

“Our fleet will seize all those who continue to sail thither [the Russian ports on the Baltic]; your merchants will be in danger of losing their liberty, their wives and children, and their lives. Since we see by this traffic the Muscovite, who is not only our enemy today but the hereditary enemy of all free nations, furnishing himself thoroughly . . . We have thus far conquered him because he is ignorant of the art of war and the *finesse* of diplomacy. Now, if this commerce continues, what will there soon be left for him to learn?”

From the beginning of modern times has Russia had to fight not only against a most difficult natural position, but also against the hatred and fear of the West. Against this feeling she has waged a continual war, costing hundreds of thousands of lives and millions of money. As the result of a long series of campaigns she gained an outlet on the Baltic. Similarly, after having fought for two centuries she managed at last to get control of the northern shore of the Black Sea. But in each of these cases the advantage so dearly bought has proved to be of comparatively little value, the Black Sea being an internal water and the Baltic closed to traffic most of the year. In each case, too, the Concert of Nations has taken from her part of her gains. In her struggle for the Mediterranean she made the great mistake

of allowing it to erect, partly out of the conquered territory taken from her, the little independent buffer States Rumania, Servia and Montenegro, protected by the rest of Europe, and thus cutting off all likelihood of her success in that direction except at the cost of a general European war. After the Congress of Berlin in 1878 she attempted to hold for a time the influence she had gained in the Balkans, but the growth of the new national feeling there gradually convinced her that, for a time at least, she could put her efforts to better use to getting the much-needed Asiatic outlet.

The Russian progress in Asia has been marked by none of the vindictive and frightful wars that were the cost of her growth in the West. Pushing on and assimilating and conciliating, she has made her way to the Pacific, quietly and unostentatiously—rapidly and conclusively. More than a century and a half ago she had arrived on the Pacific, but because of the great distance and difficulty of travel, and also because of her inability to carry on trading by sea, she had not been able to advance far enough south to get control of a port on the open ocean.

But the necessity of such a possession has been constantly before the eyes of the Governors of the Amur Province for the last fifty years, and they have done what they could by hook or by crook to encroach on Chinese territory. They saw that the only alternative to ultimate possession of a practicable port was the abandonment of any hope for the future development of the Province. Not only have they made the best use of the roving bands of Cossacks who could be backed up or left to their fate as seemed the most politic, but they have been so steadily at work advancing the Russian influence at the Chinese court that now it is preponderant. Because of this court influence and also because of her marvelous diplomacy she has managed to work farther and farther south in the Province of Manchuria until now at least half of what was included in its original boundaries is under her flag. Those most intimate with Russian policy know, moreover, that through her Kalmuck sovereignty she has been able to establish a decisive influence at the court of the Llama of Tibet. This Far Eastern Pope has been gradually surrounded by a court not only of Russian sympathizers, but also to a great extent of

Russian subjects. As a matter of fact, less than two years ago the man who, in Western parlance, corresponds to the Llama's Prime Minister was in St. Petersburg making his obeisance to the Czar and his ministers as a loyal subject of the Russian crown. Thus having an almost impregnable hold on the two most important of China's rulers, the Emperor and the Buddhist High Priest, she was able to make advances of a kind and in a manner impossible to any other nation.

Late in the eighties she began the construction of the trans-Siberian railroad, realizing that without some more rapid means of communication she would be apt to lose the hold that she had so skilfully acquired. But before this great project could be finished the Chino-Japanese war broke out, to end in the complete rout of the Chinese and the seizure of Korea and great territories on the Chinese mainland. Such a situation was insufferable from the Russian standpoint, so, forming an alliance with France and Germany, she did to Japan in Asia what had so often been done to herself in Europe—she compelled her to give up her prizes on the mainland; and then divided up the choicest portions of the spoil with her two partners in the interference. The forced revision of the Shimonoseki Treaty as it first existed between Japan and China, giving Japan special privileges in China and a practical cession of Korea and large parts of the Chinese mainland, marked the beginning of a new era in the politics of the East—the awakening of the European powers to a realization of the fact that Europe was no longer the centre of world politics.

The reason for Russia's conduct in this matter are not far to seek, as they were of the utmost importance to all her hopes for future economic development and political safety. It is a curious fact that the other nations in their dealings with Russia and China seem to have forgotten or at least to have ignored the peculiar geographical and political relations that exist between the two countries—that they have tacitly assumed them to be the same as those between China and the western European States. The fact that Russia and China have a common border for several thousands of miles has been lost sight of in the dust raised by the conflict in Korea and the Gulf of Pechili.

The only other European countries having boundary questions with China are England,

whose dependency, Burma, has a remote and mountainous border on China, and France in Cochin—border-lines in each case of comparatively little importance. China, if she should ever become strong enough (and there is little doubt that she might), would be able to attack Russia anywhere along this long border of four thousand miles, would be able to strike her in her weakest parts, and play such havoc with her European as well as her Asiatic dominion as no other nation could. While the only thing that China could conceivably do to the other foreign nations would be to take reprisals upon their interests on her coast or in her territory.

That this fear of China is well founded for the Russians is shown by the fact that they have not yet fully recovered from their two-century-long subjugation by the Manchus. Many of the races now subject to the Russian flag could be as easily assimilated by the Chinese as they have been by the Russians themselves. And the Chinese are a homogeneous body of more than 400,000,000 of people, intelligent, and capable of turning out the finest material for soldiers in the world; who are only held back by the lack of an informing intelligence and will. In consequence of this, Russia has come to the very sensible conclusion that if she would be safe from the "Yellow Peril," in which she includes Japan as well as China, it is necessary either that China be completely under her influence or that she be kept in the same condition of ignorance and helplessness that the other European nations kept Russia herself in for so long. Our American Monroe Doctrine of "America for the Americans" has only the vaguest justification as compared with Russia's justification through necessity of her policy of "northern Asia for the Russians." Russia fears a revolution of the subject races; and this accounts for much in her attitude that the West habitually fails to understand. If Japan should ever acquire a hold on the mainland, or even great influence at Peking, and supply the intelligence and will now lacking there, there would be an imminent danger of her being a leaven in the Chinese mass, teaching it the things that she has herself only so lately learned from the West, and welding it into a mighty war machine with which she could menace the rest of the world with comparatively little danger to herself. The Chinese have suffered

more indignities and bad faith at the hands of Europe than any other country has ever received, and her memory is known to be terribly long. For Russia, then, the "Yellow Peril" that the rest of the world laughs at is a fact of the hardest kind, to be forestalled if possible and always to be guarded against.

than money indemnity, were of the utmost strategic value.

But while all these things were happening on the far eastern shore of Asia, Russia had begun to feel the necessity of getting an outlet to the southern seas for her central Asian possessions. She started by making



SKETCH MAP OF RUSSIA AND THE NEIGHBORING STATES, SHOWING THE COAST-LINE AND THE PRINCIPAL RAILWAYS

It always means China, and may any day mean China plus Japan.

The attitude taken by Russia, Japan and China toward Korea may be better understood if it be compared to that of England, France and Germany toward Belgium in the Far West. The two positions are exactly similar in every respect.

Such are the reasons for Russia's keeping of Japan from the mainland, and her grasping of Port Arthur, a beautiful harbor capable of the strongest kind of fortification and dominating all approach by sea to Peking, for her steady encroachment on Manchuria, and for her attitude toward the Chinese court and the other nations who have, comparatively speaking, but small trading-posts along the Chinese borders. For the same reason it was Russia who, at the opportunity given by the killing of the missionaries and the attacks on the legations at Peking, not only played the part of China's best friend, but also managed to exact in compensation railroad franchises and mercantile concessions which, while being easier for China to pay

advances toward the mouth of the Indus, but she has been stopped at the frontier of Afghanistan, for the time being at least, by England. This route failing her, she has succeeded in becoming the best friend of Persia, and in getting from her concessions for railroads and commercial rights that are exclusive. Persia has entered into a compact not to allow any railroad to be built in her territories except by Russian capital and under Russian control. She has also made loans of Russian bankers backed by the Imperial Government that place her financial future in Russian hands.

This railroad compact has been of the greatest importance to Russia's strategic position, as it has definitely cut off any hope of the Berlin Government being able to push its rail lines in Asia Minor farther than the Persian boundary. This and England's proclaiming of a protectorate over the little State of Koweit, which possesses the only available harbor at the head of the Persian Gulf, has served not only to check Germany's advance toward the East, but has also been

the cause of more international bad blood than any recent event except the Fashoda affair. Except for these interventions, Germany would have had in the course of the next few years an all-rail line in her complete control from the Persian Gulf to Munich and Berlin. This would revive one of the earliest of the old trade routes and place definitely in Germany's hands the cheapest and best route to the Far East, so giving her the advantage now long held by Great Britain as the European *entrepôt* for all goods coming from the East. But the greatest strategic advantage for Russia of this access to the Persian Gulf is that, if she be able to override the strenuous objections of England and get a good harbor in Persian territory, it will give her a point of vantage from which she can dominate all traffic on the Arabian Sea, over which all of the British communications with India must pass. In the last few weeks, however, England has made a declaration that she will allow no other country to acquire a stronghold in these waters—making, in fact, a kind of British Monroe Doctrine of her determination that the trade route between England and India must remain absolutely in English hands.

In Europe, ever since the humiliating Congress of Berlin, the relations between Russia and the other powers have not been of the best kind, and since the refusal of Caprivi, the German Chancellor, to renew the secret treaty that Bismarck had made with Gortchakoff, those between Germany and Russia have been distinctly bad, although most ceremoniously and elaborately covered up. The Russian treatment of the Finns has stirred Sweden greatly, while that meted out to the Prussian Poles by Germany has not increased the love of the great Russian Polish population for her. Events in the Persian Gulf have not tended in the least to mollify this Russo-German antagonism. The Austrian monarchy has, during the period since 1878, been passing through a most momentous struggle on the part of the smaller races under her flag to acquire political self-government, while the so-called Pan-Slavic and Pan-Germanic movements have run riot, causing a state of most intense political unrest. The Balkan States have been passing through similar periods of internal turmoil, each time being worse than the previous one. At present the whole country, including the

Macedonian provinces of Turkey, is in a state of disorder that seems likely to precipitate a great international war. In all of these various agitations the hand of Russia has been manifest, here aiding the Pan-Slavic factions, there presenting warlike and hot-headed princes with guns and ammunition, and in yet a third place interfering with Turkey in the Cretan, Armenian and Macedonian troubles.

It would thus seem that Russia, in the pursuit of her schemes, has seen fit to create trouble or, if not quite that, to aggravate existing troubles, in the Balkans in order that she might distract attention from what she intends to do in Manchuria. The Balkans are now in such a precarious state that she has probably deemed the time ripe to complete her occupation of the Chinese province, thinking that the western European States would not be able to spare time or men to oppose diligently her movements in the East. Although on the 14th of May it was announced that the conversion of the six per cents. of one of the Balkan States was practically assured, which would ordinarily indicate a position of financial safety and hope for peace in the immediate future, her surmise seems to have been correct, for it was left to the United States to make the vigorous inquiries necessary as to her intentions in Manchuria. Although Russia has given an official *démenti* to the reports that she has quietly taken possession of the territory she has so long been waiting her chance to grasp, the truth seems to be that the *démenti* was just so much thin air, as on the 15th of May it was announced by the telegraph companies that the rate for the transmission of telegrams in Manchuria had been more than trebled because of Russia's continued occupation of, and high-handed dealings in, Manchuria.

Russia is steadily pressing on at the three points where her proper economic development demands outlets—in Manchuria, in Persia and in the Balkans. In each of these places her moves are insidious, painstaking, steady and slow. She has so far been looking for the outlets before she has had the active necessity for them, her policy in this being like that of our own United States in the matter of railroads—building them before the advent of the population, confident that the population would shortly follow the paths made ready for it.

THE PREVENTION OF TYPHOID FEVER

SOME OF THE WAYS BY WHICH INDIVIDUAL CASES OCCUR—METHODS OF PREVENTION—AN EPIDEMIC INEXCUSABLE—COMPARATIVE STATISTICS

BY

JAMES C. BAYLES, PH.D.

TYPHOID fever is alarmingly and unseasonably prevalent over a large part of the United States. In probably a hundred small cities and towns it is now epidemic; and every one who travels, and scarcely less every one who remains at home, is likely to find himself in the focus of a "sphere of influence" of primary or secondary infection. I shall give some general facts concerning this disease, and some equally general suggestions as to the means by which the danger of contracting it may be minimized, if not averted. This is not a subject which belongs exclusively within the field of the physician. The sanitary engineer and the biologist speak with authority.

The prevalence of typhoid fever in large cities in the fall and early winter months is probably chiefly, though not wholly, due to the summer pilgrimages of those who seek rest and recuperation in the country. It is a broad truth that all the typhoid fever in cities is brought to them from the country. It comes with the water gathered from the hill-sides far afield; with the milk from the farms of beautiful and fertile valleys; with butter and cheese from like sources, and with green vegetables from rural gardens and shellfish from the seashore. Carelessness in dealing with it in cities may account for its propagation by secondary infection, but its beginnings are always traceable to an origin in the country, and if it were possible to draw around a modern city an effective sanitary boundary typhoid fever would probably disappear from its vital statistics. This being impossible, the average man finds the conditions which confront him more interesting than theory.

A consensus of expert opinion would probably show that, judging by the standards of our present knowledge, typhoid fever is caused by the presence in the human body of a specific contagion. The nature of its inducing micro-organism is rather a matter of

conjecture than of demonstration—unless, indeed, this has been reached in the very recent experiments of Doctor Allan Macfadyen, of London. As the lower animals do not contract typhoid fever naturally, and have not hitherto been made susceptible to it by inoculation, the identity of its own peculiar and exclusive germ has not yet been established. It is believed that it is caused in human beings by distinctive bacilli, making their way into the alimentary canal by such vehicles as water, milk and the saliva, surviving contact with the gastric juices of the stomach and, reaching the intestines, there multiplying and propagating their own specific toxin, to the absorption of which the beginnings of the disease are due. The guardian membranes of the alimentary tract are weakened and relaxed, or otherwise impaired, and through them the bacilli make their way into the tissues of the body. This, at least, is near enough to the ultimate truth to meet all the requirements of popular discussion.

The existence of typhoid fever as a scourge of the human race, for as long a period as any form of disease is traceable by clinical records, insures a widespread distribution of the active agents of its infective industry. These might, and probably would, in time become attenuated and ineffective, if it were not true that the supply of fresh and virile bacilli is constantly being replenished by the occurrence of new cases, which are almost equally dangerous as disseminators of the contagion, whether mild or severe. Everything favors the belief that the average man is rarely quite free from contact with the germs of typhoid.

It has often been said of typhoid fever that one may eat it and drink it, but he cannot breathe it. Experience establishes this as a general truth. It does not follow, however, that, so far as typhoid is concerned, bad air may be breathed with impunity. Assuming

that what our English friends call "the smell of the drains" is incapable of implanting the specific poison of typhoid in the human system, it does other mischief, and by lowering the vitality it may predispose one to susceptibility to it. The inference from this is that one who seeks to safeguard himself against typhoid fever should take heed to his general sanitary environment and the appointments of his dwelling, since negligence in these respects will probably undermine his vitality and leave him an easy victim to what might otherwise find him immune.

A learned physician once remarked, sententiously, that as long as one kept well he would not be sick. This apparent platitude embodied more practical wisdom than a great many more impressive utterances. It meant, of course, that so long as the system is not in a condition of susceptibility to extrinsic forces operating to derange its mechanism and to produce the condition we call disease, it is impregnable. While typhoid attacks persons of all ages, its greatest fatality is among those in the prime of life. The period of maximum susceptibility seems to be between the ages of eighteen and forty-five, and within that range the largest proportion of deaths occurs. This, however, may be less of a paradox than it appears to be. Vigorous persons in the prime of life are perhaps less prudent than the young are required to be and the old find it comfortable to be. They indulge in more excesses and incur greater risks in exposure to weakening influences. The consciousness of strength makes them indifferent to warnings which others heed. Very likely the young and strong fail to recognize as soon as others the first symptoms of infection, and go about their business or pleasures until the disease is well advanced. Either they cannot spare the time to be sick or they are impatient of what they deem minor and negligible ailments. This may explain why, during an epidemic of typhoid in central New York, in which an unusually large proportion of victims were vigorous young men, many were found at work with temperatures of 102° to 104°, and some gave no sign of surrender until they dropped and were taken to the hospital in a condition practically beyond medical relief. No doubt the relatively high proportion of mortality from typhoid among the young and strong finds its explanation in imprudence and

neglect. Good general health is the best safeguard known or imaginable against typhoid; and it should not be forgotten that general good health is inconsistent with imprudence in habit or diet.

Undoubtedly the most frequent cause of typhoid infection is found in polluted drinking water. Too many epidemics of it have been definitely traced to single cases on the watersheds or towns and villages to leave any room for doubt on this point. It is most prevalent during periods of drought, when the water of streams and wells is low and the contamination is most concentrated. Generally speaking, the protection of a water-supply is beyond the power of the individual; but even polluted water may be perfectly sterilized by the simple expedient of boiling it. Care must be taken, however, to protect it from subsequent contamination. The cooling which is necessary to render it agreeable to the taste should not be done with ice added to it and permitted to mingle with it in melting, unless the purity of the ice is assured. Freezing does not sterilize water. Indeed, English experiments have shown that the typhoid bacilli quickly recover their vitality and are capable of normal multiplication after exposure to the temperature of liquid air. Ice may be loaded with them, and with other dangerous micro-organisms. A wall of clean glass between the boiled water and the ice which cools it is prudent.

Why the very general use of boiled water does not safeguard more homes against typhoid invasion than it appears to be probably due to the fact that it is not used exclusively. There is almost certain to be carelessness in the kitchen, however great the degree of care in the dining-room. The washing of green vegetables in water from the tap, and its addition to food preparations served uncooked, will often carry the germs to the most scrupulously guarded table. If the water-supply of a house is known to be polluted it should be treated like any other poison. Bottled waters may or may not be safe. It depends partly upon what they are filled with and partly upon how the empty bottles are cleansed between refillings. Since the consumer can know very little about this, however curiously he may inquire, and a is safe in concluding that the environment of bottling-shop is not conducive to the development of the "aseptic conscience," he may feel

more confidence in water he has boiled and properly cooled than in a supply which must be taken largely on faith.

Milk is in many respects the most dangerous article of food which comes into the well-ordered dwelling. It is a peculiarly favorable culture medium for many species of bacteria, and is a favorite vehicle for the germs of infectious disease. Innumerable epidemics of typhoid fever have been traced to it, and there is every reason to believe that it has been doing its deadly work since civilization began, and perhaps for even longer. The normal condition of the milk of commerce is that of swarming with bacteria. Generally speaking, it should never be used unsterilized. The process known as Pasteurization, by which it is heated to 158° or 160°, is the simplest and safest. At this relatively low temperature flavor and digestibility are but little impaired, but all of the bacteria and most of the fermentation cells are destroyed. In no other way than by heat can a household which receives a daily supply of milk be safeguarded against typhoid fever.

The same is true of sea food. Oysters and clams from their natural sea beds are rarely dangerous; those replanted for fattening and bleaching in the sewage-polluted waters of river deltas and tidal estuaries are very real sources of danger when eaten raw. Since it is impossible to know the immediate source of shellfish purchased in the market—geographical designations being in part arbitrary and in part the result of assortment according to size and appearance—their use uncooked may be properly discouraged. The sanitary literature on this subject is voluminous and convincing. Indeed, there are very few things which may be eaten raw with immunity from the immediate danger of typhoid infection. Doctor W. T. Sedgwick, Professor of Bacteriology in the Massachusetts Institute of Technology, says with great force and attractive brevity: "Nothing is more certain in sanitary science than that cookery, which by the use of heat destroys parasites, including bacteria, is of the very highest hygienic value. Writers on the philosophy of cookery do not usually dwell sufficiently upon this aspect of the subject. They are accustomed rather to point to the greater digestibility of starches, meats and fats when these are properly prepared for internal digestion by the external digestion of the

kitchen. They emphasize also the improved flavors developed, which arouse the appetite and stimulate the powers of digestion. These are unquestionably of great importance, but probably far more important in the history of the race has been the fact that by fire food is largely purified from the living parasites and other agents of infection."

Flies are industrious agents in the dissemination of the secondary infection of typhoid fever. These busy little scavengers are not at all fastidious, nor do they permit any one else to be. After wandering about all sorts of unclean places and picking up bacteria, they come in at open windows and doors and satisfy their pampered appetites by visits to the food prepared for the family. A fly in the butter may be assumed to leave behind him, if he gets away, whatever parasitic microorganisms he carried on his feet and legs, or to plant them there if he does not. A good deal less volume of poisonous material than a fly can carry about with him without inconvenience might plant infection in a family, and to paraphrase familiar lines one might say:

There is no household howso'er defended,
But one — fly is there.

The fly is also the agent of a more direct conveyance of typhoid bacilli in the spreading of secondary infection. He has a fondness for lighting on the lips of persons, sick or well, as may be, and every human being indulges more or less in the habit of wetting the lips with the tongue. In this way what the fly leaves behind him may be taken up by the saliva and passed directly into the alimentary canal, there to do whatever mischief may be its normal function. To be effectually safeguarded against typhoid fever one must keep flies, mosquitoes and all other insects out of his house and away from his person.

Digital infection is recognized as one of the many ways in which typhoid fever is carried to persons capable of avoiding other exposure. From balustrades, door-knobs, the hand-rails of street vehicles, the straps provided for those who cannot get seats, and from a thousand other things which one must touch, and usually thinks he may touch and not be defiled, he may get the bacilli on his fingers, and however neat and careful he may be, the path from fingers to the intestinal canal is usually that of "least resistance." Either

he must touch nothing, or he must maintain digital asepsis before touching anything which goes into the stomach. He must also beware of what others less particular than himself have touched in the way of food materials, such as bread from the bakeshop, between the cooking and the eating.

The bacillus of typhoid is not destroyed by ordinary drying. It may be in the dust, and generally is. Consequently one who would be safeguarded against this disease must not permit dust to cling to his moist lips or get into his mouth, or reach his food, or to fall upon what he drinks. Just where he could find such immunity of course I do not know. But I know of many places where the danger is minimized, and this leads to the only moral to be drawn from such a discussion which can be assumed to have any practical value.

If any part of what precedes is true—and all of it would be likely to be so regarded by experts, though properly open to criticism on the score of incompleteness in failing to note many sources of imminent danger—it follows that to secure even measurable immunity from exposure to typhoid infection one must exercise an impossible vigilance. Life would scarcely be worth the trouble and anxiety of a daily and conscientious observance of the precautions which one must take to safeguard it, especially as the greatest possible care and prudence, unless directed by superhuman intelligence, would still leave open doors through which so subtle an invader might find access. The precautions against the occurrence of typhoid fever which are both practicable and effective are those which a community may take, acting through its organized agencies of government, under wise and sane direction. Dealt with in this large way, typhoid is found to be one of the most readily controllable and preventable of diseases. An epidemic of it in a city, town or village is evidence of negligence, more or less criminal, according to the completeness of the machinery which the local unit of political organization has made it possible to provide. The Swiss village of Lausanne in 1872 and the university city of Ithaca in 1903 cannot be compared in a discussion of municipal responsibility for the disaster of their respective typhoid epidemics. Only prophetic foresight could have warned Lausanne of its danger from an unknown, sporadic outbreak of the disease on the opposite side of a mountain; in Ithaca, the community

disregarded for years the most solemn and specific evidences of danger and remained blind to conditions which culminated in overwhelming calamity. A comparison of the typhoid death-rate in twenty-two cities, eight American and fourteen European, will be found instructive. The figures are compiled from the official vital statistics of the cities named for 1901:

	Population	Deaths	Death Rate per ten thousand
Washington.....	278,718	161	5.78
Chicago.....	1,668,575	509	3.00
Boston.....	573,579	142	2.48
Philadelphia.....	1,321,408	444	3.30
Providence.....	178,000	47	2.64
New York.....	3,536,517	737	2.06
St. Louis.....	598,000	198	3.31
San Francisco.....	360,000	70	1.94
London.....	4,544,983	548	1.31
Paris.....	2,600,559	343	1.29
Cologne.....	376,900	30	.81
Amsterdam.....	525,662	40	.76
Dresden.....	493,862	30	.74
Breslau.....	425,504	27	.63
Leipzig.....	491,510	28	.61
Berlin.....	1,801,900	88	.47
Vienna.....	1,735,740	76	.44
Munich.....	593,000	24	.48
Stockholm.....	301,050	13	.43
Frankfurt.....	294,000	0	.21
Nuremberg.....	262,000	6	.23

To the student of State medicine the above table contains no mysteries. The typhoid death-rate is not arbitrary, nor is it due to causes which cannot be accurately recognized. In most of the cities which have a very low typhoid death-rate it was at one time very high, and was minimized by wise measures of municipal improvement, chiefly in the filtration of the public water-supply, the regulation of the milk-traffic and other simple expedients. Any other city or town which is willing to retain expert advice and follow it along strictly practical lines may do the same, and having done so the individual citizen will find himself relieved of the necessity of observing an impossible vigilance not merely in the matter of the personal safeguards above noted, but in as many more.

There are cities and towns in which the steadily increasing prevalence of typhoid fever may cause it to assume the epidemic form at any time. As the rule, such communities will postpone measures of safety until after the calamity of an epidemic has overtaken them. It would be much cheaper to anticipate the need for such reforms and apply to the expense of making them what would be saved by averting the otherwise inevitable evils of much sickness, a high death-rate, paralyzed trade and industry and a reputation for unhealthfulness from which no city recovers quickly, no matter how ably shielded.



A FARMERS' TRUST

HOW FIVE HUNDRED IOWA FARMERS ORGANIZED A CORPORATION TO DISPOSE OF FARM PRODUCTS AND TO FURNISH SUPPLIES— THEIR CONTEST WITH THE MIDDLEMEN—A PROFITABLE BUSINESS OF \$620,000 DONE LAST YEAR, AGAINST ALL THREATS OF COMPETITION

BY

H. A. WOOD

IN a weatherbeaten, two-story frame building on the Iowa prairies is the headquarters of an industry in some ways more remarkable than any coöperative enterprise yet established, even that at Rochdale in England. It is a successful farmers' "trust."

The five hundred farmers who conduct the establishment were several years ago at the mercy of a single firm conducting the general store of the little town of Rockwell to which they went to do their trading. Their products were in good demand, but when they went to town for supplies and to market their grain and live stock the shopman paid them what he wished and sold them supplies at any price he wished—there was no competition. The farmers stood it stoically for a time, but at last rebelled. They turned dealers themselves.

Last year, with an expense for salaries, rent, insurance, etc., of less than \$4,000, they

carried on a business of more than \$620,000 on a capital of \$25,000. During thirteen years closing with March, 1903, this company of farmers has transacted more than \$5,000,000 worth of business without the loss of a dollar. At no time has the capital stock been more than \$25,000, and at no time has the indebtedness been more than \$5,000.

The company is regularly incorporated under the laws of the State. The members come together only at the annual meeting. The articles of incorporation set forth the general nature of the business to be "buying and selling and dealing in all kinds of farm and dairy products, cattle, sheep, swine, poultry, dry-goods, boots and shoes, groceries, hardware, farm machinery, lumber, stone, brick, and all kinds of building material, grain and real estate; and dealing in all kinds of merchandise, and in buying and selling all such kinds of property on commission and otherwise."



THE ROCKWELL PUBLIC SCHOOL



A FAVORITE MEETING PLACE

The business is under the immediate charge of a general agent. The company has power to borrow money provided not more than \$5,000 shall be borrowed at any one time, while at no time may the firm be in debt

more than \$5,000. One of the provisions of the by-laws is that no shareholder "shall sign any bond, or sign, indorse or guarantee any note, bill, draft or contract, or in any way assume any liability, verbal or written, for



A PICNIC GATHERING OF FARMERS AND THEIR FAMILIES



THE PRESIDENT OF THE FARMERS' COMPANY IN THE FIELD

the accommodation of any person, without the written consent of the director, in transacting any business for the society."

No person may become a shareholder except a practical farmer, and no member may own more than ten shares of stock.

Each share is worth \$10. Provision is made for the expulsion of any shareholder who violates any of the provisions of the by-laws or constitution.

The staff of employees is very small. The business practically carries on itself. The



A TYPICAL FARM RESIDENCE



ONE OF THE FARMERS' SOURCES OF REVENUE

company buys all the output of its members and sells to the farmers what they need. Others than members may buy, but such trade is not specially sought. Supplies are sold at a little above cost, though outsiders

pay slightly more. The wares handled include farm implements and farm machinery, flour, fence wire, fuel, salt, lumber, oils, and the like. There has been so far very little retailing. The company does not come into competition with the small dealers. It owns its own elevator for the storage of grain and maintains its own lumber-yard. Supplies of all sorts are bought in large quantities, in carload lots or more, and are then stored in warehouses.

When I first went to Rockwell the enterprise appeared on its face merely a trust in miniature. But I found that these Iowa farmers court competition, welcome rivalry, invite healthy opposition. The point is well illustrated by the following incident:

It was discovered by the grain-dealers that these farmers were paying more through their agent for grain than the grain-dealers thought ought to be paid. The farmers were remonstrated with. The farmers responded that they were satisfied that they had been receiving too little for their grain; hence they had raised the price. The grain-dealers, unable to bring the farmers to terms, then threatened to put an agent in town to outbid them.



THE COMPANY'S ELEVATOR

They threatened also to sell farmers' supplies below the farmer company's price and to put up an elevator opposite the farmers' elevator and pay fifty cents for corn when the farmers could pay only forty-five.

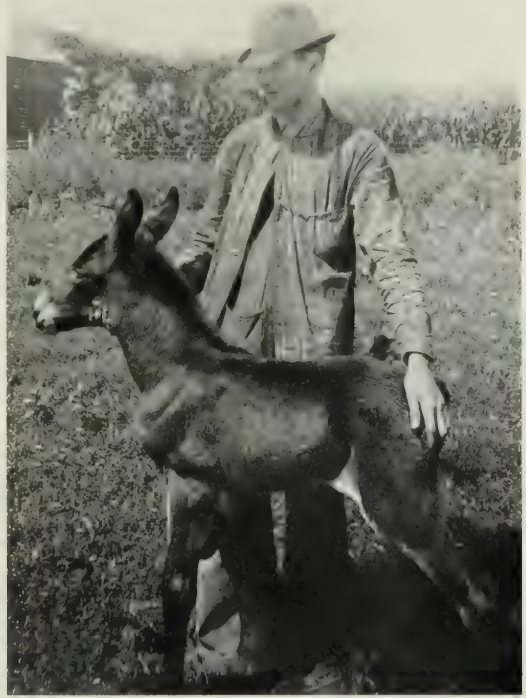
To all of this the farmers replied: "Come right along; what we want is competition. We are paying more for produce now than is being paid in any other town in the State. We are selling to ourselves at lower rates than those of any other dealer in the State. If you can come in and pay us more than we can afford to pay, and sell to us lower than we can sell, we—which means the farmers—will gain both ways. If you establish a grain elevator opposite our own and pay more than we do, we will all go there and sell to you."



A FARMER WHO HAS BEEN A STOCKHOLDER IN THE COMPANY SINCE IT WAS ESTABLISHED

The grain-dealers returned to the attack with a threat to influence the railroad company to stop shipping the produce and supplies of the farmers. But the farmers had a large

amount of raw material which the railroad company wanted to ship, and they bought large quantities of goods. This made them desirable customers of the railroad. More-



A NEWCOMER ON THE FARM

over, the railroad was a common carrier and could be compelled to haul. The farmers' position was impregnable.

Then an association of dealers in agricultural implements said to the manager: "We understand that you are selling to your members at wholesale rates. You must stop it. Your farmers must buy their machinery of the retailers, to whom we sell. We won't sell any more at wholesale."

Whereupon the farmers rejoined that if they could not compel a dealer to sell needful articles to them they would buy in the open market in other parts of the country; and that failing in this, they would manufacture implements and machinery for themselves. Again they won.

In investigating the workings of this company in Rockwell, I found that these five hundred farmers are worth at least \$5,000,000. Their farms are perhaps a hundred and sixty acres in size on an average, some of them con-



A PEACEFUL PRAIRIE STREAM

siderably larger. The land has steadily increased in value in the last two decades, and particularly since the company was established, until such well-tilled, well-equipped farms as these men own are worth all the way from \$50 to \$80 per acre. As a body the members of the "trust" have nothing to do with politics.

The town of Rockwell has grown more than fourfold since the concern was established. More than half the population is made up of retired farmers, many of them members of the firm. They have administered the affairs of the town with discretion, economy and common sense. The town enjoys nearly all the modern public utilities—telephones, electric lights, a water system; it has fine public schools and a large private or parochial school, while there are the usual number of churches.

The home life of the farmers does not materially differ from that of other progressive western farmers. As the beneficent results of the advanced agricultural education of the last twenty years have become more widespread, the farm life of the west has advanced, until today, in the home of the progressive farmer, music, the best of magazines and books—indeed, some primary show of a love for real art, are distinguishing features, separating the farmer of the present from the farmer of the past for all time to come.

As the success of the "trust" has been carried from farm to farm across the immediate country, similar organizations have been effected and favorable reports are being made. There appears to be no obstacle in the way of an indefinite expansion of the plan.



A HERD OF CATTLE ON ONE OF THE FARMS



BUILDING AMERICAN BRIDGES IN MID-AFRICA

THE EXPERIENCE OF AN ENGINEER IN CONSTRUCTING TWENTY-SEVEN VIADUCTS IN THE JUNGLES—HUNTING LIONS FROM A HAND-CAR ON THE RAILROAD—A TRIUMPH OVER ENGLISH COMPETITION IN MAKING THE LAST LINKS OF THE UGANDA RAILWAY BETWEEN VICTORIA NYANZA AND THE SEA

BY

A. B. LUEDER

ENGINEER AND AGENT IN CHARGE OF THE WORK
Illustrated with photographs taken by the author

WHEN I received orders from the American Bridge Company, of New York, to go to East Africa as engineer and agent in charge of the erection of twenty-seven steel viaducts along the line of the Uganda Railway, it would have puzzled me to find this road or its terminals on a map of that continent. The company had not concerned itself with geography in competing for the contract, as the specifications furnished by the British Government were sufficient for preparing the plans. My instructions were to go and find the Uganda Railway and to arrange for beginning operations. It was evident that I had to find out all I could about native labor and customs, climatic conditions, supplies,

camp, unloading sites and transportation for a large enterprise twelve thousand miles from home.

With an assistant, Mr. H. P. Murray, I sailed by way of England, in April, 1901, remaining in London between steamers to meet the engineers for the Crown Agents of the Colonies, and to gather facts about the Uganda Protectorate, and about the railway to run from the coast straight into the heart of Africa, through nearly six hundred miles of wilderness. The immediate control of the railway was in the hands of the engineer in charge in Africa, Sir George Whitehouse, and nothing was to be gained by seeking detailed information en route. A steamer of the Dutch East African Line, starting from Naples, carried us direct to Zanzibar, without

trans-shipment, and the deep-water voyage of six weeks ended at this port, which was only seventy miles south of Mombasa, the coast terminus of the Uganda Railway.

One wretched night's voyage on the deck of a crowded little coasting steamer, with a slant like the roof of a Swiss cottage, ended in the beautiful harbor of Kilindini, on the Island of Mombasa, near the town. A bridge a quarter of a mile long across the deep water-way between island and mainland brought the meter-gage railway to its Indian Ocean

ployees, with a rich coloring of native and coolie swarms.

I found lighterage and landing facilities adequate to handle the cargoes of steel and lumber expected, and as soon as a train was ready I started up country, to find Sir George Whitehouse at the railroad centre of Nairobi, three hundred and twenty-five miles from the coast. Traveling was uncertain. It was no infrequent annoyance to find the train that one was waiting for a week or ten days late. Engine drivers left home expecting to



CLEARING THE RAILWAY ROUTE AHEAD OF THE STEEL-WORKERS

terminal, whence it ran up country toward Lake Victoria Nyanza, whose shores were to be linked with the civilized world. Only a little while ago Victoria Nyanza was a notable discovery. It was an interesting prospect to think of hustling a gang of American bridge-men to its banks over a railway that climbed past the forests of the pygmies.

Mombasa is a picturesque mixture of old Portuguese settlements fringing the water, and a patch of British Empire in the offices and homes of the railway officers and em-

return next morning, and wandered back sometime in the following week. Washcuts and breakdowns which blockaded traffic made through travel as haphazard a venture as an exploring expedition.

From the coast the road climbed steadily, ascending more than six thousand feet in the first three hundred miles. There were no settlements worth the name. Corrugated iron shanties and tents marked the railway; telegraph and construction posts, and little clusters of native huts and a bungalow or two

nearly a hundred miles apart, showed where the white trader or railroad employee was a town unto himself. The plateaus held huge possibilities for grazing and farming wealth.

But on the surface of things the railway was little more than a remarkable missionary enterprise and a wedge in empire-building. The heart of Africa seemed as it had always been. Thousands of antelope and zebra grazed within sight and easy range of the trains. Ostriches acted as pacemakers and sped beside the car windows, almost within reach of the outstretched hand. Steinbock and gazelles joined in the amusement, and big game could be killed from a passenger coach.

In the previous year of construction twenty-two natives had been carried off by

to the front seem like finding a multitude of circuses released for a holiday.

Narobi was a settlement of about three hundred white men and their families, most of them railway and Government employees, with a few merchants and settlers. At that time the railway had been pushed inland four hundred and ninety miles, leaving eighty-two miles of track to be laid to the shore of Victoria Nyanza. The working maps showed that the twenty-seven steel viaducts were to be erected within seventy-two miles of roadway over the ragged ravines of the Mau Escarpment, a mountain range rising eight thousand feet above the coast-level. In other words, our progress would carry the road within forty miles of Port Florence, the lake terminus. The limits of our enterprise were mile-posts "460" and "532."



BAND OF MASAI VISITING CAMP



NATIVE RAILWAY POLICE

lions from the camps and embankments, and the beasts were often shot from trains. A few months before my trip to Narobi a white man had been pulled from a passenger coach that was waiting on a siding and killed before his companions could attempt a rescue. Rhinoceroses occasionally charged locomotives, and among the experiences in the day's work of one train-crew was the annoying enthusiasm of a rhinoceros which tried to assist the engine-driver. A caboose and several cars were being switched, when the beast lumbered up behind and insisted on pushing and butting the caboose until he had it fairly started against the brakes on a down grade. The cars smashed half-way through a station, while the amateur locomotive stood in the middle of the track and viewed his success with an appreciative eye. First impressions such as these made the journey

I was able to go as far as the sites of the first nine viaducts in this preliminary survey; then I returned to Mombasa to organize the coast base before returning to the front to undertake the real labor of preparation in the field. Nearly twenty thousand East Indian coolies were employed on the railway construction, indentured to the management for terms of from two to five years. The Crown engineers offered to lend me as many of these as might be needed, under contract to pay them the Government scale in rations and wages. Wages varied from \$4 to \$15 a month, and the rice rations cost \$2.25 a month for each man. Native labor was cheaper, at \$3.25 a month, and rations at only three cents a day. There was no difficulty in contracting for all the labor required, in quantity rather than quality, but I had much to learn about handling, organizing



"GUNGA DIN," THE WATER-CARRIER



FITTING GIRDERS

and providing for this exceedingly raw and barbarous material.



ENGINEER A. B. LUEDER AND HIS FIRST LION

A working command of the native language was made possible by the use of a dialect

called Kiswahili, fashioned from the tongues of many tribes, with a flavor of Arabic. It had been spread in the old slave-trading days, and was understood through nearly all the railway territory and along the coast. The complicated tangle of caste and custom that ruled among the East Indian laborers had not been a part of the previous education of employees of the American Bridge Company, and had to be learned, for my associates and I were to be police, judges and jury for more than a year.

After spending three months in studying conditions, I left Mr. Murray in charge at Mombasa as forwarding agent and went inland to the real base of the expedition. The first viaduct was to be at Elburgen, a mere dot of a railway camp four hundred and sixty miles from the coast. For sixty miles ahead the railway had been carried as a construction line by building reversing tracks that trailed up and down the sides of the deeply torn ravines and water-courses. The permanent way was waiting for the chain of viaducts whose concrete foundations were



THE FOREMAN ENTERTAINING CALLERS



A BRIDGE BUILT HALF-WAY ACROSS A GULLY



THE "TRAVELER" ON THE BROW OF A RAVINE



CONSTRUCTION WITH WOODEN FALSE WORK

being built by the railway engineers. Over the last forty miles I did not see the ground in advance, as not even the grading was begun. The railway caught up with the bridge-building over this part of the route, and the material was pushed up behind us.

The plans for crossing the Mau Escarpment provided for the twenty-seven viaducts, which varied in length from 120 feet to 880 feet, and in height from 36 feet to the elevation of the highest steel bridge in Africa, whose towers rose 112 feet from the bottom of the ravine.

At Elburgen, a year's supply of provisions for the native force was stored, and separate camps were made for the Africans, the coolies, and the American bridgemen. Three cargoes of material were sent from New York, timed to arrive as they would be needed. The amount of material to be handled over the five hundred miles of most uncertain railway was thirteen million pounds of steel and a half a million feet of southern pine lumber for bridge flooring, in addition to tools and a year's provisions for the American party. There were more than a hundred

thousand separate pieces of steel in these cargoes—the heaviest weighing five tons,



BUILDING STEEL TOWERS 112-FEET HIGH

though the average weight was not more than a hundred pounds. The first shipment



EAST INDIANS SPIKING FLOOR TIMBERS



LAYING THE SOUTHERN PINE FLOORING



SHIFTING THE EXPEDITION TO A NEW VIADUCT SITE



A COOLIE RIVETING GANG AND AN AMERICAN "BOSS"

reached the front in December, 1901, just ahead of the workmen. There was time for overhauling it in advance and erecting the first steel derrick in East Africa, which I accomplished with the help of a gang of Africans. The parts had been numbered and lettered in the shops of the Pencoyd Iron Works, and, as a third precaution against confusion, the pieces for each viaduct had been painted a different color. It could be seen at a glance to which structure any stray piece belonged, and as a result of this system the material was in shape for the bridgemen to use on the first viaduct as soon as they should tumble into camp.

The American party landed at Mombasa in December in charge of Mr. N. R. Jarrett, who was sent out as superintendent of construction. He had seventeen bridgemen selected from the erection force of the company; a foreman, J. L. Frazier, and a clerk, making twenty-one the total strength of the American force.

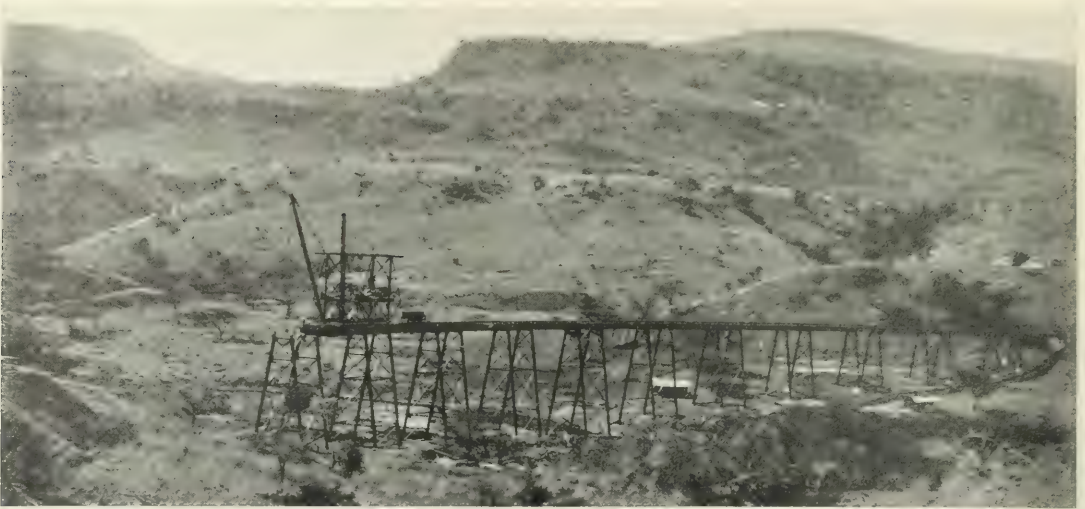
All were new to foreign work and anxious to make a record for speed and efficiency on a contract won in competition against English rivals in a British Government enterprise.

The party was rushed up-country in a special train. They came sitting on the

tops of cars, admiring things strange and wonderful, with shouts and gestures through all their waking hours. The new outfits of *khaki* and pith helmets fitted them awkwardly, and they wriggled like so many stage "supers" in generals' uniforms. Mr. Jarrett detrained his open-mouthed force at Elburgen without mishap. The bridgemen "found themselves" as soon as they saw the heaps of girders and angle-irons and the home-built derrick. They plunged into overalls, and instantly there was a stir among the natives and coolies, whose camps a few hours later buzzed like beehives.

The laborers were quickly divided into gangs under white foremen, and within three days after its arrival the thirty-ton "traveler" was put together, steam was made, and the big machine was ready to swing out over the first ravine. The first viaduct was assembled in less than a week after the men came into camp, and the traveler was then moved on to the site of the next structure.

The erection work would not have been uncommonly difficult at home, although all the work was on grades and curves and some of it awkward to handle. Handicapped by native labor, Mr. Jarrett and his force made a creditable record for any country by



THE "HOME STRETCH" OF AN 880-FOOT VIADUCT

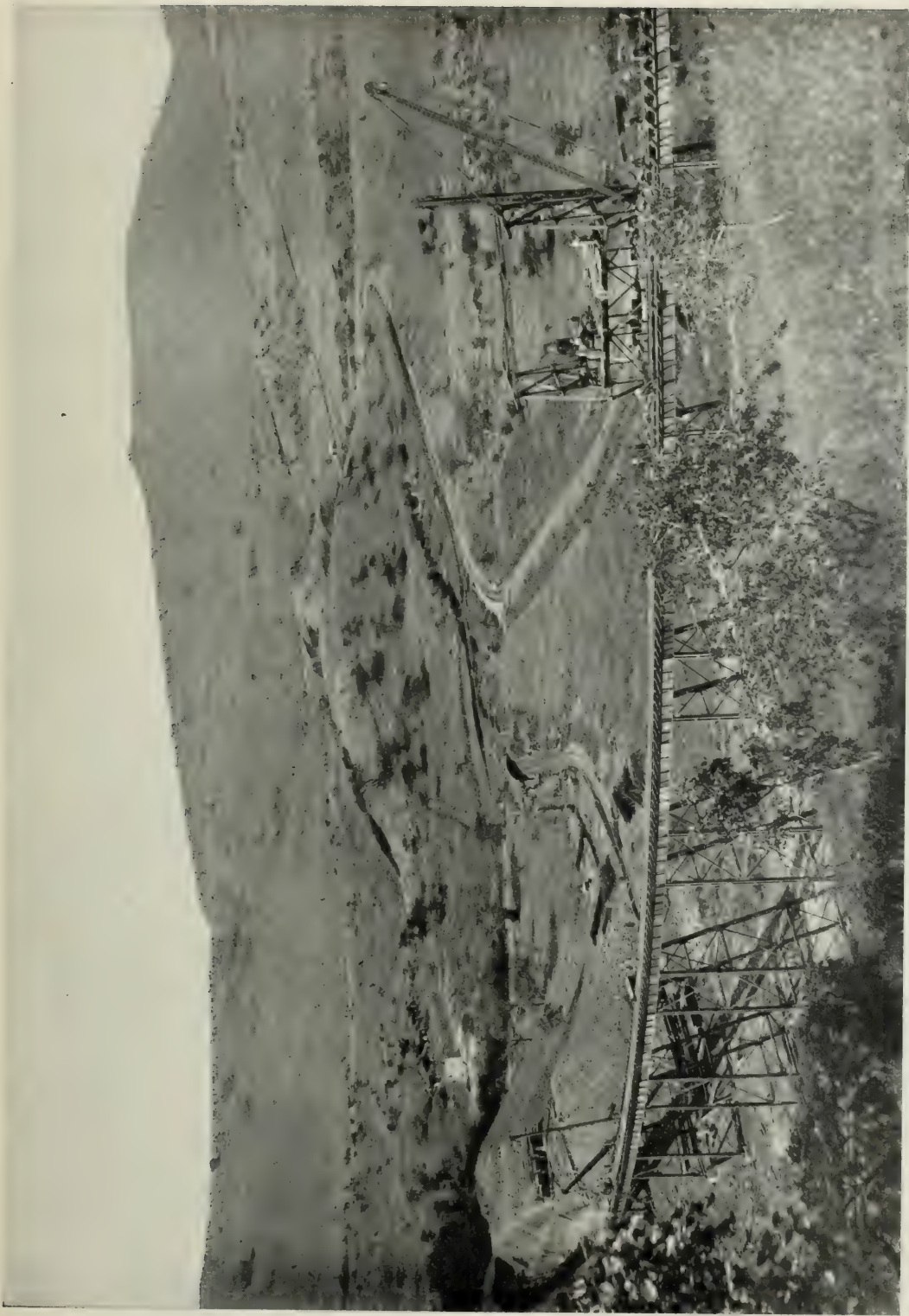
completing a viaduct 880 feet long and 75 feet high in sixty-nine and one-half working hours. The structure was hung against an almost inaccessible hillside, and it sloped both ways, with a double slant.

When the concrete foundations were in shape to build on, and no unforeseen obstacles such as floods and labor agitations made delay, the work progressed with smoothness and rapidity. The big "traveler" swung the steel in place as easily as fitting a puzzle together. The few parts lost in transit were replaced in the field by hammering them out by main strength in an improvised forge and machine-shop set up in camp. After the first viaduct was erected, the force was able to put together many of the others almost without consulting the plans. In building the smaller bridges and towers, those from 150 to 400 feet long, it was not necessary to employ the "traveler." Derricks shifted and set in place the material, and the steam "traveler" was kept in reserve until an undertaking worth its while was confronted.

The Americans worked ten hours a day and took no special health precautions except to keep their heads covered in the sun and to drink boiled water. There was no serious illness throughout the year, although the climate was uncommonly trying, because in the mountains the temperature ranged from a hundred and more degrees at midday to the freezing point at night. Men toiled in a blazing welter of tropical heat, to shiver under several blankets a few hours later.

The costly difficulties came in handling the small army of laborers and moving the camps. The American bridgemen were several months in learning how to manage the coolies and the Africans without friction and confusion. The caste among the Hindus, Sikhs and others, the distinctions among races and trades, were so many forms of insanity to the American mechanics. For example, all drinking water had to be brought long distances up the railway. Four separate tanks must be provided for the castes among the Indians. If one tank ran dry, though the three others were full, it was yet necessary to send a train after water for the empty one. The Hindu would perish rather than drink from one of the other supplies. In making camp, the greatest care was necessary to prevent confusion of property among the castes.

There were no general strikes, but the coolie had a way of organizing himself as an individual striker and refusing to work without any tangible reason. It then became my painful duty to act as the duly authorized court of justice. The punishment was a fine of wages or a flogging laid on with a rhinoceros-hide cane—twenty-five lashes the limit of severity. The whippings were applied to the native laborers chiefly for the offenses of stealing and trying to run away. After two or three months in the field the Africans became almost useless because of homesickness. They pined to return to the coast, and it was found expedient to send them back in gangs when the symptoms became troublesome.



COMPLETED VIADUCT ACROSS A RAVINE OF THE MAU ESCARPMENT

SHOWING THE WINDING TEMPORARY RAILWAY BEYOND



THE AMERICAN FORCE BOUND FOR VICTORIA NYANZA ON A FOURTH-OF-JULY EXCURSION

As soon as the American force became accustomed to the most striking peculiarities in the customs of their crews they handled them effectively and hustled them along in a fashion that opened the eyes of the British railway men. They were anxious to get done and go home, and delays beyond their

power to remedy kept them working at top speed whenever the way was clear. The concrete foundations were built by the railway, and by the terms of the contract were to be ready for the viaducts as the American work was pushed along. But the steel set a faster pace than the concrete followed, and in



MOVING NATIVE LABOR UP-COUNTRY ON THE UGANDA RAILWAY FOR THE BRIDGE-BUILDERS

waiting for the foundations several weeks of erection time were lost.

It was expected that the twenty-seven viaducts would be finished in seven months. Waiting for foundations and the vexatious task of shifting the camps were responsible for nearly doubling the time required. The bridgemen were in the field from the fifteenth of December, 1901, until Christmas of the following year. The viaducts were erected at a speed of a week to each job, but one week in two was lost for the greater part of the year in shifting camps, tools, supplies and the labor army to new bases. It was impossible to foresee in advance the nature of the obstacles likely to hamper and delay. Our trains were often lost or stalled down the line for two or three days. Mention has been made of trifling interruptions of ten days in the regular train schedule; and while the railway management attempted to supply us with special trains for moving the camps, traffic arrangements on the Uganda trunk-line were not to be dealt with on any systematic plan. It was not uncommon for a train to be blocked between stations many miles apart. At such times the crew walked to the nearest refuge in daylight rather than pass the night in a country where lions had established a precedent for hauling travelers out of their trains.

When a train had been secured there were five camps to be moved in each shift. The mixed army of helpers was not easy to hurry. They were often swept aboard and off the trains by sheer power of will and muscle.

When the men were once encamped, the work went with energy and effectiveness. One gang of laborers sorted the steel and ran it along on cars to the men on the bridge. On the structure Americans fitted the parts together with native helpers. The riveting was done by coolies and natives under a young Englishman named Robinson. He knew the country and the Indian labor and proved himself a rarely handy man. At home four men work in a riveting gang, while in Uganda two extra hands were employed, one "bucker-up" and an extra boy at the forge. In comparing the efficiency of the natives with our white bridgemen, it was a fair estimate to reckon one American worth five of the African or coolies. But it was cheap labor, and this advantage helped to balance the lack of efficiency.

The American party worked the solid year without a rest and without leaving the scene of operations along the railway. The men hunted for diversion, and varied the commissariat with all the antelope steak they wished. There was endless entertainment in studying the native tribes, Masai, Wahakuyi, and others which flitted across the railway and hovered around the camps. The pygmies who skulked in the Mau forests and fled at the clamor of the riveters were the tribes whose discovery was discredited scarcely more than a generation ago. They never overcame the timidity which kept them hovering in ambush to watch the bridges spring suddenly across the deep ravines as if by some new sorcery. The pygmies had been cruelly punished just before we climbed the Escarpment. A party of them had stolen ten miles of telegraph wire from the through line to the coast to use in fashioning leg and arm ornaments. A band of Masai were sent on the trail of the pitiful little thieves, and they killed all those that were overtaken. Several took refuge in hollow trees and were stabbed to death like rats in their holes.

The bridgemen tired of the monotony of an existence five hundred miles from the nearest semblance of a city. The mildest mannered man becomes cranky under such conditions, but Mr. Jarrett and his foreman, Frazier, had their gang well in hand and under excellent discipline, pulling them through with no serious trouble. They had only one holiday, except Sundays, during the year. The Fourth of July found the viaduct builders within seventy-five miles of Victoria Nyanza, the work about half way to completion, and eleven finished viaducts behind them. The railway had been pushed ahead as a construction track without waiting for the remaining viaducts, and Port Florence was connected with the coast, a fact which was laughed at as a prediction when made by Stanley fifteen years ago. By way of celebrating the Fourth, the American Bridge Company ran a specially conducted excursion to Victoria Nyanza. The men realized the startling novelty of the pilgrimage and hailed it as a good yarn to carry home. Port Florence was not a metropolis, but a Fourth of July could not be commonplace which included dancing with native belles and hunting hippopotami on the edge of Victoria Nyanza.

The railway terminus was a cluster of corrugated iron huts and tents in which dwelt a few English and German traders and the railway staff. It could be called scarcely more than a terminal site. The railway brought up cotton cloth and other merchandise in native demand, and took to the coast ivory, skins and coffee from this distributing and collecting centre of the lake trade. Port Florence was not sufficiently organized to support an American Fourth of July without serious strain. The terminus was violently agitated before sunset, but no more so than the party of bridgemen who took to boats in chase of the hippopotami. The great brutes fairly swarmed close by the port, and the hunters found themselves surrounded by nearly a dozen of the "hippos." One of the party was so shaken in mind that he emptied his rifle skyward and then demanded to be set ashore with all possible speed.

The eighteen months of my exile dragged heavily at times, yet nowhere else in the world could I have found so highly colored an experience in bridge-building. The teeming animal life had not been frightened from the trail of the screaming locomotive. There was always the chance of a peevish rhinoceros making a tangle of angle-irons, coolies and bridgemen, or rooting up a camp. I took considerable pains to plant a vegetable garden in one of the camps from which we worked as a base for two months. The crop was coming on finely when a rhinoceros devastated the garden patch in a night, within a few yards of the door of my shanty. The clerk, C. N. Gumberling, killed a lion from a construction train at less than three hundred yards range. None of the party was injured by animals, although leopards caused some annoyance at times by carrying off sheep and dogs.

One of the American force was not wholly convinced that the big game so plentiful in the region was more dangerous than the menageries that had gladdened his boyhood. He busied himself with a camera in his leisure time, and the extent of his photographic zeal was revealed in a hunting trip a few miles from camp. He was emphatically cautioned to take no chances in the neighborhood of a wounded rhinoceros, and he professed to be seriously impressed. I wounded a female with a calf at her side, and she wheeled with a wicked rush, as if about to charge.

Diving for cover, I turned to look for my companion. He was standing in the open, camera cleared for action, and his gun on the grass behind him. There was anger in his eye and profanity in his speech as he shouted: "I thought you said the beast would charge us if you wounded it. There she goes clean out of sight and I didn't get a picture. It's an outrage, and I don't expect to have another chance like that."

Another member of the white gang could have furnished information about a charging rhinoceros at close quarters. He was toiling in charge of a gang of coolies who were carrying antelope meat to camp. A wounded rhinoceros scattered the group with the fury of a landslide, and as I scrambled toward the scene of disorder the white man picked himself up and sputtered: "Did you see him? Four horns he had, and every one of them ten feet long. At first I thought a boiler had exploded on the line. It will take me an hour to get my niggers collected and composed fit for work again."

A somewhat detailed account of one adventure may help to show that viaduct construction on the Uganda Railway was more thickly sprinkled with incident than the ordinary routine work of an American engineer. Early one morning an engine-driver told me that a fine lion had been seen near Njoro, sixteen miles from our camp. As many as fifteen lions had been seen together near Njoro a few days before, and I was certain that the railway man's information was correct.

During the day I met J. M. J. Smith, a civil engineer in the employ of the railway, who was eager for a holiday. As no down train was due that afternoon, we decided to make the trip on a hand-car or trolley. Packing food, beds and blankets, we had a flying trip on our special car, down a two-per cent. grade nearly all the way, whizzing past thousands of zebra and hartbeest grazing within easy shot, while an alert and ambitious brace of ostriches tried to set the pace alongside and were nearly run off their feet. The station at Njoro was a water-tank, a corrugated shanty and one tent. We made camp for the night and were up at daylight. It seemed worth while to board the trolley and patrol the track for two or three miles, a novelty in lion-hunting which commended itself to the amateur as eminently safe and comfortable. The station had not been left

more than two hundred yards behind when an imposing lion appeared on a knoll as we rushed out of a cutting in the rock. The big beast vanished as we jumped off, and then showed against the skyline for an instant, about five hundred yards away. It was making toward a small stream, and just before the bank was reached I took a snapshot with a Savage .303 rifle. The lion was hit in the foot and snarled in pain as it limped across the stream. As it leaped up the opposite bank not more than two hundred yards distant Smith fired and made a clean hit through the stomach. The wounded lion bit and tore at its side, growled and turned to face us as if about to charge. The bearer was ordered to keep close at hand with my heavy express rifle, and we crossed the river only to lose sight of the game in the thick foliage. The native boys began to track the lion, and while circling cautiously the quarry rose not sixty yards away. I took a quick sight with my Savage rifle and heard the thud of the bullet as the beast went down on the spot where he had risen. Smith had not seen him, but he was not left long in doubt as, with a series of roars, the animal came sailing straight toward us, head high, tail switching, mouth open, and the speed and power of a locomotive. Smith dropped on one knee and fired, hitting the charging lion in the chest, but he came surging on, not at all discouraged. Meantime I had turned to reach for my heavy rifle, but my bearer had lost his head and stood quaking twenty feet away poised for another flight.

I rushed back, snatched the rifle and, without time for aiming, fired once. I saw instantly that the bullet had gone wide, and the lion was almost on top of my friend—just at the muzzle of his rifle, in fact—as I shoved my express against the brute's foreleg and pulled trigger. His onset turned the rifle aside so that the lion was again only wounded, and more dangerous than ever. Wheeling, he forsook Smith and lunged toward me. My rifle was empty and I rushed toward the boy for the reloaded Savage. I tripped and fell, with his majesty at my heels, and as I went down I could see the outstretched claws flash by and the landscape fill with teeth and eyes. Swinging the gun around with all my strength, the grip was shoved full in the lion's mouth, and heaving hard I managed to push him clear of me. It was a close shave, as one

of the teeth skinned my fingers as the big body passed over my legs. The impetus of the rush shot the brute beyond me and it went a dozen yards, still carrying my rifle in its mouth like a dog. I regained my feet and started again on my interrupted errand, but before I could get the other gun Smith had reloaded and was lucky enough to drive a bullet through the heart. The lion rolled over in its tracks and six porters carried the handsome carcass to the station. It was our first lion, and as an amateur the experience was enough to satisfy my zeal for hunting lions from a hand-car on the Uganda Railway.

One large herd of elephants came within a mile of our camp and tarried in the neighborhood for several days. I wounded one, but I did not succeed in overtaking it, and I had no other opportunity to bag an elephant so near home. It is not exaggerating to say that big game swarmed in millions within a few miles of the track. Antelope meat was obtained within range of the track, a ton at a time when it could be disposed of in such quantities. It is certain that this country will be covered with hunters in a few years, when one can buy an excursion ticket from London to Victoria Nyanza and shoot big game from the car windows.

December 15, 1901, and Christmas Day of 1902, the beginning and the end, are the only dates conspicuous in the memories of our twenty-one Americans. Some viaducts were easier to put up than others, but their only variety was in the change of scene as the railway crawled steadily forward over gorges, ravines and water-courses, hanging to steep hillsides, or spanning the tumbled rocks a hundred feet below. There was genuine Christmas cheer when the last steel plate was fitted into place and the last rivet of more than half a million was driven home and "backed up." Seven thousand tons of steel had been fitted together in the twenty-seven bridges.

The last work was done at Fort Ternan, forty miles from Victoria Nyanza, and the permanent way of the Uganda road was open for traffic from sea to lake. No time was lost in packing the plant for shipment. All the machinery and tools, including the thirty-ton "traveler," were sold as they stood, to merchants who took them on speculation at prices almost equal to their value less the cost of shipping to the United States.

I enjoyed a long hunting trip before leaving East Africa, and completed a valuable collection of heads of big game. Mr. Jarrett and the men of the erection force left the coast late in January and most of them came home leisurely, taking advantage of the chance to see other countries en route. When I arrived in New York in April of this year my African tour of duty had lasted exactly two years.

In conclusion I might say that, although the viaducts were not all in place until five

months after the contract limit expired, the delays were not in the handling or placing of the material. The work was completed in one year, while no English competitor had offered to attempt the contract in less than two years. The American prices were about one-half the figures submitted by the dozen English firms competing. On the Uganda Railway line the Government engineers erected eight viaducts and put in the foundation work for them in two years. It was work similar to that included in our contract.

WHAT THE MOTOR-CYCLE OFFERS

THE CHEAPEST METHOD OF TRANSPORTATION AS YET DISCOVERED—THE
COMING EXCHANGE OF THE SUBURBAN HOME FOR THE COUNTRY HOME

BY

HENRY NORMAN, M.P.

EDITOR OF THE ENGLISH WORLD'S WORK

(The third of a series of articles on the automobile)

I PASS now to the problem of the cost of the motor-bicycle, as regards both original outlay and up-keep, and in this I shall follow the lines of the calculations in my previous article of the expense of the two classes of motor-cars. The question of the paid mechanic does not arise here, as every motor cyclist is his own driver and ought to be his own mechanic. This time, however, I have not had sufficient experience to justify me in expressing my own opinion alone, and therefore I have addressed an inquiry, covering the different items of cost and wear and tear, to a number of the chief makers.

The estimates vary a good deal. To begin with, the prices of the machines range from \$125 to \$300. The commonest figure is about \$200. My own opinion is that prices must fall—and ought to fall. It should be possible to put a motor-bicycle on the market, of the familiar type, for less than \$200. Where more is charged there is usually a considerable deviation from the standard pattern; and, of course, there are machines which cost less. I therefore take the common price of \$200 as the initial outlay, although, as I say, the tendency will be for machines to become cheaper.

The question of depreciation presents itself first, though it will usually be found to be omitted in calculations like the present. A motor-bicycle of a good pattern and solid workmanship, costing \$200 new, ought, if it has been well cared for, to be salable second-hand for \$120 at the end of two years. Next, the cost of gasoline, depending, of course, upon the mileage covered. I take this latter at 10,000 miles in the year—200 miles a week—which will be greatly exceeded during the five months and holidays, while for weeks in winter the bicycle will never be taken off its stand. (Every motor-bicycle, by the way, ought always to be kept with its wheels off the ground when not in use—a great saving of the tires.) How many miles will a bicycle run on one gallon of gasoline? The answer depends upon (1) the efficiency of the motor; (2) the skill of the driver in not using a "mixture" (of air and gasoline) wastefully rich in gasoline; (3) the character of the roads, rough or smooth, level or hilly, he chiefly uses. The makers themselves differ upon this, as upon most of the other points I raised. One (the maker of the lightest machine) says 200 miles; another says 70; seven out of fourteen say 100 miles.

So I take the latter figure as a fair average, and put down the cost of gasoline as \$22 a year—10,000 miles at 100 miles at twenty-two cents per gallon.

The question of the mileage durability of tires shows an even greater variety of opinion. Five makers say 5,000 miles; of the remaining nine, five say more than this, two say less and two are unable to give any estimate. One maker says 2,000 miles, another 12,500, certainly an underestimate and an overestimate. Much depends upon luck, of course, and a good deal upon the differing roads in various countries. As with an automobile, one man will have half a dozen punctures a month; others (as I have recently done) will run for months without a single tire-mishap of any kind. On the whole, I am inclined to think that a set of good tires should run more than 5,000 miles, and therefore I reckon the cost of tires as \$30 a year, allowing for new treads. For supplies and renewals—lubricating oil, belts, sparking plugs, charging accumulators (where the current is not produced from a magneto), etc., after studying all the replies, I estimate at \$15 a year, and repairs at \$12. On the other side of the account, as in the case of automobiles, may properly be placed an obvious saving in street-car and railway fares.

Depreciation (two years' service)	\$40
Gasoline	22
Tires	30
Supplies and renewals	15
Repairs	12
	—
Total yearly cost	\$119

A motor-bicycle, therefore, averaging 200 miles a week all the year round, involving an initial outlay of \$200, and replaced by a new one every two years, will cost its fortunate owner, for the present, a trifle more than thirty cents a day, or about a cent a mile. It is incomparably the cheapest method of independent rapid locomotive since the world was created.

To begin with, it is within the means, or soon will be, and is now by the system of instalment payments, of every well-to-do artisan. Then it is a small thing. It can be kept in a passage, or housed in the most meager of urban backyards. During working hours it can be left in a shed or merely leaned against a wall. It is ready at a minute's notice. It is very cheap when

running; it is very fast; it can cover long distances with ease; it calls neither for expert knowledge to understand it nor for great skill. Anybody who can ride a bicycle can master its control in a few hours. It is, on the average, faster than the automobile, and it is less dependent upon good roads, for, needing only a narrow single track, it can choose the best part of the roadway. It is now a thoroughly reliable machine, and when magneto ignition (dispensing with accumulators and coils) and the chain-drive (obviating belt-slipping in wet weather) have been adopted by all makers, as they will inevitably be as soon as the simple difficulties they present are overcome, and a non-skidding tire invented (this may happen any day), there will be little left for the motor cyclist to desire. Nobody, however, need hesitate to buy a motor-bicycle of a good make today on the ground that it is not yet perfect. It is sufficiently near to perfection to be a marvelous means of locomotion, of the greatest utility, and affording a splendid pastime. The offensive noise it used to make has now been to a great extent reduced, and one may hope that it will never be entirely done away with. A motor-bicycle as silent as an ordinary bicycle would be really dangerous, both to the cyclist and to the public.

The motor-bicycle has practically annihilated distance—that is, distance as a factor in our ordinary life. Ten miles, twenty miles, fifty miles, a hundred miles—these are the distances that in practice prevent us from doing things. To go a mile or two to a railway station, at a fixed time, to sit in a more or less uncomfortable, dirty, stuffy car, suffer a monotonous and slow journey, then walk or take a horse-vehicle for another mile or two, that is the only way nowadays of getting to any place a score of miles away, unless one is a vigorous cyclist. Fifty miles away means, as a rule, about three hours, one dollar or more, and making your own conscience fit in with the time-tables. The motor-bicycle totally changes all this. You fill up your machine with gasoline, and look to your lubrication and accumulators, and jump on. In three-quarters of an hour you are at your goal ten miles away; in an hour and a quarter, twenty miles; in three hours, fifty miles (your rate of speed is greater for longer distances because you are in less frequented highways); and a hundred miles

in a day leave you plenty of time to do some work before you start and either work or play after you arrive. And if you are in good health and enjoy fresh air and exercise, your journey has been health-giving and exhilarating.

This initial future annihilation of the ordinary distances of daily life seems to me an achievement of the highest significance and importance. It must vitally modify some of the most important conditions of social existence. Five people out of six, reckoning all classes, live where they do because it is only "so far" from somewhere else. In the near future, any place many times as far away will be practically as near as it is today. Obviously, this must enable large classes of people to live further afield from their work. Rents are high and suburban districts crowded because the breadwinner must be within easy reach of the place where he earns that bread. If you add only five miles to his daily distance you enormously enlarge his area of choice of a home. This will not at first make so much difference to the man who is forced by an unintelligent convention to wear a black coat, a silk hat—but the silk hat surely cannot survive more than one more generation. But to the well-to-do artisan the motor-bicycle should bring an enormous advantage. Today, with a bicycle, he can live at most five miles from his work. Tomorrow, with a motor-bicycle, his home may be fifteen miles away, and those extra miles will make a great difference in rent and the health of his family. Already one American city has built a special track, nine miles long, for ordinary cycles, into the heart of a woodland district, and in another a steel motor-highway is likely to be laid down. Finally, among the advantages to the worker I must not omit to mention the important fact that by attaching a "trailer," a light basket-work two-wheeled carriage on pneumatic tires, or a similar "forecarriage," he can take his wife or children for a pleasant run of a score of miles after working hours, or fifty miles on a holiday. The cycle-housing difficulty will ultimately be overcome by the provision of innumerable stations where a motor-cycle may be stored for a trifling expense.

At the present time, in my opinion, most makers of motor-cycles are moving in the wrong direction—namely, adding, year by

year, to the horse-power, weight and cost of their machines. As every cyclist knows, weight tells enormously against the propelling power, and what is true of a man is equally true of a motor. The demand for unnecessary and undesirable speed is partly responsible for this and partly the desire of a new class of cyclists to be carried up any hill without the need of pedaling. Therefore, the type of the moment is a machine of two and a half or two and three-quarters nominal horse-power, weighing from 100 to 140 pounds. It is not to the cyclist's interest, however, that he should have no exercise at all, and it is desirable, as a single experience will teach him, that if his motor temporarily breaks down, or he runs short of gasoline, or starts from home with an almost exhausted accumulator, that he should not have to pedal home on a machine weighing a hundredweight. A motor of one and a half horse-power, if it is really efficient, should confer ample power, if combined with a two-speed gear, to enable the rider to pedal with the motor on hills, or slowly and powerfully on the level, without the motor, and this ought not to bring the total weight of the machine beyond about seventy pounds. At any rate, I believe this will be the general type of the future, although the heavier and more powerful cycle will doubtless find many purchasers.

The incidental uses of the motor-bicycle are literally too numerous to mention. Its advantages in military operations, for despatch carrying, for signalers, for rapidly moving small bodies of marksmen long distances, are obvious. All telegrams, outside large cities, will be delivered by motor-bicycles. Light farm produce will be conveyed to the towns or the railway in commercial trailers attached to bicycles. The motor-bicycle will be part of the equipment of every country house, for the use of a servant to fetch and carry letters, messages, telegrams and light parcels.

My own conviction is that motor-cycling, the simplest, the quickest, the cheapest independent locomotion that has ever been known, is destined to enjoy enormous development. I believe that within a few years the motor-bicycle and tricycle will be sold by hundreds of thousands, and that many of the social and industrial conditions of our time will be greatly and beneficially affected by them.

SHORT VACATIONS BY TROLLEY

PLAYING ALL THE WAY FROM BOSTON TO NEW YORK—THINGS ONE
CAN DO BY THE WAY—THE TROLLEY FISHERMAN AND OTHERS

BY

ALBERT BIGELOW PAINE

WHEELING is good sport. It would be better if there were no such things as punctured tires, soft roads and long steep hills. Riding is exhilarating, though to be sure there is always the responsibility of the horse, and then showers are not pleasant things to meet in the open country. Coaching is a noble diversion, only there is just one coach, and you must go where the coach goes. Automobiling, too, is a brave pastime for the rich who do not mind getting down on their backs in the road and hammering straight up at bolts and things, with grease dripping down in their faces. Even railroad travel is not to be despised when one really wishes to arrive at some particular point and is willing to forego pleasure and to endure smoke and cinders by the way. But when it comes to cheap, irresponsible and satisfactory recreation, with no punctured tires, no lame horses and no time-card handicaps, the trolley is certainly the very best thing.

I started from the subway, in Boston. Standing there for a few minutes, it seemed to me that I could get a car for every point on the map I could think of and for a good many places of which I never had heard. Not only may you embark on a grand and continuous circuit of the city itself, with a man to explain the main points of interest, and all at the cost of half a dollar, but I believe there is hardly a town or village or resort in eastern Massachusetts whose name is not inscribed on one or more of the countless cars that whirl through Boston's subway.

I selected a route that crossed the Charles into old Cambridge and sped by Harvard College, where I should have been glad to linger, past the homes of poet and statesman—old columned and colonial mansions—out where the houses are newer and less pretentious, and so on to the heights of Arlington, where the peace and sobriety of New England begin to be manifest.

It was not far to Lexington. Paul Revere covered the distance in an hour or so, on a dark night, and gave warnings by the way. The trolley passes the Lexington battle-ground and the conductor announces this fact. The passenger, if he chooses, may see it all without getting out of his seat. Or if he wishes to look about a little, and to see the beautiful and sacred things in the Hancock mansion, he may rest over one car, and then on to Concord with but little loss of time.

It took another hour for Paul Revere to reach Concord. He took a shorter route than the trolley circuit of today. The country has not changed greatly since then. A few new houses—a young growth of trees that here and there replaces an old growth hewn away. But the farms, the farmers and even the farm-houses are much as they were then. Some of the same families occupy the same farms and sleep behind the same doors that rang with Paul Revere's stirring knock of alarm.

One does not hurry through Concord. The associations there are too many, and they are too sacred. The sun had become dim overhead when I reached the Concord Bridge, where "The Minute-Man" guards the battle-ground and where "Two British Soldiers" lie buried. The grounds of Hawthorne's "Old Mansè" corner there, and the manse, dark and deserted, made a picture somber and sorrowful, such as Hawthorne himself might have conceived.

Autumn is a fitting time to visit Concord: autumn and a gloomy day, when only here and there a ray of sun is rifted through and when the chilly air whirls down the yellow leaves. For the glory of Concord has waned and become as a memory of green fields and the sweet woods of summertime. Allen French, the author of that fine novel, "The Colonials," lives there, and Margaret Sydney (Mrs. Daniel Lothrop). But the older school, the philosophers, have vanished.

It was rather late when I reached Worcester after a fine evening ride along the Assabet River. The world had faded out. Night had come down on New England. Lights shining far through the darkness showed the substantial old farmhouses of this land of steady habits. I remember that I changed cars at Hudson and Marlboro, and that the autumn night was chill. The ticket-registering device became a moon-faced old lady who batted an eye and shifted a tooth every time the conductor rang a fare. Then suddenly we were in Worcester, and I was stumbling out to look up what the conductor had recommended as the "best hotel."

It is a fair day's trolleying from Worcester to Hartford, provided you don't do any side exploring or go hunting for antiques by the way. The temptation to hunt for antiques on a trolley trip through New England is hard to resist, especially where there is a lay-over of nearly an hour, such as I had at West Brookfield. The very atmosphere of West Brookfield suggested blue china, brass fire things, and old mahogany. I made inquiries and found that one Peter Matthews, a Frenchman with a Yankee name, lived a mile or so from town and that he attended auction sales. Then I looked at the clock, fought a fierce short battle with temptation, and fell. I should be late getting into Hartford. Nevertheless, I must see Peter Matthews.

Peter did not live in a pretentious house, but in every corner of it there seemed to be things that were likely to make one forget the sterner duties of life. I had promised to dine in Hartford, and I knew that the dinner would be a good one. But a dinner promise seemed a paltry thing as I dickered with Peter Matthews for a row of disfigured sugar-bowls, three cracked plates, a pewter candlestick and a pair of andirons which I did not need. What are bluepoints and terrapin served from the finest modern Sevres and speckless napery compared to a bit of blue ironstone from which stalwart New Englanders have wiped up bacon and beans for two hundred years? What are electric globes and rococo candelabra to a bent and battered candlestick that has lighted our ancestors to bed for seven generations? Away with your modern elegance! I lost only three hours in West Brookfield. I would make a greater sacrifice any day for Peter Matthews.

All the way from Worcester to Springfield

the people seem to be chiefly employed in making things. The trolley follows the Ware River a good part of the way, and all down the valley of the Ware are factories and mills and busy towns. Central New England is a thriving land. The towns are thriving, the factories busy, the farms well kept, while the people look prosperous and happy. They work hard and they are thrifty. Yet they take their pleasures, and I may say here that the interurban trolley-lines with their numerous pleasure parks afford much cheap and wholesome recreation.

It is fine trolleying from Springfield to Hartford, with views of the Connecticut River, down avenues of stately elms and by peaceful-looking farms. It was getting dusk when I entered Connecticut, where in every direction is tobacco, and tobacco, and still tobacco. The tobacco country does not extend below Hartford, but the land is a fair one, and the trolleyist regrets even the short break between Wallingford and New Haven, which he must travel by steam. There is no break from New Haven to New York, and the electric ride, with its varying vista of hills and woods and fields and seas, is not surpassed anywhere in the world. It is a long day's trolley travel from Hartford to Manhattan, and it is better to divide the time so that it begins or ends at New Haven. Even then it is well to get an early start, for in trolleying one does not wish to feel hurried. It is two days (twenty-two hours) from Boston to New York by hard and steady electric travel, and the cost is about \$7.50, including the \$3.28 fare, if you adhere to close economy and buy no antiques. But it is better to spend three days and more money, or a week, if you can spare the time and expense, for you will almost certainly want to make a few side trips, and temptation in the form of antiques may beset you at any moment.

But it is not necessary to take a long tour to get pleasure out of trolleying. One-day trips are quite as delightful, and the city dweller may go far afield and find much of interest between dawn and dark, exploring pastures new to him, lunching perhaps at some quaint wayside hostelry, and returning in time for dinner and the comforts of home at nightfall. The West has been always a leader in trolley travel, and from Buffalo, with its Niagara Falls connection, through Ohio, Indiana and Michigan, where trolley



A CHARACTERISTIC INTERURBAN WAY STATION



A COMFORTABLE TROLLEY INTERIOR



THE LEXINGTON "MINUTE-MAN"

lines radiate from all the larger cities to towns and villages and resorts in every direction, the trolley traveler need never be at a loss for territory or information or excellent service.

Trolley traveling and trolley parties are becoming more and more popular. Exclusive cars are to be had for a day's outing at no great cost, with the added advantage that a car home may be had at almost any time for any one who may wish to return earlier than the others. It is old-fashioned coaching, with more comforts and fewer responsibilities. I feel sure that, in time, summer cars will be

the occupant, will be the ideal dwelling of recreation the *ne plus ultra* of summertime. Trolley-lines are cast in pleasant places, along sunny highways, and through the choicest of city streets. The trolley-dweller will carry rails for a temporary spur, and drop anchor by hill or meadow and by running brook. When a city is reached he will select pleasant surroundings to make his sojourn.

I must not forget the trolley fisherman. Fishermen are always irresponsible, but the trolley fisherman has outdone in irresponsibility anything heretofore recorded. With



LEAVING CAMBRIDGE ON THE WAY TO CONCORD

constructed with a row of seats on top for those who wish an elevated view.

That the house-trolley—a clean and comfortable little home of several rooms, with its own motor—will become a fact I have not the least doubt. Safer than a steam yacht, less dependent than a houseboat; cheaper, cleaner and far more pleasant than a private car that is hauled by steam and dropped on malarial and mosquito-haunted sidings—the house-trolley, guided here and there at the will of

rod and line and bait he simply sits and rides, or exchanges fish tales with the conductor until water is sighted. Then he gets off and fishes. If he has luck, well and good. If not, he simply takes the next car that comes along and rides and yarns with the conductor until more water is sighted. No hard walking, no nag to look after, no tedious waiting for trains. It is simply fish and go, or stay, as may happen, with swift, safe and pleasant conveyance always at hand. I fished most of



IN THE HEART OF NEW ENGLAND
The road to Peter Matthews'



TROLLEY-LINE CONSTRUCTION
Showing equipment as heavy as that on steam railroads



IN THE VALLEY OF THE WARE

the way to Chicago, and I shall fish all the way to Boston in June.

But electric travel is not alone for the tourist and the fisherman. There are many pleasure parks along the interurban lines. Almost every trolley company owns a park, and the amount of pleasure and recreation afforded by these to the week's workers is not to be computed by its cost. Most of these parks are located on rivers and lakes, and are really beautiful spots which, were it not for the electric lines, could be visited but seldom by those to whom a dollar is a sum seriously to be considered. By trolley these places are reached for five or ten cents, and the toilers in the mills and shops gain thereby a new fund of refreshments and courage for the six days' labor ahead.

Steam is still the thing for swift travel where time is money and money the end and all, but there are still a good many persons who are in no such hurry, who would prefer to go slower, even at the same cost. Indeed, there are a good many elderly men and women who are still rather afraid of the locomotive. Compared with an engine and train of coaches, a trolley-car is rather an innocent-looking affair. It will stop almost anywhere, at a moment's notice, and long enough to let even an aged person off or on comfortably. In the

country it will even wait while you go back to the house for a handkerchief, or a glass of jelly, or your knitting work. It will also stop if your hat flies out of the window, and the conductor, if he is young and sufficiently athletic, will join joyously in the chase. On the whole, there is something good and sociable and old-fashioned about trolleying in spite of the fact that it is about the newest form of travel.

Eastern New England is fairly netted with electric lines. The bell clangs and the air-whistle blows from Boston to New York. A line is planned from Springfield across the Berkshire Hills to connect with Albany, and so on through New York State, where the open links are rapidly being closed. Across Ohio the connection is complete, while Indiana and Michigan are pushing their roads in every direction at the rate of many miles a day. Pennsylvania, too, is becoming a trolley State, and I must not forget New Jersey, almost every portion of which is accessible by electric lines. The trolley salesman, the trolley traveler and the trolley explorer are abroad in force. Therefore let me repeat, that for local travel, for pleasure touring, for genuine, thorough, cheap and irresponsible recreation, the trolley is certainly the thing.

PREVENTING FACTORY FIRES

THE HUGE SAVING BY THE USE OF MODERN PROTECTIVE DEVICES—AN OBJECT-LESSON FOR ARCHITECTS AND BUILDERS

BY

GEORGE ILES

MORE than \$1,200,000,000 worth of factory and mill property is insured in this country at a total cost of less than eight cents for each \$100 a year. How has it come about that this fire tax is but one-eighth as much as that of other buildings for similar purposes, not carefully built or safeguarded? The insurers who are to answer this question are thirty-three associated concerns, of which the largest is the Boston Manufacturers' Mutual Insurance Company, whose president and guiding spirit for twenty-five years has been Edward Atkinson. Their marvelous success has turned upon the simple principle that fire shall be prevented by every feasible means, that the payment of losses shall be merely incidental. This system of underwriting was founded in 1835; it has steadily grown until today its policies cover about one-twentieth of the insured property in the United States.

At an early day in this enterprise it became clear that the architecture of factories and mills was extremely faulty, much as if designers and builders had put their heads together to give fire the best possible chance to start and spread. Under the searchlight of reform all this has become a thing of the past. Today timber and plank are disposed in heavy solid masses so as to expose to fire the fewest possible corners and projections. Hollow spaces between floors and ceilings have, for the most part, given place to stout, single planking. Where, for a good reason, a ceiling and the floor above it are distinct structures, the interspace is filled with incombustible mortar or sheeting. Ceilings over specially hazardous stock or processes are guarded with fire-checking plaster laid on wire lath, with no interspaces between the plaster and the supporting wood. Boxed, hollow cornices are abolished; so are concealed spaces under doors, behind furring, or wherever else a mouse or rat might build a nest.

It has been found best to build all stairways in towers, to give engine belts brick chambers of their own, to make doors and shutters of wood covered with tin, and self-closing. Each floor must be separated from every other by incombustible stops, with hatchways closing automatically. Never in the long experience of these companies has a floor, thus built and protected, been burned through. In every good design the boiler-house is distinct from the engine-room, and the various buildings of a group are so arranged as to render escape easy and to give the utmost facility for attacking a fire. This, in the slightest outline, is "slow-burning construction." Manifold tests have proved it so satisfactory that strictly fire-proof construction, much dearer, is unnecessary for manufacturing plants. So much for the shell of a factory or mill; a word now as to the appliances for fighting the fires which may happen, no matter how well designed a building may be.

At the instant that a blaze breaks out from a match-box or a lantern, a bucket of water may readily quench it, so that that primitive resource is found at every turn in a well-ordered mill. But a flame may spring forth when there is nobody to see it, or it may find spectators nerveless or negligent. Here the blaze works its own extinction by fusing a thin film of alloy and setting free a drenching shower from a sprinkler connected, by slender pipes, with a strong and constant supply of water. Such sprinklers throughout a mill are its chief safeguard. Today the fire tax of the mutual companies is one-eighth what it was fifty years ago: for this great saving the automatic sprinkler deserves more credit than any other item of the account. This device, as well as the fire-pump, the fire-hose and play-pipe, are all today manufactured in standardized and recommended forms.

A common source of fire in factories is the spontaneous combustion of oily rags tossed to the floor, thrust into a box or drawer or carried into a crevice by mice or rats. Extreme care in the disposal of such rags is insisted upon. They are usually placed in a stout metal box, well isolated, and having a self-closing lid. At the outset of mutual insurance every kind of lantern in use was found unsafe when tested. Experiment duly created a lantern safe to use, easy to make, cheap to buy. Oil, whether for lighting or lubrication, varies much in quality. Investigations conducted by Professor John M. Ordway and others showed which oils, from requiring comparatively high temperatures for ignition, are safest. They ascertained, also, which lubricating oils are most effective; these brands incidentally lower the risk attending machinery which becomes heated under an inferior and sticky lubricant. Fuels long ago were compared in a similar way. It was found that only one kind of bituminous coal is not liable to spontaneous combustion: it was plain that fire-retardants should be applied to the wooden structures used for storing coal. Many fires were traced to the contact of steam-pipes with floors, ceilings and partitions. An exhaustive inquiry showed which non-conductors form the best coverings for steam-pipes, and what distances should divide a heated pipe and the nearest wooden surface. Compact asbestos is undesirable, while air-cell asbestos, granulated cork and magnesia have just the properties required. Long ago it was observed that steam-pipes used in heating a room were always fastened to the floor, where bits of cotton and other rubbish of a combustible sort gathered under the coils. It was suggested that the coils be attached to the ceilings instead of to the floors; this done, radiation was as effective as before, while there ceased to be accumulation of dangerous trash. Flame readily cracks and breaks down ordinary glass, opening a path to a fire with disastrous effect. This risk is avoided by using thick glass in which is embedded a strong and close netting of steel wire. When this glass cracks it holds together firmly. Electricity, if carelessly employed, is every whit as dangerous as fire. Its use is equally safeguarded.

To prescribe rules thus ascertained at

the hands of competent specialists is all very well, but how about their enforcement? It is agreed in every contract of this insurance that an inspector from headquarters may at any time, without notice, examine a risk. If he finds any rule neglected, the policy becomes void. Inspectors make their rounds often enough for the highest efficiency. They have other duties. No sooner is a fire reported than the premises are scrutinized minutely so as to learn, if possible, the cause, and eliminate it in future from every hazard in the wide circle of mill underwriting. Monthly reports give these inspections in summary, together with much other information of value. To these issues are added occasional reports of subsidiary interests, those, for example, of the Mutual Boiler Insurance Company, treating steam-pipe and boiler coverings, comparative values of fuels, suppression of smoke, boiler plates, and so on. From time to time pamphlets are published dealing comprehensively with some large theme. Of these the most informing brings to date the main outlines of slow-burning construction, well illustrated. With this in his hands an architect or engineer can readily adapt its general directions to the problems bound up with a special business, with land of such and such size and contour, and with definite limitations as to expenditure. Other pamphlets treat the corrosion of steel in buildings, wired glass for the diffusion of light, and so-called fire-proof wood. The investigations recorded in these issues are being continued and broadened at an Insurance Engineering Experiment Station in Boston, directed by Professor C. L. Norton. One of these days this station may be incorporated with the Massachusetts Institute of Technology. Its inquiries will be of the highest importance, for new materials are fast being adopted for mill construction. The self-supporting steel frame encased in concrete or in other fire-resistant substances may become as familiar for factories as for office-buildings and warehouses. Concrete, brick, tile and cement construction are likely soon to have wide adoption for mills and for buildings generally. All with questions to be answered only by prolonged experiment and the best-trained judgment.

This whole enterprise is a remarkable example of what business men of the highest ability can do when they join hands with

scientific inquirers of equal mark. This mutual insurance of mills can go but little further in its efficiency and cheapness, for it now stands close to zero, both in its losses and in its incidental expenses. Its supreme value is as an object-lesson for every other kind of underwriting. The fire-tax in the United States is from \$250,000,000 to \$300,000,000 a year, with death in one of its most horrible forms for hundreds of victims. All this can at once be changed for the better by making the prevention of fire a cardinal aim in architecture, in the equipment and control of all buildings whatever. Never has an operative lost his life by fire in a "slow-burning" mill. Such courses as those now taking form in the Insurance Engineering Experiment Station in Boston might well be embodied in the training of every architect

and building engineer in America. So far from slow-burning construction being of undue cost, its designs are usually less expensive in execution than inferior types. The associated mill underwriters study their problems broadly; they are often able to suggest the best mode of planning a building for its specific purpose, the while that it is thoroughly safeguarded from fire. In New York, Chicago and other large cities, warehouses filled with goods are crowded together. Here the risk of a conflagration which may devastate a whole district is imminent. At the great fire in Paterson, New Jersey, when the flames reached the factory belt they were successfully withstood. Every factory was efficiently equipped with an independent water-supply so ample and well managed that protection was thorough.

THE DAY'S WORK OF A LIBRARIAN

THE VARIED TASKS OF THOSE WHO GIVE MUCH AND GET LITTLE—
THE TRAINING THEY MUST HAVE — THE PEOPLE OF A LIBRARIAN'S DAY

BY

ADELE MARIE SHAW

"Believe me, Hinnisy, readin' is not thinkin'. It seems like it, and when it comes out in talk sometimes it sounds like it. It's a kind of nearthought that looks ginooyne to the thoughtless."

IF Mr. Dooley's definition did not exactly fit the "readin'" of the average book-borrower, the librarian might be a person of less varied accomplishments. As it is, her training must prepare her by a yeasty and stimulating process to be a leaven to the public lump. She must arise each morning fresh for unstinted giving, and she must retire each evening as undismayed as a light-hearted dynamo. She must not tire; she must not flag. She must keep abreast of the work whether she can or not. Like Uncle Remus's pig that climbed the tree, she "has to, honey; the dogs" are "after" her.

Ellen Garland is one of four assistants in a small Lake City library. She is the most experienced of the four, and when the Chief is absent she is "in charge." The increase in responsibility is not matched by any

increase in salary, but it never occurs to her to complain. She is still young, and the heroic simplicity of her living is part of the adventure of independence.

Her day begins when, at half-past eight, she confronts the stucco angels on the antique porch and unlocks the big door of what the children call "the Caxton Free Lending." No matter how cheerless the season, some straggler, eager for the advertisements in the morning papers, is sure to be waiting, and though she explains in as many foreign tongues as she can muster the impossibility of entrance for another half-hour, he is not to be moved.

The noises of the street drop from her as the latch falls. She can hear the ticking of the clock on the delivery desk as she attacks the tasks she must demolish in the twenty-five minutes left undisturbed. The three other assistants arrive and fall briskly into line. The newspapers are unfolded, fastened into their holders, and the holders

set in their appointed slots upon the rack; the just-arrived magazines are stripped of their covers, substituted for older ones, and the cases of periodicals rearranged; the disinfecting cabinet, a luxury, the gift of the Lake City Medical Association, is unlocked and the sterilized volumes distributed to the shelves.

Before the day at the delivery desk is fairly under way, waiting applications have been filed and the readers' cards made out; postals for "books to be reserved" have been stationed, the earliest on top, to await the books' return; postals for the "overdue" have been completed and despatched; eleven new volumes have been registered in the "accessioning" ledger, where opposite each title stand fourteen columns of details climaxed by *publisher's price* and *price paid*; these same eleven have been shelf-listed, and for each a neat card has been added to the catalogue.

Ellen has done more than apportion the toil. Counting and revising, she has made up the statistics of the preceding day and tabulated the circulation from *juvenile fiction* to *philosophy and religion*; she has sorted the mail, adding interesting circulars to the Chief's pile and tossing more that are not interesting into the waste-basket. The Chief is out of town wrestling with a refractory comptroller who is holding up the appropriations, so the heap of letters for her own answering is big and aggressive. They will be sandwiched in whenever an instant may be made. Half of them will be left till "after hours," although before night she will have written the rural librarian who wants advice, checked and returned the exchange lists to a city "branch," given the agents of the "loose-leaf fastener" and the "discharging machine" tentative appointments with the Chief, copied and sent the supply order, already signed, forwarded a dozen references to the scientist in Ballard Vale, told a club manager why the library cannot furnish her with forty-six copies of "Hamlet," sent for information on books for the blind, asked a publishing house for the loan of a set of animal pictures, and prepared a more formal file of business notes that await the Chief's approval.

Some of the communications she can hand over to the assistant at the desk. The "renewal" orders bring a twinkle to her eye.

They have the simplicity of an edict. "I am renewing," says one, "the book on my brother-in-law's card. Yours respect. May Jones." "Will you ples," begins the next politely, "reknew my book," omitting all mention of such trifling matters as title or number, and waiving the cumbersome ceremony of signature.

The mail is heavy, and it is but half looked over when the key turns, on the stroke, and the increasing throng at the door troop into the reading-room. The papers rustle in a crackling frenzy as they spread out in the clutches of the fortunate and subside fluttering in all the open spaces.

The sunlight streams liberally through the big windows; the air is filled with the peace of the books. Before the first comer has discovered the "want column" the man who has walked the streets all night is asleep and snoring. Ellen wakes him. He is very dirty, and very hard to wake. One neighbor looks at him compassionately and gives him a warning nudge when the snore mounts again upon the stillness. The youth upon the other side turns away in scowling disgust.

Two women are copying advertisements. One stops as she rises to go and looks across the rail at Ellen.

"You don'd so oft get such a kind," she volunteers, nodding toward the sleeper. "Vere vass der funny old feller vass schlafend always behint his *Staats-Zeitung*? Deat, already—not? I hope I get work some dese place?" She taps her scrap of paper, searching Ellen's face for the mascot of a friendly wish.

"You will; I know you will. Good luck to you!" Ellen answers swiftly, and the woman goes, armed with better assurance for the word.

The second assistant is moving lightly among the stacks, straightening the books left awry or out of place. The Caxton is an open-shelf library: Whoever will may handle.

While the reading-room slowly empties itself of the early arrivals, Ellen separates the invalid heap into desperate cases, for the binder, and those less serious to be mended on the spot. The binder's share grows daily less. The neighborhood "helpers," employed and taught by the library, are becoming expert, and little repairs postpone the greater damage.

For half an hour the place is nearly empty.

Ellen makes up the loan collections for the schools. The six bundles contain:

1. A silkworm exhibit, the "Insect Book," and a case of mounted *hymenoptera* where an extraordinary winged creature is boring deep below the bark with feelers twice the length of her body.

2. Books on health, with anatomical models of the human brain, heart, eye and stomach.

3. Dugmore's "Bird Homes" for everybody, and "Dicky Downy" (at the teacher's request) for the girls.

4. Modern poetry: Dobson, Lanier, Stevenson, Wordsworth.

5. Cocoanuts and sugar-cane.

6. Models of the "flags of all nations."

By the time the messengers are started with the new "loans" others are returning with the old. The reading-room is filling again, and the little reference room "upstairs" is occupied. Students of every age between nine and ninety inquire hastily for books, articles, paragraphs, allusions: on dragon flies, women, the Noachian deluge, the vegetable diet, Oriental religions, Italian music, book plates, home sanitation, valentines, the Rosetta stone, the agricultural products of Natal, volcanoes, baronets, and Highland bonnets.

Some know exactly what they want. But "the February number of the *Forum* for 1900" too often turns out to be the *Atlantic* for March. Many are surprised that the library is so limited in resources. "I should suppose any library would have all of Rhoda Broughton's!" "I can't understand why you haven't more riddles!" "You don't mean to say you haven't the old Eclectic Monthlies, and I've come all the way from Owena just to look them up!" "You've not started a music library yet! I never heard of such a thing! No music library. I don't know, I'm sure, where I shall get that score. It's eleven now, and the op'ra's at two. Really, I think these things should be written up!" "Not got 'Bill, the Bronco Buster!' Gee! Say, this ain't no liberry."

Another set expects to find deficiencies, but is ready with advice. "It's really a great pity to let young children go to the shelves. Why, they might see *anything*! Now, if you——"

Ellen listens. It is "all in the day's work," of course. It is the duty of the librarian to take these proddings and pokings, and magnetize the prodders and pokers into intelligence and good humor.

Before luncheon she has just time to plan and get together for the children's corner most of her exhibit of American animals. The work is interrupted by the triumphant Mrs. Sturgis-Sturgis, who has discovered "A Journey to Jerusalem" (meaning the Heavenly) classed as "Travel in Palestine." The youngest assistant looks guilty.

In the main room the long table is being cleared for books and maps, charts and current articles on the Balkans, while the walls are to exchange a set of laboratory photographs of liquid-air experiments for mountain and village scenery in Bulgaria.

Luncheon is a depressing meal. It makes the eldest assistant think of disagreeable things undone, and on her way back she visits a public school so far unmolested.

Lake City is making a patient and sympathetic attempt to unite the effort of the teacher and the work of the librarian, and to introduce the child into a world where books and pleasure are synonymous.

The principal is "not sure but the children read too much now." He removes his cuffs, turns them, and restores them to position as he talks. Oh, yes, if she wishes she may send the bulletins. No, she needn't ter see any of the teachers. He can say all that's to be said. He thinks there's a good deal of nonsense about the new Board anyway. Fads he calls it—yes, marm, *fads*. Coöperation? Oh, yes, that's all right. Go ahead and coöperate for all of him, but he guesses she'll find the teachers have all the coöperatin' they can do right in their own line.

"Look a-here, marm," he finishes, "ever see one of our reports?"

Ellen views the sheet, is properly overcome by its complexity, thanks him, and goes. She is sore and wroth. It is her first experience with the relic of an old régime, of a Lake City Tammany. But she recalls the amiable "Send on yer bulletins—I'll order 'em put up," that followed her hallward, and hope renews itself.

"Poor man," she sighs; "he's bothered to death with what he doesn't understand, and afraid he'll lose his 'job' into the bargain. If we can wake up the teachers we may do him a good turn—in spite of himself."

The afternoon is busier than the morning. The swarm before the desk grows as the schools disgorge their children. The seekers at the shelves need more help. The scientist

and the club woman, the elderly clergyman and the novelist, gather up their notes and flee. The novelist's history lies open at "The pageants of Versailles." Composition writers of less ambitious aims climb to the reference room and settle in their places, their stubby pencils, at one end or the other, more often in their mouths than on the paper.

The stodgy-faced boy at the last table is having a struggle most serious. He has covered both sides of a foolscap sheet with a vague smudge over which he still labors. His twisted mouth follows the motions of his creaking pencil. Before him Greene's "Shorter History of the English People" lies open at the year 1688.

Of all the two pages, only so much is decipherable:

"The Abdication of Jams II.

"The english people had born a grate deel from James 2nd but when at last he gave birth to a son they said *this thing must end.*"

Ellen looks at it soberly while the boy mops his face with a thick hand.

"It's hard work, a composition," she sympathizes.

"Work," the boy hisses. "Work is it—and I might ha' played ball the whole afternoon—I ain't *goin'* to school any more!"

"You've taken such an 'old' book to look it up in!" Ellen shakes her head. "Come back to the shelves. It's really a very exciting story," she explains as she hunts out the "Child's History of England" and a historical novel. "You see they were pretty sure James was a traitor and— Do you know, a boy asked me the other day for the history of *Charley Mange*. Can you guess what he wanted?—an emperor—"

"Oh, Charlemagne!" The historian stifles a shout, forgets to say "Thank you," but goes forth cheered.

The main room is suddenly overflowing. A well-intentioned teacher, offering to introduce her class to the library, has been taken too literally at her word. Each member has brought two friends. They line up a hundred and fifty strong and overflow into the street. They all want cards and books before they leave. The teacher is prepared to sign all applications. She is not prepared to be responsible for the lost books of the hundred and fifty. Before this flurry is entirely over the youngest assistant comes

distractedly to Ellen, who is supplying the last of the inundation with "The Lamp-lighter" and "Waste Not, Want Not" from a section clean-swept of juvenile fiction.

"What *shall* I give a man who wants 'a book suitable for a lady'?" she asks. "I gave 'One Summer' to the girl who called for 'a love story for mamma.' I suppose 'Audrey' would have been better—I'm about wild. There's a queer man hanging about the histories who says he must have 'The Discovery of America in Four Quarts.' No, he says he doesn't mean parts. Is it a quarto he's after—or what? And there's a young woman waiting for mottoes for an Easter luncheon."

If it's Saturday the woman will appear who asks for the "fourth volume." The dialogue of other weeks will repeat itself.

"Can you tell us the 'fourth volume' of what?"

"I'm not particular. Any fourth volume."

Every fourth volume in the library has gone and come in her hands. She is decently dressed and her language is precise. When they began again upon the limited supply of fourth volumes she did not discover it.

Just before or just after her appears the boy who demands, "Give me a red book; tell me where to look for a red book,"—and the woman in the green bonnet who has announced at various times a desire for "Queen Hottentots, by Mulebunch"; "Mrs. Wiggs of the Rubbage Patch"; "The Raspberry Twins"; "The Bottle of the Strong"; "The Three Mosquitoes"; "Be Quick or Be Dead." Without her, life at the "Free Lending" would be tame.

Every library could almost fill its own shelves marked "Humor" with the curious blunders of the fallible human mind. Ellen has forgotten many, but some she remembers, fished out from the subconsciousness that keeps a record of her experiences.

"Any book by Daniel Deronda," "Any story by Ouida or Sir Walter Scott except 'He Loved but He Moved Away,'" "Please send by bearer either 'Married at Last' or 'The Haanted Husband' or 'Why She Did It' or 'Sweet Love's Sorrow.' If these are not in, send any good book like them and oblige"—are common forms of written requests.

Not till late in the afternoon does Ellen get a chance at her own private and personal mail, and in that is a library letter.

"*Dear Nell,*"—it says—"This place is that limbo the vaudeville artist calls the Limit. I am going to get out of it. I've borne the climate, I've endured the food, I've really liked the people, but the library is too much. I won't stay in a town that tolerates such a librarian. I might stick it out and lead a revolution, but I came here for health, not combat. The double-plated, triple-expansion ass just imported as mogul of the books here has undertaken to educate the populace. His idea of education for the many is glory for the one (himself).

"It seems there is abroad a notion that fiction is a grievous thing. The librarian who reduces his 'percentage' and forces out a lot of inhuman twaddle about the Desert of Sahara and the future of the motor car is IT. Our New Broom here is doing just that. He buys little or no fiction and sets up seductively whole acres of 'How to Make Home Healthy,' 'When the Greeks Saw the Hellespont,' 'The Care of the Domestic Apple,' 'Down the Rhine in a Mud Scow,' 'The Future of Our Engineer,' 'Travels in a Trio,' by Lady Grenville Archer; 'Myths and Wagner,' by Susie La Sue, and the weary public takes home the least painful, returns it, and doesn't go again. You can get 'Wee Wife' and 'Molly Bawn,' but 'Lady Rose's Daughter' has not appeared. 'Four Feathers' never will appear, though its 'travel' is worth a dozen travelers' yarns. Most travelers can't write, anyway. The town children are buying 'Old Sleuth' or 'Flaubert,' and George turned up yesterday with 'The Triumph of Death.' 'I can't help it,' he said; 'I got it for five cents, and I've got to have something to read. I didn't know what the rotten thing was like.'

"I hope your library has some sense. This place is going back to the Dark Ages. Good heavens! Tyranny isn't education. You can't legislate the love of a yarn out of human life. And if most people aren't readers you can't make 'em readers by whanging them on the head with Lyly's 'Euphues.'

"J. C."

"I feel for him; I 'deeply sympathize,'" quotes the youngest assistant, as she turns to lean pleasantly toward the embarrassed schoolgirl who whispers: "May I have the 'Fools' Index'? My teacher said it would help me find something about wireless telegraphy." While Ellen is absorbed in a discussion with a visitor who wants to know how a small donation could be made most available, the Youngest gently explains the use of "Poole."

In other days, the minister's daughter who unlocked the vestry door on Saturday afternoon and gave out the scant supply of village literature needed but a mild and leisurely

wisdom. In this year of grace the young person who applies for admission to a library school must read at least two modern languages and answer a dozen questions like these:

"Give the history of England in the 15th, 16th or 17th century, mentioning the reigns and the important events that occurred during the period. Describe the social order. Show what were the dominant political and religious ideas of the time. What foreign countries exercised the greatest influence upon England during the period described?"

"What ideas do you connect with the following: George Fox, Robert Owen, Madam Blavatsky, Elizabeth Fry, Walt Whitman, Archbishop Laud, Nike; Filioque; the Gloucester; unearned increment?"

"Characterize briefly ten of the following persons, mentioning nationality, date (approximately) and that for which they are noted. Jacob van Arteveld, Thomas Bewick, Gaspard de Coligny, Paul Veronese, John Huss, Wynkyn de Worde, Edmund Kean, Charles the Bold, Madame Guyon, Cardinal Pole, Giordano Bruno, Daniel O'Connell, Elizabeth of Hungary, Ghengis Khan, Palestrina, Pastalozzi.

"Trace the territorial expansion of the United States during the nineteenth century, noting briefly the attendant circumstances.

"Mention men prominently connected with the following subjects during Victoria's reign. (Answer ten.) Natural science, philanthropy, philosophy, archeology, music, Christian socialism, free-trade, home rule, painting, the Oxford Movement, literary criticism, the drama, arts and crafts, finance.

"Characterize briefly the present rulers of the following countries, and give the policy for which each is supposed to stand: Germany, Austria-Hungary, Russia, Italy.

"What are the leading names in contemporary French literature? In German?"

"What are the most serious problems to be worked out by the United States during the twentieth century?"

The "times are changed" since Professor Maria Mitchell, for the splendid sum of \$75 a year, dispensed the books of the Atheneum Library and gave advice and stimulus, instruction and sympathy, to the youth of old Nantucket, but the change has been more in requirements than in remuneration. Not more than one out of fifty graduates of high schools could enter the best library-training courses without further preparation; the average librarian is a far more broadly educated person than the average teacher, while often the librarian's salary is barely half the teacher's. A desk assistant receives about thirty-five or forty dollars a month.

On that she must dress attractively and live well enough to stand long hours, irregular meals, and the constant plucking of a myriad unforeseen demands!

Ellen is never bitter. She accepts with the determined buoyancy of youngness the fact that the big salaries, save in privately endowed libraries, go with the executive positions of importance to the sex that is not disfranchised. But she sometimes wonders how it would seem if she really "counted," and how long then she would be expected to give so much for so little.

She cannot fail to know that the hope of the country lies in a real, not a superficial education; that if we are to assimilate the alien masses that now choke our ports and lie heavy on the national digestion, the library and the school must work bravely with the public bath and the free gymnasium to transform crude and frequently poisonous material. For this work no training is too

good; no natural endowment is too complete. Today Ellen is so busy that she cannot dwell on any problem not specific, so busy that she does not know how busy she is. At six o'clock she is still working, making ready the disinfecting cabinet and seeing that the trays have their books on end with the leaves spread to give the formaldehyde a chance. (Before morning each vicious germ will have been pursued to its last lair.) Then the hat and coat come from the hooks for good. Directions are repeated to the janitor, good-nights are over, and the clean air from the lake is in her face.

She knows how it must feel to be the electric jellyfish in the Naples aquarium—all the life drawn out of one by the thrusting fingers of a public that never ceases save in the dead hours. But though the library evening will bring new faces, a different throng with different needs, this is not her night on duty. She is free.

PREPARING COLLEGE STUDENTS FOR BUSINESS

COMMERCIAL ACTIVITIES NOW STUDIED IN FIFTEEN UNIVERSITIES—WHAT THE STUDENTS LEARN—BRINGING COLLEGE EDUCATION CLOSE TO ACTUAL LIFE

BY

E. D. JONES

ASSISTANT PROFESSOR OF COMMERCE AND INDUSTRY IN THE UNIVERSITY OF MICHIGAN

FIFTEEN of the larger American universities, in order to fit young men for responsible positions in industry, now give a course of study differing widely from the training of "commercial colleges" and engineering and trade-schools. The increased use of system and science in business has necessitated the selection of men of trained minds for business positions. It has also made possible such a formulation of the principles of production that there is now a subject-matter which can be studied according to educational methods.

This means the birth and growth of a broader conception of the university as an institution to gather and conserve all knowledge and to represent the interests of all classes of the community. This sentiment, which

characterizes the modern university man, was well expressed by President Nicholas Murray Butler in his inaugural address at Columbia University. He said: "In these modern days the university is not apart from the activities of the world, but in them and of them. To fulfil its high calling the university must give and give freely to its students; to the world of learning and of scholarship; to the development of trade, commerce and industry; to the community in which it has its home, and to the State and Nation whose foster child it is."

The courses of study which have been planned in the commercial courses of the various universities differ somewhat in details, but in the main they include the following elements:

1. Studies to give mental discipline or general culture, as history, for example.

2. Science, both theoretical and applied, such as industrial chemistry, the application of physics to industry, and economic geology.

3. Economics, under which is included economic history, money, banking, finance and statistics.

4. The technique of industry—a group of new branches concerned with wealth production and including the extractive and manufacturing industries; commerce, including commercial geography and history and the institutions and methods of internal and foreign commerce; transportation; and business organization, including the methods of manipulating the resources of investors to finance great undertakings.

5. Commercial law, involving not only the legal liabilities connected with every industrial act, but the principles upon which the State regulates competition.

6. Modern languages.

Such a course of study involves the coöperation of several departments of a university. The humanities are represented in history, economics, literature and language; the scientific department provides an indispensable element, as does also the law department; while the studies connected with the technique of industry serve as a central topic about which the others can be grouped. In this coöperation is one of the features of

strength in higher commercial education, because students, while pursuing a unified course of study, have an opportunity to become acquainted with the atmosphere prevailing in the various departments of the university, to know many teachers, to view truth from all sides, and in this way to develop the habit of independent thought and action so necessary in industrial pursuits. In this coöperation lies also a valuable means of keeping the different departments and colleges of a university in touch and of increasing the common bonds which education of a specialized character usually tends to break asunder.

American universities can in no way more certainly add a numerous and influential element to those who are their friends and backers than by providing adequately for a type of special education which shall meet the approval of intelligent men of business. Nor will the good effects of such a policy be confined to any one department of a university, for the patronage of courses in commerce comes largely from persons who would otherwise not enter universities; and an alumnus of a university, no matter what his department or course, is a more intelligent judge and a more ardent friend of the work of all the various departments of his alma mater than is the person who has remained entirely outside the circle of influence of university life and ideals.

STEPHEN MOULTON BABCOCK

THE DISCOVERER OF A FUNDAMENTAL SCIENTIFIC
THEORY—THE STORY OF HIS PRACTICAL INVENTIONS
IN DAIRY SCIENCE AND OF HIS LATEST ACHIEVEMENT

BY

HERBERT F. JOHN

PROFESSOR Stephen Moulton Babcock, who recently gave the world a new scientific truth in proving, after twenty years of research, that objects vary in weight according to their temperature, thus capped a long career of successful invention and discovery. The achievement placed him high among men of science. But ask a Wisconsin farmer who Professor Babcock is and the answer will be, "Why, he is the

man who invented the milk test." This, after all, was Doctor Babcock's achievement in practical usefulness.

He was born on a farm not quite sixty years ago, and his early life was molded by a country environment. At Tufts College, where he went in 1862, he received the degree of Bachelor of Arts.

When Cornell University opened, in 1871, Mr. Babcock went to Ithaca to take up his

engineering studies; but his outside work prevented—and here is the turning-point in his life. By arrangement with the chemical department he was allowed the use of the laboratory. His ability as a chemist soon manifested itself, and an instructorship in agricultural chemistry was offered him. After two years as an instructor, upon the advice of some of the Cornell faculty he went to Germany to attend the University of Göttingen. Here he took the degree of Doctor of Philosophy in 1877. He returned to Cornell to undertake research in dairy work—more particularly the first scientific investigation of the ripening of cheese.

Upon the strength of his report on cheese-ripening Doctor Babcock was offered the position of agricultural chemist for the New York Agricultural Experiment Station at Geneva. This he accepted. The notion of a milk separator here first occurred to him. Milk was then bought and sold without reference to quality. Doctor Babcock appreciated the harmfulness and injustice of the method, and set about to discover a simple and inexpensive method of estimating the amount of butter-fat in milk, butter-fat being, of course, the measure of the value of milk for all purposes. He had this idea still in mind when, in 1888, he was called to Madison to take the position of chemist to the Madison Experiment Station. Here ample opportunity for investigation was at his command, and after two years of further study he announced the invention of a device based upon centrifugal force for separating butter-fat from milk. The new method was simple and required but five minutes for an analysis. The best method previously devised was expensive and required twenty-four hours.

Pass through the clean, sweet-smelling, brick-floored dairy beyond University Hill at Madison to the milk-testing room. There on a bench by the window is Doctor Babcock's machine. It consists of a series of little bottles hung loosely to a ring. Into each bottle the attendant pours a sample of milk with an acid that quickly curdles it. A current of electricity is turned on, and the ring of bottles revolves so rapidly that each individual bottle, hung by the neck, swings up to a horizontal position. As the bottles whirl, the solid matter is driven by centrifugal force to the outside or bottom end. When the wheel slows down the bottles swing back

to perpendicular. The substance in each is separated into whey and solid matter by a sharp line of cleavage, and a scale on the bottle indicates the proportions of each—shows, in fact, how rich the milk is.

To Doctor Babcock's skill, ingenuity and inventive faculty many other inventions are due. Each year, as one scans the reports of the experiment station, some new theory or invention appears. There is in Doctor Babcock a strong tendency toward doubt, and to this quality of agnosticism much of his success is due. Text-books and working hypotheses have no awe for him. Associated with Doctor H. L. Russell, Professor of bacteriology at the University of Wisconsin, Doctor Babcock announced in 1896 the discovery of the cause of ripening of cheese. The idea that bacteria cause the ripening of cheese was so firmly established as a foundation doctrine of dairy science that no one could see in the manufacture of cheese anything save bugs. Here Doctor Babcock's pertinacity of character showed itself. By long-continued experiments he proved that milk contained a ferment which, under favorable conditions, causes it to curdle and subsequently to digest.

This was purely a scientific discovery and was backed by experimental evidence that had been hitherto wrongly interpreted. Doctor Babcock then devised a method of curing cheese by an application of his own theory. Bacteria thrive only within a narrow range of temperature, while "galactase," the newly discovered ferment, was found to cause a gradual breaking-down in cheese and to continue its digestive action at a temperature much below the point at which bacteria either become quiescent or die. The cheese made by this process has a milder flavor and is better than that cured at higher temperatures. In time this process will greatly modify, if it does not render quite obsolete, the old methods of cheese-ripening, and will make the curing of cheese possible by syndicate means.

Scientists, however, have of late been concerned more with Doctor Babcock's recent discovery involving the origin and nature of matter. Always observing and with a mind "budding and sprouting" with new ideas, Doctor Babcock more than twenty years ago took issue with that feature of the atomic theory which assumes that the atoms of a given

element are all precisely alike. His doubts led him into a series of experiments which finally brought him to the surprising conclusion that when a chemical change takes place within a hermetically sealed flask the substances within lose in weight if heat is absorbed in the process and increase in weight if heat is given off.

To test this result on a larger scale and with greater accuracy than had hitherto been possible, Doctor Babcock invented a form of hydrostatic balance which makes it possible to detect a difference of weight in a given substance amounting to only one unit in a hundred million. With such a balance he found a perceptible difference between the weight of a piece of ice and that of the water resulting from the melting of the same ice.

This change of weight appears to depend solely upon the increase or decrease in the quantity of heat, or, in other words, in the energy inherent in the substance tested, and Doctor Babcock, therefore, summarizes his results in this far-reaching formula: "The weight of a body is an inverse function of its inherent energy." In other words,

elements in combining or in changing their physical condition change in weight as they change in heat—they grow lighter as they grow hotter, and heavier as they cool. By implication this theory may be extended to include all matter, and if further experiments justify such a daring generalization we may go a step further and assume that, by a sufficient increase in the inherent energy of what we call matter, its weight, and therefore its mass—for weight is but a measure of mass—will entirely disappear.

If these revolutionary views can maintain themselves against the criticism which they are certain to arouse they may be justly said to constitute one of the greatest of scientific generalizations. It is an interpretation of the law of gravitation and, indeed, stands next to it in importance. The physical theory that all interstellar space is filled with ether, to which is attributed the properties of infinite energy and of absolute lack of weight, is corroborated by Doctor Babcock's theory: "Since, when the energy stored upon any given atom is increased, its weight is thereby diminished, and infinite energy means of necessity zero weight."

A GLIMPSE INTO THE JEWISH WORLD

THE CONDITION OF THE JEWS IN THE TWENTIETH CENTURY AS SEEN
BY ONE OF THEM—THEIR NUMBERS AND THEIR DISTRIBUTION—
FROM GHETTO TO GHETTO—THE OUTLOOK FOR THE FUTURE

BY

DR. RICHARD GOTTHEIL

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THE plaint of the Prophet Jeremiah, "Now are they become among the nations as a vessel wherein there is no pleasure," sums up the condition of the Jews today. It tells more eloquently even than do figures the martyrdom of my people. The twentieth century has come; yet for us it seems to differ as little from the tenth as the tenth differed from the first. Vast spaces of the earth's surface have been regained for man. Mighty secrets have been wrung from Nature. The earth is encircled with bands that quiver with human messages.

But the Jew still trudges on his wearying journey, often on foot even in this age of steam and electricity. Holding tight to his breast the Book of the Law, he silently, doggedly pursues his course. The world looks on; the very world which he has taught, fondly believing himself to be the messenger of divine truth. Only when the flash of steel sends its gleam from land to land and beyond the seas, only when Jewish blood casts a lurid glare upon the sky, is the conscience of mankind awakened for a few brief moments. Such a gleam has come from Kishineff, and

such a lurid glare on the Russian sky is today reflected in all corners of the earth.

"Emigravit" was the simple inscription engraved upon the tomb of Albrecht Dürer. It is written upon the banner of the Jew more distinctly and plainly during the last twenty-five years than at any period in his long history. He has changed the complexion of cities and has brought new problems to old countries. And yet he is but a handful of people—a beggarly ten or eleven millions, but beggarly in more senses than one. Many are accustomed to say, "Rich as a Jew." He ought to be designated "Poor as Job." The typical Jew is not the trader on the Bourse or the rich *habitué* of Fifth Avenue, the boulevards or the Ringstrasse, but the poor denizen of the Ghetto tenement, sitting among the ashes, receiving the evil at the hand of God as he received the good, still hoping that his captivity will be turned and his latter end more blessed than his beginning—these Jobs among the nations, with but a handful of friends to sit and comfort them. They are dwelling everywhere and in every clime, from China around the world to the Philip-pines, from Scandinavia to South Africa, speaking all tongues and rapidly forgetting their own, living the dual life of good citizens and good Jews.

It is not an easy task to tell the geographical distribution of these ten or eleven millions; the official census too seldom takes account of religion or race. Since the Middle Ages, and for devious reasons, the centre of gravity of Jewish population has become eastern Europe, Russia (including Poland), Austria-Hungary (including Galicia) and Rumania. In Russia alone there are 5,189,401, in Austria 1,994,378 and in Rumania about 229,000. It will be seen that more than seventy per cent. of the Jews, even deducting 58,471 in the Caucasus and 34,477 in Siberia, live in a comparatively small area, made much smaller by the herding process which has been unrelentingly pursued for very many years. Most notably is this the case in Russia since the days of Catharine II. By the senatorial *ukases* of 1786, 1791 and 1794, a Pale of Settlement was established outside of which but few Jews are allowed to live: that tremendous Ghetto on the Western frontier made up of white Russia and the old kingdom of Poland. The ignoble May Laws of Ignatieff introduced in 1882 as "temporary"—and still

pursuing their temporary existence—brought still further restrictions, allowing the Jews to settle only in places which are cities or townships. Fully 93.9 per cent. of the Russian Jews live in the cities of the Pale. Since 1882 not only has the interpretation of the May Laws been left to the bad will of subordinate officials, but such further restrictive laws have been passed year by year as not only to bewilder that part of Russian officialdom which might wish to deal honestly in the matter, but to lend a handle to the worst passions of religious and economic hatred.

After having been excluded successively from every walk of life with the exception of small trading and hawking, that which the Jews have valued most has been in a large measure denied them—education in the schools and universities. Though fully twenty per cent. are called out for military service, only ten per cent. are allowed to attend grammar schools, commercial schools or universities. This is often reduced to eight per cent. and at St. Petersburg even to two and one-half per cent. At the foundation of the Kharkoff Technical Institute the number of Jews was limited to ten per cent.; later this was reduced to less than five per cent. From military schools, of course, the exclusion is complete. Even in days of

AMERICA		ASIA	
United States.....	1,136,240	Palestine.....	60,000
Canada.....	16,432	Caucasus.....	58,471
Mexico.....	1,000	Siberia.....	34,477
Central America.....	3,000	Central Asia.....	12,729
Argentine Republic.....	7,015	Asia Minor and Syria.....	65,000
Dutch Guiana.....	1,250	Persia.....	35,000
Venezuela and Costa Rica.....	711	India.....	22,000
Brazil.....	2,000	Arabia.....	15,000
Rest of S. America.....	2,000	China and Japan.....	2,000
	1,160,648	Turkestan and Afghanistan.....	14,000
			318,677
EUROPE		AFRICA	
Austria-Hungary.....	1,994,378	Morocco.....	150,000
Belgium.....	12,000	Tunis.....	45,000
Bosnia.....	5,845	Algeria.....	57,132
Bulgaria.....	28,000	Egypt.....	25,300
Denmark.....	4,080	Tripoli.....	10,000
England, etc.....	179,000	Abyssinia.....	50,000
France.....	86,885	South Africa.....	25,000
Germany.....	586,948		
Greece.....	8,350		362,432
Holland.....	103,988	AUSTRALASIA	
Italy.....	44,037	New South Wales ..	6,447
Luxemburg.....	1,200	Queensland.....	733
Norway and Sweden.....	3,402	Tasmania.....	107
Portugal.....	700	New Zealand.....	1,611
Rumelia (Eastern).....	6,982	Victoria.....	5,897
Rumania.....	229,000	S. Australia.....	786
Russia.....	5,189,401	W. Australia.....	1,259
Servia.....	5,100		16,840
Spain, (with Gibraltar).....	4,500		
Switzerland.....	12,551		
Turkey.....	75,295		
Cyprus and Malta.....	130		
	8,581,772		
		Total.....	10,149,369

want and of famine the Jews are very often deprived from participating in government relief. The resulting physical and moral debasement of this herding into a few towns and into a few walks of life has made existence for the Jew in Russia almost unbearable; and many hundreds of thousands have already emigrated to swell the proletariats of western European and American cities.

It is true that a special commission was appointed in 1900, under the presidency of the Minister of the Interior, to revise the laws and the local regulations affecting the Jews in Russia. It is also true that in March, 1903, Czar Nicholas issued a manifesto seemingly promising equal rights to all Russians. The answer to both has come in the massacres of Olviopol (November, 1901), of Kishineff and Tumanovo in the District of Tiruspol (April, 1903) and in the ritual murder charges at Dobosari and at Panemune (April, 1903). Siberia has about 50,000 Jews, made up of the families of the soldiers who served under Nicholas I. and of those since then deported for political and other reasons. But even in these immense tracts they are not allowed to settle at will and are harassed in every conceivable way.

But the Slav was not to enjoy Jew-baiting all by himself. Of the 250,000 Jews in Rumania at the time that it was created a kingdom by the Berlin Congress of 1878, less than 230,000 now remain. Many thousands are forced to emigrate every year; and only a year or two ago bands of them were to be seen making their way out of the country, often on foot, in order to escape the grinding oppression of the Government, aided by the Anti-Semitic Alliance. Not a few of these wanderers have even been turned back on the frontier by the authorities of neighboring lands. Those that are left behind are either the very rich or the very poor. In Jassy, with 80,000 inhabitants, 25,000 out of 30,000 Jews are absolutely destitute. And the misery promises to increase.

The "confidence trick" of the Government, as the *Rumanian Bulletin* correctly calls it, can be worked again and again until, if ever, the conscience of mankind is awakened to more than a word protest. The Berlin Treaty of 1878 in its forty-third and forty-fourth articles expressly stipulated for the complete civil and religious liberty of the Jew. Rumania demurred to a wholesale emancipation,

and proposed a gradual one, depending in each case upon a vote of the chambers. Trusting in its pledge, the signatory Powers in an identic note (February 20, 1880) gave assent. How has Rumania redeemed her pledge? She immediately naturalized eight hundred and thirty-three soldiers who had fought in the war of independence—six hundred of whom were already dead. By actual count she has since then naturalized ninety-two Jews, of whom, in the meanwhile, thirty-two have died. In 1903, fourteen were naturalized. Although the Jews have been established in Wallachia since 1367 and in Moldavia since 1391, their status today in Rumania is not even that of simple strangers; it is much worse. They are officially declared to be "foreigners not under foreign protection." As in Russia, successive laws have reduced thousands to actual beggary and have driven thousands to emigration. The *Epoca*, the mouthpiece of the former minister, P. P. Carp, has recently said, "When the number of Jews is reduced it would be a measure of national preservation that we should assimilate a part of them."

A few of the laws tending to "reduce the number of Jews" may be cited here: (1883) law prohibiting lotteries; (1884) law prohibiting hawking; law prohibiting Jews from pleading before a justice of the peace; (1886) law prohibiting Jews from becoming members of chambers of commerce and trade; (1887) law excluding Jews from public service, from public works, and from serving Rumanian local trade; law limiting Jewish workmen to one-third of the total employed in a factory; (1896) law compelling Jews to pay for schooling and admitting them to schools only if there is room; (1898) law excluding Jews from secondary and other schools; (1899) law excluding Jews from agricultural and professional schools; (1901) law prohibiting Jews from keeping public houses, beer houses, grocery stores, coffee houses, baker stores, etc., in the rural districts; (1902) law prohibiting the employment of Jewish workmen in any trade or calling.

This last law, the infamous Artisans' Law, would have almost immediately driven the greater number of Jews from Rumania. Fear of endangering Rumania's monetary credit abroad has driven the Government to declare it inapplicable to Jews. In 1899 Rumania contracted a debt of 175,000,000

francs which must be repaid on December 1, 1904. To do this she will need a new loan. Will the Jewish banking interests in Europe place their own material gain below that of their unfortunate brethren? The declaration in regard to the Artisans' Law is the sop Rumania throws out to them. I doubt much whether they will. They did not use this weapon against Russia at the time of her urgent need; and the loan of 1899, be it said to our own shame, was largely covered by the Bleichröders, and the Disconto Gesellschaft, in whose management there are Jews both by race and by religion.

For the 2,000,000 Jews in the dual Austria-Hungarian Empire life is in part a little more hopeful. In Russia and Rumania the central government is directly responsible; and anti-Semitism there works out in the grimmest Oriental barbarity. In Austria the Government can in no way be charged with complicity; and the more genteel manners of western anti-Semitism are in vogue. Happily Hungary, with its large Jewish population of 851,378, seems peculiarly free from the virus in spite of the Catholic People's Party. On the other hand, Vienna has been the scene of the most violent anti-Semitic outrages under the leadership of its Burgomeister, Doctor Lueger. In the last election for the Lower Austrian Diet (October, 1902) he captured all the Districts of Vienna; and the Christian Socialists (i. e., anti-Semites) gained five additional seats. The immediate result was the passage of a law against hawkers, most of whom are Jews. But life is still bearable for the Jew in Austria; though the ritual murder charge regularly crops up (Polna 1899, Nachod 1900, Prague 1901, Wosek 1903). Jewish shops are raided and Jews killed (Czenstochewa, September 12, 1902), and 400 Jewish merchants in Prague are threatened with a ruinous boycott.

It is in Galicia that the misery of the Jew is seen at its lowest ebb. Of its 900,000 Jews in a population of 7,000,000, fully seventy per cent. are beggars and 5,000 die yearly of hunger. The general wretched economic conditions, which enable a laborer to earn little more than ten cents a day, have been a thousand times intensified for the Jew by the chicanery of the Polish nobles and the Polish clerics. The country is an agricultural one; yet the Jews have the greatest difficulty in acquiring land, and are not

admitted to the schools of agriculture and horticulture. All public positions in the railway, postal and police services, magistrature and in law offices are closed to them. The opposition of the populace has gone so far that the taxes taken from the Jews are used to open Christian coöperative stores, of which there are now more than 3,000, bearing the motto, "Do not buy from Jews."

Of the other European countries, Germany has the largest quota of Jews—586,948. It is the classic home of western civilized anti-Semitism, and at the same time the home of modern Jewish learning. No hindrance is put in the way of the commercial activity of its Jewish inhabitants; but they are practically shut out from all government preferment, including university and military life; and as late as September, 1902, Doctor Lewinsky was compelled to withdraw his candidature as Burgomeister of Posen, as it was intimated to him that the Kaiser would never confirm the election of a Jew—and this despite the fact that the Jews have been the best friends of the Germanization of the Polish provinces. Social anti-Semitism is still exceedingly strong, and though a Christian society for the repression of anti-Semitism exists, the old blood accusation still persists (as at Konitz, 1900). A price is put upon desertion, for baptism opens the way to government positions; a solution of the Jewish question often advanced in these later days.

The most gruesome gift of Germany to France has been its anti-Semitism. The 87,000 French Jews will for many years to come feel the cleavage which the unfortunate Dreyfus affair has made between them and their fellow citizens; and the unfortunate riots in Algeria have shown the danger which a weak ministry runs in being frightened by loud-shouting so-called patriots. Happily things have taken a turn for the better in France, and Regis, Drümont and Guerin were fairly beaten at the last election; while the anti-Jewish mayor of Mustafa, M. Chaze, was summarily suspended by the Minister of the Interior (April, 1903). The poison now threatens nearby Belgium, where the publication of an anti-Semitic newspaper was begun on August 15, 1902.

Great Britain has 179,000 Jewish inhabitants, the number having been largely increased during the last twenty-five years

by immigration from eastern Europe. Small, however, as this immigration is, it has been sufficient to cause much alarm in England. The British Brothers' League was founded in February, 1901, and, aided by *The Daily Express* and *The Daily Mail*, it has so far excited public fear as to have compelled Parliament to institute a commission on the question of Alien Immigration. This commission is still sitting; and even such a serious paper as *The St. James Gazette* is able to say "we do not want Rumanian Jews in Whitechapel, where we have more than enough already to get along with." There seems little doubt that the commission will propose an emigration law on lines similar to that now existing in the United States, and the attempt will be made to deflect this immigration to the colonies, rather than to the great centres of population in the British Isles. More than 1,000 Jews saw active service in the Boer War; and the Jewish population in South Africa is already quite large, and Canada must be willing to receive her quota.

Nothing need be said of the other European cities. The bright spots on the map are, in addition to England, Holland, Denmark, Scandinavia, Italy, Turkey and Egypt. Mutterings are heard occasionally in Morocco and in far-off Persia, but not sufficient to call for special mention.

The Jews in the United States are now said to number 1,136,240, almost a half of whom live within the confines of Greater New York. The problem in the United States of properly caring for the large immigration is a very difficult one, but it is being resolutely handled, and, aided by the good-will of the non-Jewish population, will undoubtedly be brought to a successful issue.

It is a common fallacy to think that the well-to-do Jews are all bankers or merchants, the poor Jews all small traders and street hawkers. That very many do earn their livelihood in this manner is beyond all cavil; the laws and usages of the Middle Ages made this the only means of existence for them, and modern legislation in eastern European countries has tended to conserve inherited customs. But this is only a part of the truth. Even under most adverse circumstances the Jews have gone into every walk of life and have engaged in every manner of work. In 1893 the number of Jewish artisans in Russia was 395,942. In Rumania the statistics of

1902 show that there were at least 18,015 Jewish artisans, making up with their families a round 100,000. In 1899 there were 4,082 artisans among the Jews of Algiers. Still more interesting is the fact that Jewish agriculturists are not as infrequently met with as is supposed. In 1899 in Russia there were 278 Jewish agricultural colonies with a population of 63,223; and 11,984 working outside of the colonies. In Palestine there are 4,450, and in the Argentine Republic 4,885 Jewish farmers.

Whence, then, comes this travail of the Jew? Some say from his aloofness, others from his propinquity. Some say from his opulence, others from his penury; some say from his industry, others from his distaste to certain forms of labor. We might run the whole gamut of antinomies. We should be none the wiser. Commencing in Germany as "a little cloud out of the sea, like a man's hand," anti-Semitism has spread so far in Europe that "the heavens are black with clouds and wind." The real difficulty of the question lies in the antinomy expressed in his own existence—the attempt to live with the world and to live apart from it as a separate body.

Are the protests of liberal governments to avail him? Hardly—in this day of merciless commercialism in the domain of politics. We have had only too splendid examples of its failure. We need not go back to the Mansion House Meeting of 1892. Secretary of State Hay's note of August 11, 1902, in the Rumanian matter, sent to the ambassadors and ministers accredited at the governments of the signatories to the Berlin Treaty, is still fresh in our minds. The Austrian Minister of Foreign Affairs has declared that his country has no right to interfere (March 10, 1903). Russia has lost the moral right to any such protest. Germany will do as little as she has done in favor of the Armenians or Macedonians. Bernstein's interpolation in the German Reichstag (end of March, 1903) has remained unanswered. England alone has remained true to her traditions, and has seconded the protest; and yet, with what result? The Jew remains the scapegoat. He can be beaten with impunity; and so long as he remains in his defenseless position he will be powerless to ward off attacks whether they be religious, political or economical.

RED BLOOD IN FICTION

BY

CHURCHILL WILLIAMS

AUTHOR OF "THE CAPTAIN," ETC.

IT was only the other day that one of our ablest critics remarked in effect that American fiction is emasculated. The statement was too sweeping. Increasing attention in England to American novels, which indisputably have not the literary finish of the English novel, indicates, among other things, the possession of internal strength. Yet the opinion is not without foundation. Between the popular demand for the so-called romantic novel which aims at picturesqueness, and the novel of "character" which submits the emotional or intellectual gymnast to minute analysis and so most often loses touch with normal life, we are perhaps in some danger of exchanging the shadow for the substance. The fact, of course, is not to be taken too seriously. Most of these novels, in common with the bulk of all fiction of the day, are of ephemeral appeal. Nevertheless, they are an influence and certainly are an index to existing taste. The more welcome, because it marks positively the beat of a healthy pulse, is the growing interest in fiction which is infused with red blood—the red blood that stimulates men to the vigorous exercise of body and mind in the making of a place for themselves in the working world.

Without forgetting what Cooper did to vitalize the romance of American pioneer life, it was Bret Harte who first made for us a portrait of the American man of action with the strength, weaknesses, passions and quick intelligence which we could understand; and that the model was a Western man is significant of more than the accident of Mr. Harte's familiarity with California. It will be observed that it is the West which has been giving us this sort of thing all along. Hamlin Garland, Frank Norris, Stewart Edward White, Jack London, are Western men. Owen Wister, while not of the West, has drawn upon it for his best work. On the other hand, not an eastern writer of fiction nor a recent notable story of the East with the scope and intention of those which deal with the West just now recalls itself. It may be sufficient in explanation of this to note that the West offers more obvious oppor-

tunity for the display of forceful qualities, that the lines of character there are more likely to be definite, that as an individual the Western man counts more positively for good or evil every time, while for setting he has about him what is peculiarly palatable to the romantic appetite.

Mr. Wister is the latest to interpret to our delight and to the credit of American fiction the fascination of the wide sweep of the plains and the mystery of the foothills. As a literary accomplishment his "Virginian" may be largely objective; none the less it expresses for thousands of readers the tonic essence of the West. It would be worth remembering, if for nothing else, because of that chapter in which the Virginian and his companion, after the lynching, ride away together, and the loneliness of empty hills so works upon them that the sight of unexpected footprints and of a wind-blown newspaper are sufficient to populate the trail with terrors. Norris produces much the same effect with his description in "The Octopus" of those billowing reaches of growing wheat which we are never allowed to forget. Indeed, with a theme rather than a character as his inspiration, Norris has made tremendously impressive the influence which vast stretches of country exert upon the conscious and unconscious self, and for sheer bigness of scheme as well as of landscape this one book of his is unequaled by anything else in our fiction.

Hamlin Garland in "Her Mountain Lover" comes nearest to Norris at times. But with Garland it is the immensity of the western mountains, and his sharply drawn pictures in "Her Mountain Lover" of the towering heights of Colorado against whose face the ore-laden burros slide "like a string of beads on an oiled wire," are exceedingly well done. The spell of those mountains, too, as he shows, is set in the very bone and blood of their children. Jim Matteson, of "Her Mountain Lover," returning from England and so keen for looming old Ouray and the roar of the grizzly bear in its rocky cradle that he watches over the station gate at Jersey City for six hours lest he miss the first train



MR. STEWART EDWARD WHITE
AUTHOR OF "CONJUROR'S HOUSE," ETC.



MR. JACK LONDON
AUTHOR OF "CHILDREN OF THE FROST," ETC.

for the West, is well within our sympathy. Of Matteson's hunger, like the forest hunger of those splendid fellows in White's "The Blazed Trail," to whom the spice of trees is the breath of life, we have an understanding akin to instinct. Indeed, instinct is the word itself. To nothing less elemental does the indefinable spell of prairie, mountain, forest and ocean make universal appeal. Wister, White and Garland, and likewise London in his stories of the ice-bound North, and Connolly and Robertson in their vigorous tales of the sea, work with primal elements, and in the straightforward, simple manner that is born of conviction of the everlasting truths.

But without the human factor their fine interpretation of Nature would have little more than contemplative value. The dynamics of an empty landscape are not obvious. Man is the measure of the plain, the torrent, the mountain. The length of his stride, the power of his arm determine their greatness. And from the moment man comes into view all the rest is the foil for his figure, the instrument or the material of his fortunes. Does he overcome the resistance of Nature's inertia, override her obstacles, block or divert her energies to his own ends even but for the short span of his life, we forget quickly enough Nature's mighty accomplishments through the centuries before he came and for the centuries to come after him. It is the man we care about, because in him we identify something of ourselves.

To give us one of our kind who does more than we have done and so pricks our pride, and again does a little less and so restores our self-respect, is the surest way to our appreciation. By the balance which the novelist maintains between these two extremes we rank him. Paradoxical as it may sound, the perfect man in the opinion of each of us is that one who has exactly the right quantity of imperfections as judged by our individual standards. To this manifest fact Wister, Norris and White notably have given recognition. In common also they share a distaste for that deliberate study of the psychology of character at once the most enticing and dangerous maze through which the novelist may attempt to guide the sympathies of a reader. Psychology with Wister, Norris and White goes largely by inference from action and speech. Norris probably has ventured more into the field of avowed mental and emotional analysis than has either of his companions. But even his familiar trick of iteration of terms appears to be less an effort to demonstrate the influence of a

physical quantity in one character upon the mental processes of another than a way of fixing upon the reader's mind the lineaments of the character described. The psychological intent is subordinated to the purpose of drawing a figure of definite lines and of power. Always power, or the lack of it.

In the case of his men, in which he seems to me to have been as successful as he was unsuccessful in his women, Norris left at least three characters which are never likely to be confused: The gross, ignorant San Francisco dentist in that inexorable study "McTeague," fated to beat his fists impotently and to do and to die by violence, but of all Norris's characters the most conspicuous example of originality in conception and of boldness in execution; Annixter of "The Octopus," who unites impetuosity and simplicity with an almost comic shrewdness and who wins his way into respect and liking, exactly how it is not easy to explain; and Jadwin of "The Pit." Perhaps for sheer dynamic quality Magnus Derrick of "The Octopus" should be named in place of Jadwin. Magnus Derrick really deserved more attention from Norris than he got. As it is, he is big enough and potent enough to be worth a great deal. Jadwin ranks because, as the dominating figure of a story, he is at full length and more in detail. As for S. Behrman of "The Octopus," who gathers to himself the craft and merciless attributes with which popular imagination endows the corporation in its worst form, he smacks much at times of the stage property. But Behrman excepted, these characters of Norris's for sheer robustness are matched by no other four from one contributor to American fiction.

A popular vote probably would declare that Owen Wister has done more than Norris to visualize a single figure of large dimensions. In popular judgment the truthfulness of that profound study, "McTeague," is no compensation for the repulsive terms of its expression or its unwholesome effect upon the mind. Pity and a painful fascination are the most that McTeague gains from the great body of readers. On the other hand, the Virginian is health and vigor personified. His vitality is no less than McTeague's; his influence is buoyant. There is nothing gross about him. Ambition, not blind instinct, is the spring of his struggle against the handicap of his surroundings and ignorance. Sentiment, and a humor which is no less effective because it sometimes is a little raw, save him from awkwardness. In brief, he is a man whom we understand and are



Photograph by Frances Benjamin Johnston

MR. THOMAS NELSON PAGE
AUTHOR OF "GORDON KEITH," ETC.

glad to know. A man able to take care of himself he had always been, and meant to be.

Hamlin Garland has concentrated something of the same spirit in Jim Matteson of "Her Mountain Lover." The whistle of a bullet would not have stung Jim's nerves as did the dangers, real and imaginary, of that prospective trip abroad. "What could I do in London? Why, they'd sure eat me up there," he says when the mission is suggested to him. Then he goes ahead and at the first encounter proves his mettle. It was partly the instinct which he voices in his intention "to kick every bush before I camp down by it," but more than that his determination to do with his might what he set out to do, which carried him through in foreign lands and saved him from wiles against which his knowledge counted for little. To go in with all one's might is the common denominator of success of every kind. It is the final proof of that red blood which distinguishes the characters of Wister and Garland.

In hardly a lesser degree it animates the stories of Stewart Edward White. A year or more ago "The Blazed Trail" appeared, and a few discriminative readers promptly discovered in the book more than the interest aroused by a fresh subject capably handled. Its characters had vitality. Since then White has put out two other books, neither of them with all the charm of the first, but, like it, plainly written out of first-hand knowledge of the forest and infused with enthusiasm—an enthusiasm, by the way, which should carry him on until a better understanding of relative values and of the architecture of story-writing enables him to put his material into more acceptable form. Meanwhile he is entitled to hearty welcome for his robust ideals and for his vivid pictures of woodland life.

Within its self-imposed limitations "The Blazed Trail" comes nearer to realizing the much-abused term "epic" than any recent American fiction—Norris's books excepted. The life of that pioneer, the "timber-getter," nowhere else in fiction is so admirably portrayed. But White is more than a picture-maker. Thorpe, of "The Blazed Trail," around whom rivermen and axmen are assembled, has the grain of the oak. Time seasons him. He is on his feet and at his work right along. He develops, and takes stronger hold on you as you know him better. His story is refreshing, honest and stalwart. Stalwart, too, is the word which best fits "The Westerners," from the same hand, a big book in the rough. Three hundred and

odd pages, with characters crowding one another and the reader wrestling with a plot that is all loose ends, and swearing but reading on—unable to let go because, though many of the people of the story seem to be outside of it, they have individuality and actuality. One is sure that White knew them in the flesh or people like them. Or he was told about them by some one who knew them well and remembered what he was told. The Hudson Bay Company folk of "Conjuror's House," Trent, especially, are after the same fashion. If, once upon a time, it wasn't "Trent" and "White" by way of greeting, then that big, unperturbed and resourceful "free-trader" who faced the implacable factor was not named "Trent." Or so it suggests itself to the reader.

Connolly's mates of the fishing-fleet in that capital book of salt-water yarns, "Out of Gloucester," take hold of the convictions after the same fashion, and their tales are by all odds the best thing of their kind that we have had yet. In them is red blood of the strain which won the *Gaspe* fight in June, 1772, and which has made the Gloucester fisherman the shrewdest, handiest, sandiest sailor of the world. The American seaman in the making, Morgan Roberston shows us in his stories; and, barring the limelight performance in which he is indulged by the author toward the close of the book, Dick Halpin, of "Masters of Men," is well on toward being good, solid bone and muscle with a capacity for taking care of himself which is a fair title to success. On the last proposition Mr. Robertson everywhere insists.

It is a very narrow line, though, that separates physical prowess from mere brutality, and the temptation to emphasize the animal side for the sake of effect has proved too strong several times for Norris and London among others. The coarseness of parts of "McTeague" is inseparable from its subject, but for the horrid details of the murder of Trina, even the sordidness of theme and the demands of a Zolaesque realism to which Norris was consistently faithful in this book, are not warrant enough. How much Norris had learned in the handling of tragedy between "McTeague" and his next book is evident when we compare the violence of "McTeague" with that fight between the wheat-growers and the agents of the railroad in "The Octopus." Death in this last grapple is truly the reaper, and his sweep is wide, swift and sure. But the bloodshed does not so much affect us as does the dramatic completeness of the disaster surprise us almost to chagrin. Nothing speaks more

positively for Norris's honesty to his theme than his sacrifice of Annixter without a trace of affectation at the very moment when, as he knew, Annixter was become the focus of the reader's interest. Few writers would have exhibited like courage.

However, we are very prone to discover what we call strength in tragic circumstances, and on that account no other writing should be approached with more reserve than that which deals with passion or death or disaster. Perhaps Jack London has suffered somewhat from such critical caution. Yet, when all credit is given London for the vigor and subtlety of his interpretation of life and character among the Indians and adventurers in the Northland, his work yet seems to lack balance. It is all or nearly all so sombre that some of its most acute situations fail of wide appreciation. He is at his best in his short stories, and his volume, "Children of the Frost," is an introduction to the field which a day hence he probably will work over to much finer effect. He is at his worst, and perversely enough, in the one piece of fiction in which he recognizes the need for sustained relief from the grim destinies of his people and attempts a romantic narrative—"A Daughter of the Snows." This, the most ambitious of his books, is as splendid for its descriptions of the giant power of the Klondike

ice as it is amazing for its absurdities in character and sentiment. On the other hand, Hamlin Garland, with powers under greater command, has been able to bring out all the balance of sombre color and do more besides. Some of his short stories of the Middle West seem almost to reek with the sweat of dull labor and cry aloud the misery of a single-handed fight against a stubborn soil. But they have in them the figures of patient, loving women and children to soften their austerities, and now and then a touch of broad humor. Garland has done nothing more capable than the sketches in the volume "Prairie Folks," one of his earliest books, published nearly a decade ago.

It may be that this even brief glance at some recent fiction should have comprehended other books than those mentioned. Charles Egbert Craddock's studies of life in the Tennessee mountains, the stories of John Fox, Jr., and that big-framed novel of political life, "The Thirteenth District," by Brand Whitelock, for their vigor and honesty, and for their "Americanism" (if by that is understood something shrewd, yet finer than shrewdness and confident, yet more sound than assurance), are entitled to a place beside those other books which reflect the appetites and potentialities of the healthiest element in literature and life.

SUMMER FICTION

FOR summer reading one may choose this year from Henry James, Mr. Howells, Mrs. Wilkins-Freeman, Charles Egbert Craddock, F. Marion Crawford and Thomas Nelson Page; and here are fresh volumes from Bret Harte and Frank Stockton. Even ten years ago such a list would have meant a literary feast. But the mark of this contemporary fiction is uniformity of merit, and, still possessing traditional charm of manner, such writers exhibit in this summer's books no greater creative vitality than the unlaureled story-tellers who not long ago lagged far behind them. Our literary aristocracy is becoming merged in an ever-growing army of facile writers whose books are entertaining stories but scarcely literature.

Of Henry James's *The Better Sort* there is little to be said except that the elect will find in these delicately attenuated stories the pleasure Mr. James's later manner can give an alert mentality, and that readers who like

a story told, and not subtly hinted, will miss a delightful but difficult exercise by not buying the book. Mr. Howells, Mrs. Wilkins-Freeman and Mr. Crawford venture into the mystery of the ghost-world. Mr. Howells develops three little human dramas of cultivated people whose conventional doings—distinctively related—are touched, and thereby given interest and meaning, by nebulous light from another world. Mrs. Wilkins-Freeman's New England ghosts in *The Wind in the Rose-bush* are visible and even palpable; but they are not by that mark conventional. Their eerie doings make excellent stories. In F. Marion Crawford's *Man Overboard* an old second mate tells the tale of twin sailors, one of whom was drowned and afterward haunted the living brother to his doom. It is a short, old-fashioned sea story and a ghost story merged in one, with the thrills proper to both. In his *Cecilia* Mr. Crawford employs the *motif* of *Peter*

Ibbetson and *The Brushwood Boy*, a dangerous foundation for a long analytical novel. But Mr. Crawford handles his rather meagre plot with deftness, and the reader feels satisfied when Cecilia, after breaking her engagement with the dilettante Guido, marries Lamberti, naval officer and hero of her mysterious recurring dream. This is more like the traditional Crawford than the author of *Man Overboard*. In like manner Mrs. Wilkins-Freeman follows *The Wind in the Rose-bush* with *Six Trees*—a half-dozen of her admirable New England stories, each centred about a tree. The book has the true Miss Wilkins quality.

In the posthumous *Trent's Trust*, by Bret Harte, our old friends, Colonel Starbottle and Jack Hamlin, reappear, a little less fresh and vital than of old. *Prosper's Mother*, however, might have been written by the Bret Harte of twenty years ago; and after all it is a keen delight to read these California tales for what they recall. *The Captain's Tollgate* shows a recrudescence of the Frank Stockton, whose whimsicalities once made "our fancy to chuckle." The first few pages make one smile from recognition. A retired naval officer maintains a tollgate in order to remain in touch with the world. A visiting niece makes the tollgate a court of lovers, and the Stocktonesque complications that ensue make every chapter heading a spur to merriment. And *A Spectre of Power*, by Charles Egbert Craddock, is a story of early pioneer days on the "Great Tennessee" River, with Indians that are individuals, not types, traders and adventurers whose exploits are made to seem real, and an unusually good love story.

Other well-known writers add to the summer list commendably entertaining stories. Doctor Weir Mitchell in *A Comedy of Conscience* tells the tranquilly amusing tale of a very feminine woman, a foolish burglar and a Cousin John, who, having appealed in vain with offerings of food and drink, finally wins the woman by foiling the burglar. F. Hopkinson Smith's *The Under Dog* contains some good mountaineer studies that should please every lover of fair play. The rest of the book deals with people who get pushed to the wall; but it is for the most part humorous and cheerful. Irving Bacheller's *Darrel of the Blessed Isles* develops the life of a traveling clock-tinker a century ago in northern Vermont. The plot serves merely to tie together a series of episodes of simple country life. The tinker, who quotes Shakespeare and talks Elizabethan English with an Irish brogue, is not so real as *Eben Holden*, but will doubtless rival his forerunner

in popularity. Then there is Owen Wister, who, in a very brief and buoyant tale of Harvard life called *Philosophy Four*, gives a little course himself in a maxim of Harvard philosophy.

A significant book is *Ronald Carnaquay*, by Bradley Gilman—a drama of church life, showing the intrigues that surround a modern minister and the machinations of ministers themselves. It is a bit of sharp social satire that reads more like actual history than like fiction. Another is the anonymous *Kempton Wace Letters*, a series of letters passing between a middle-aged poet and a very practical foster son at college. The boy develops materialistic ideas about love that cause his rejection at last by a very gifted girl, who prefers her own ideals of what love should be. It is the best love story of the season, neither light nor sentimental, but food for stimulating thought. There are art, subtlety and beauty in the letters. *Despotism and Democracy* by an anonymous author might also be significant—but its revelations of social and political life in Washington form but a meagre part of a very commonplace story.

It is a jump from such books to romance, but the historical novel is still in the field. A capital one is *The Adventures of Harry Revell*, by A. T. Quiller-Couch, which opens in a humorous tone in a Plymouth founding asylum and becomes pathetic and spirited by turns as Harry changes from chimney sweep to soldier boy in Wellington's army through a marvelous series of adventures. *The Grey Cloak*, by Harold McGrath, is packed with flashing sword-blades. It begins with a midnight murder in Paris and ends with a duel in a Canadian forest. The story rushes spiritedly from one to the other. A duke turned jester to win a princess furnishes plot for Frederick S. Isham's *Under the Rose*, and there is enough excitement when a prince impersonates the duke and carries off the lady—who is shallow, after all—to hurry the reader out with the jester among the perils of the road where the golden girl is discovered. C. C. Hotchkiss in *A Maiden Brave* gives opportunity for sentimental musing at the end of a tale of love and adventurous life on Long Island in the days of the Revolution. It is the *Richard Carvel* sort of story of a modest hero with astounding prowess. Frankfort Moore's *Castle Omeragh* is another historical novel with another good love story. Cromwell's invasion of Ireland is the occasion of the plot, and a patriot priest is a distinctive figure. The defense of an Irish castle is given with dash and humor. *Before the Dawn*, by Joseph

Altsheler, has a hint of the Civil War. A Confederate officer falls in love with a mysterious brown-cloaked woman who roams about Richmond. The lady remains mysterious, and reader and lover are kept in suspense until the dawn clears. The book shows the true gift of story-telling. All of these romances make admirable hammock reading.

Among stories of American life, Pauline Bradford Mackie's *A Voice in the Desert* can be commended. The charm of the Arizona desert and the spell it casts upon an interesting group of people living at an old Spanish mission suggest remotely the poetry and mystery of Egypt and the Nile. Whether Yucca, the desert maiden, shall yield to love and an Eastern home or the Eastern lawyer to the girl and the desert is worth reading this unusual book to learn. The hero of

C. Hanford Henderson's *John Percyfield* travels in Europe for the "indeterminate goal" well satisfied with himself and devoted to the precepts of his aristocratic Philadelphia grandfather. In telling the reader everything that happens and everything he thinks, John Percyfield is unusually charming and always cheery. Then there is *Lovey Mary*, by Mrs. Alice Hegan Rice—simply another *Mrs. Wiggs of the Cabbage Patch*, with the same sunshiny charm, not so striking because not so unexpected, but equally good. And, lastly, readers of *A Journey to Nature* can spend a delightful afternoon with the last book of J. P. Mowbray—*The Conquering of Kate*. It is a closer-knit story than Mr. Wheeler's earlier books, but it is marked with the same felicity. It tells of a southern girl won by a northerner.

MR. PAGE'S "GORDON KEITH"

AFTER a silence of five years—an unusual self-restraint for a popular writer of fiction—Mr. Thomas Nelson Page gives us another novel of the post-bellum South. In *Red Rock* he made a picture of Virginia during the period of Reconstruction, a picture that few who read it will ever forget. In his new novel, *Gordon Keith*, too, he lays the scene in Virginia and at the same period.

Old General Keith had lost his fortune in war, and he soon lost his ancestral estate, upon which, in fact, he became a superintendent for its new owner, a rich New York "promoter," who gave his attention to the development of southern coal mines. The main matter of the book is the contrast between these two pictures—the old southern life and character and the new industrial life, full of energy and full of vulgarity.

The contrast is made the sharper by giving most of the story to scenes and events and characters in New York. Young Gordon Keith, who had no patrimony except the birth of a gentleman, has to win his fortune by receiving financial help in New York to develop coal mines. He finds entrance into New York society by reason of old family acquaintances; and its confusion of good breeding and social charm with the degradation of sheer commercialism is presented to the reader with great elaboration and by a great host of personages. After one has read the book and put it aside for some time, the

two pictures of inefficient dignity of character in the old South and of the degrading worship of success in modern New York stand out clearly. Old General Keith is a lovable old fellow, and nobody who has ever known him will forget him; and his son, the hero, wins success by virtue of his character—a strenuous, wholesome man making an honest and victorious struggle against great odds.

So much could not be said about *Gordon Keith* without saying that it is a novel of serious import and of deserved popularity. It has a large and high purpose and it leaves a permanent impression on the mind. It is written by a man of unflinching good sense and taste.

But we have a right to expect from the author of *Mars' Chan* and those other incomparable short stories of old southern life—the best short stories, perhaps, that have been written by any American writer since Poe and since Bret Harte—we have a right to expect from Mr. Page a better constructed novel than this. It runs on to a wearisome length. There are too many figures on the canvas; and some of them in consequence are mere figures. There are too frequent and violent impossibilities in the miraculous appearance of persons long-since forgotten. In a word, the construction of the story is bad. The novel is a noteworthy novel by virtue of the author's larger pictorial faculty and in spite of his lack of skill as a literary craftsman.



A YANKEE IN ARGENTINA

THE General Manager of the Central Norte Railway, Argentine Republic, while walking down Calle Florida, the business street of Buenos Ayres, one morning, was accosted by a rather slight, dark-featured stranger.

"I am seeking a position, sir," said the latter respectfully. "I understand you need men."

"Hm-m, where are you from? How long have you been in this country?"

"I've been here three weeks. I'm an American."

The General Manager was English, but had resided in South America many years. He did not like "Yankees," as he termed them, but this one rather appealed to him. After a few further inquiries he sent him up country to report to the head accountant, who, it chanced, shared his chief's prejudice against Americans.

"What can you do?" the accountant asked the new man. "Are you a bookkeeper?"

"Yes, sir. Ten years' experience as an expert accountant," was the quiet reply.

"That counts very little—with us," sneered the head accountant. "I'll try you at plain copying. Your salary will be \$27 a month."

The American had a wife and child at Buenos Ayres. Twenty-seven dollars a month was starvation wages, but the feeling that he was not wanted by this Argentine railway official, and because of his nationality, aroused the new man's fighting blood. He sent for his wife and child and started house-keeping in a cheap adobe house.

He began his work as a copying-clerk and did his copying so well that at the end of the first month the head accountant reluctantly gave him a few words of praise. The new man was never late, never slow at his tasks, and always respectful. At the beginning of the third month one of the assistant bookkeepers resigned. The accountant's staff was short-handed, and the majority of its subordinate members were half-grown native youths, not overcompetent.

"Just see what you can do with the ledger accounts," he said to the new man.

The American not only attended to his new task, but continued his copying, and was ready at any time to take up odd jobs. He asked permission to make a few changes in the method employed, and within three weeks had almost revolutionized the system in use. The accountant, who was fair-minded despite his prejudices, acknowledged to himself that he had found a jewel, and he voluntarily increased the American's salary to \$54 a month. One day, when the General Manager commented on the apparent improvement in the accounting reports made to him, the accountant frankly praised the new clerk.

"I had no use for him at first, sir," he said, "but I don't believe I could do without him now. He's the best man I ever had."

The American's pay envelope at the end of that month, the fifth of his service with the company, contained \$68. Five weeks later it was rumored that the treasurer of the road was about to leave. The General Manager sent for the new clerk one morning.

"I am about to do something that may not be dictated by common sense," he said to him, "but I believe I'll make the experiment. Mr. B—— leaves us today. I want you to do his work for awhile. It is a responsible position because, as you know, the current funds of the company are kept in the treasurer's safe. You can report tomorrow morning."

The American took up his new duties the following day. He entered the treasurer's office as the former incumbent left for Buenos Ayres. The office was in a demoralized condition. The few clerks were incompetent, the records were two months in arrears, and the office rooms were ill adapted for the routine work. The new treasurer *pro tem* spent half a day looking into things; then he went to the General Manager and said:

"I am afraid I must decline to take up the work you have just given me unless I have *carte blanche* to conduct the office on new lines. From what I have seen this morning certain changes are absolutely necessary."

"You have my full authority," replied his

superior. "By the way, I am going to Tucuman tonight, and I do not expect to return before day after tomorrow. In the meantime you can map out your ideas."

Next day, while the American was seated at the flat-topped desk in the centre of his office, he saw one of the railroad's employees, the secretary to the Chief of Traffic, open the little swing door in the railing at the main entrance and saunter toward him.

"Good-morning, sir," called out the intruder. "Mr. X—— has sent me for some money. He wants \$200 right away. You can charge it to him."

"Do you see that railing?" replied the American coldly, pointing toward the entrance. "Just get outside of it as soon as you can. None but employees of this office and the General Manager can pass that gate. You can tell your chief, also, that he cannot have a cent without a written order from the General Manager."

The secretary abruptly left the room. Five minutes later the door opened again. It was the Chief of Traffic. Pushing back the gate with a bang, he strode into the office. His face was red and his eyes blazed with anger.

"What is this message you send me?" he demanded. "You refuse to let me have any money. Why, confound your impudence, don't you know that I represent the General Manager while he is away? Now, give me the money and be quick about it!"

The large safe of the office was standing a few feet away. Its doors were open and upon the shelves in plain view were many little piles of notes and gold. The Chief of Traffic reached over and picked up four \$50 bills.

"Now, enter these——" he began, then stopped short. The American had risen from his seat. His face had paled slightly, but there was a glitter in the eyes which permitted of no error. In one hand he held a revolver. The muzzle was aimed directly at the Chief of Traffic.

"Put back that money," came the command, slowly and quietly. "Put it back on that same pile. Now, get out of this office. One—two——"

The gate at the entrance slammed behind the retreating footsteps of the Chief of Traffic. He did not look around in his haste, but he threw back a threat. It was about 3 o'clock in the afternoon. The rest of the day passed without further disturbance. At five the American sent his assistants home and waited. The safe in the office was not a combination safe, but required locking with two keys. One key was in his possession,

the other was held by the General Manager, or in his absence by the Chief of Traffic.

Six o'clock came, then seven and eight. No one approached the office where the American waited with his revolver within easy reach. Nine, ten, midnight, and still no caller. At daybreak the next morning the American was still seated in front of the open safe. An hour later a locomotive whistle sounded down the line. It was the early passenger train. The General Manager's private car should be attached to it.

It was just seven by the office clock when a hand tried the knob of the outer door. The American unlocked it and gave admission to the General Manager. His face showed wrath. As he stepped inside the American spoke:

"I will consider it a favor if you will appoint the treasurer at once," he said crisply. "Under present conditions I cannot be responsible for the funds of this office. Every Tom, Dick and Harry connected with the road seems to have a right to take all the money he wants."

"This affair was reported to me this morning," replied the General Manager. "I have investigated it to my satisfaction. You ask me to appoint a treasurer at once. I will. You are the treasurer."

THE WIDENING SCOPE OF WOMEN'S WORK

THE census of 1900 recorded 3,230,642 women in the United States engaged in manufacturing, mechanical and agricultural pursuits, professional service, trade and transportation. City directories show scarcely an occupation which they have not entered.

A woman sat in the Colorado Legislature just closed and placed in nomination United States Senator Henry M. Teller. She also secured an appropriation of nearly \$100,000 to establish a Home for Dependent Children. Another woman was member of the Utah House of Representatives and was appointed chairman of the Judiciary Committee. The National Superintendent of Indian Schools is a Wyoming woman. Both Idaho and Colorado have women State Superintendents of Public Instruction, the one in Colorado now serving her third term. At the spring election in Colorado, Manitou, Trinidad and Idaho Springs chose women treasurers; Aspen and Trinidad, women clerks, and Sheridan, a woman clerk and recorder. A number of women hold these positions in the counties, and more than half of them have women superintendents. Two women were elected justices of the peace in Wyoming, a number

having previously held this office. A woman has just been appointed State Dairy Commissioner in Colorado. The Governor has also made an entire State Traveling Library Commission of women. The Public Improvement Society of Denver, composed of both sexes, has elected a woman president.

Office-holding is not confined, however, to the women of the equal suffrage States. The receiver in the United States Land Office at The Dalles, Oregon, is a woman. The second woman recently has been appointed deputy-clerk of the United States Circuit and District Courts in Minneapolis; one for the second term of three years as prothonotary of Cumberland County, Pennsylvania; and Holly Springs, Mississippi, has a woman deputy sheriff. A woman has just been made one of the five trustees to erect and manage the Carnegie Library at Oneida, New York. The daughter of Mayor Johnson, of Cleveland, is probation officer of the Children's Court. A woman has been commissioned by the Agricultural Department at Washington as special field agent of the United States Government to establish silk culture in this country on a scientific basis. Another has just completed her sixteenth year as observer for the United States Weather Bureau, at Lancaster, Pennsylvania.

There are thousands of others. At the recent competitive civil service examinations in Washington more than 77 per cent. of the women passed as against 62 per cent. of the men.

A statement just issued by the United States Post-office Department shows that fifty-seven women are employed as regular carriers in the rural free delivery service, and nine hundred are on the substitute list. These women letter carriers are scattered through different States; they travel in a regular mail wagon, issue money orders, register letters, etc. The average loss of time of the women carriers last year was about three days.

AROUND THE WORLD AT EXPRESS SPEED

THE movement recently started to establish direct connection between transatlantic lines and transcontinental railroads will make it possible to travel around the world at express speed, or in forty-five days. At the present time, although there are one hundred routes for any one who wishes to tour the world, there is no direct service, as the railroads and steamship lines make no pretense to a connected time-table.

Today, if one should desire to emulate Jules Verne's picturesque hero in *Around the World in Eighty Days*, he would find it

possible to reduce that period only by seventeen days, although the actual time required to travel by the different sections of the overland route is less than forty-five days. The difference is caused by the lack of direct communication. It is this difference that the various transportation companies are endeavoring to eliminate.

Up to the present the shortest time recorded for a round-the-world journey is sixty-three days, and that by the long sea route via Cape of Good Hope and Cape Horn. This journey covered 25,412 miles, or at the rate of sixteen and eight-tenths miles an hour, a very fair speed for a continuous sea voyage.

The competition for the shortest world route is virtually restricted to two main routes. One, controlled by a Canadian railroad and an English steamship line, offers a service of fifty-two and one-half days. This schedule includes twenty-four days to or from Hongkong eastward, seventeen and one-half days from Hongkong to Vancouver and eleven days from Vancouver to London. The company feels confident that it will be possible to set an outside limit of sixty days, allowing an ample margin for contingencies and waits.

The other route is of recent origin. It is being extensively advertised as the "cheapest, shortest and quickest" journey around the world and includes the Trans-Siberian Railway and the new steamship line of one of the great western railways. The journey, commencing at New York, can be taken either to the eastward or to the westward. The former, for instance, goes by way of the Atlantic route to London, then across Europe via Berlin or Vienna to St. Petersburg or Warsaw to Moscow. From Moscow a journey covering 5,307 miles over the picturesque Trans-Siberian Railway takes the traveler to Vladivostok, where a steamer of the Japanese line connects with Yokohama, Japan. From the latter port the enormous new American steamers convey the tourists to Tacoma, and the balance of the trip is made overland to the starting point.

It is hardly possible that encircling the globe will be a common pastime, at least not for many years to come, but the movement to establish direct connections between the various transportation lines will result in the improvement of mail and express facilities. Even at the sixty-day service it will be possible to send mail to any point east or west within one month, which is a long step forward.

THE ADVANCE OF WOMEN IN EUROPE

EVEN among some of the conservative countries of the Old World there is an advance in the position of women, a noteworthy

occurrence in May being their admission to the profession of law in Holland. A new paper has been established by prominent women in Leipzig for promoting what is known as "the woman movement." A law has just been enacted in Russia which will enable a wife to leave a brutal husband and earn her living elsewhere, which heretofore has been impossible. A teacher of a boys' school in Florence, Italy, has won a case against the municipality which, in disregard of the law, has been paying her a smaller salary than a man would have received, and has been awarded eleven years' arrears of pay. Women have recently been admitted to the bar in Norway and also appointed inspectors of hospitals and lunatic asylums. Vienna has at last decreed that girls may matriculate at their own gymnasium, or preparatory school, instead of having to go to a boys' school for their examinations.

In Great Britain, the old and exclusive Linnean Society has at length voted to admit women to full fellowship. Women have entered the Swanley Horticultural College in so much larger numbers than men that the governing body has reorganized the institution and made it a woman's college. For the sixth time in eight years a woman headed the list of successful candidates and won the medal in the Royal Horticultural Society's examination. In the four universities of Scotland sixty-four students took the examination for the Franco-Scottish bursaries, or fellowships, and three women stood at the head of the list.

MILLIONS FOR AN HOUR

THE other day President Cassatt, of the Pennsylvania Railroad, said that the result of the North River tunnel would be a saving of half an hour in the train schedules from the South and West.

But this half-hour is only a portion of the general saving in the comprehensive scheme of improving the line between New York and Washington. Grade crossings have had to go on account of their menace, and because, in order to maintain high speed, there must be no precautionary slowing down for intruders on the tracks. Between Jersey City and Washington, besides Philadelphia and Baltimore, there are seven important towns and a number of smaller ones directly in the course of the line and bisected by it at the street level. To eliminate these obstructions to speed the management of the Pennsylvania Railroad feels justified in appropriating millions of dollars to gain another half-hour's time.

The other enemy to high speed is the curve. In railroad building there has always

been the question between the curve and the cost of construction to avoid it. The curve usually won in the old days, but the engineer of today does not stop to count cost. Directness of course is of such importance that at several points on the line whole sections of four-track roadbed have been rebuilt on new sites, while in northeastern Philadelphia, at Frankford, several million dollars will be spent in straightening the line through the city's streets.

At Newark, New Jersey, all the intersecting highways, including the principal street of the city, were crossed at grade, involving numerous delays and unavoidable accidents. The property required for right of way was high priced, but it was bought. The total length of the four-track elevated road through Newark is nearly three miles. The total cost will amount to \$3,000,000, which is an inexpensive precaution against grade-crossing perils. Similar work has been planned through Rahway estimated to cost one-third as much, and this, with the already completed elevation through Elizabeth, where the streets and an intercepting railroad are also crossed above grade, eliminates all the dangerous crossings as far as New Brunswick. Here the line has been relocated from a point some three miles east of the Raritan River. A curve has been removed and a new stone bridge has been built over the river in conjunction with the elevated structure through the city. The cost will amount to nearly \$2,000,000. A new station conforming to the changed conditions is under construction.

At Trenton a new stone arch bridge over the Delaware, twelve hundred and seventy feet long, with eighteen arches carrying four tracks, has been constructed. A new line of road will connect the bridge with the present line near the station and the roadbed will be relocated from the western end of the bridge through the town of Morrisville in such a manner as to obviate both a wide detour and a number of grade crossings. This work is nearing completion and it will cost not less than \$1,000,000.

At Bristol, twenty miles east of Philadelphia, the tracks will be elevated and the line changed for a distance of two and a half miles, with the triple result of doing away with grade crossings, abolishing a curve and reducing the mileage, at a cost of \$600,000.

At Frankford Junction, within the city limits of Philadelphia, improvements are under way that will cost about \$1,500,000. These, with other improvements, will reduce the time of transit between New York and Washington by at least an hour.



POPE LEO XIII.

THE WORLD'S WORK

AUGUST, 1903

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NUMBER 4

The March of Events

THE most striking fact touching the welfare of the people that presents itself this midsummer is the cautious common sense of the business world. The unparalleled prosperity of the country in general continues. Consider, for proof, such facts as these—the average dividend of twenty-five leading railroad stocks is 5 per cent., and railroad stockholders are receiving this year \$100,000,000 more in dividends than they received in 1898, in spite of a very general increase in the wages of railroad employees and the investment of unprecedented sums in permanent betterments. The output of pig-iron increased last year over 1901 almost 30 per cent. The profits of banks are greater than ever before; and our internal trade is healthy and strong in most of the great staples.

The noteworthy fact is that in spite of this continued good fortune and general activity the commercial world keeps its cautious mood. Speculation has subsided. Many stocks are lower than they were six months ago, and yet they are high enough. There is neither a boom nor a panic in the air. But there were fewer failures, and those were for smaller amounts during the first half of this year than for many previous half-years.

The collapses and the misfortunes that have come with the summer—the shrinking

of the inflated ship-building trust, the floods in the West and the drought in the East, the great speculation in cotton and the shutting down of some mills, and the strikes that have seriously checked building—these have all made the people cautious without causing a panic.

The commercial public, therefore, is in a mood for keeping times good—tired of inflated organizations, suspicious of mergers, and for these reasons the more careful of legitimate industry. If every man will stick to his last and keep this sane mood, the industrial advance that we have witnessed these four years will turn out to be only the prelude to the easy and lasting commercial conquest of the world.

A TRUST THAT FAILED

TWO recent events in high financial life especially conduce to soberness and caution. One of them was the collapse of the ship-building trust. This organization had made an impression on the popular imagination. Brilliant and hitherto successful men had to do with its organization. Ship-building is, or was popularly supposed to be, a prosperous business. Shipyards and kindred industries from Maine to California were brought into the trust. Its organization came at what seemed a favorable time. Our trade was expanding. We



PRESIDENT JAMES B. ANGELL
OF THE UNIVERSITY OF MICHIGAN, UNDER WHOSE ADMINISTRATION THE LARGEST OF THE
STATE FREE UNIVERSITIES HAS BEEN DEVELOPED



MR. CHARLES FOLLEN MCKIM

Photographed by Hollinger

WHO, ON THE RECOMMENDATION OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS, HAS BEEN DECORATED
BY KING EDWARD VII. WITH THE ROYAL GOLD MEDAL FOR THE PROMOTION OF ARCHITECTURE

were in hope of regaining something of the old-time glory of our merchant marine. A great combination of transatlantic ship-lines had been made. Other nations were building bigger and bigger ships. The Pacific was calling us to wider conquest of the seas. The expansive mood of the people seemed to make a great ship-building combination desirable and inevitable, and why not profitable? Besides, every other great industry was organized. Every day we read in the morning papers of a new "merger." To the outside world the plan seemed practicable; and perhaps it would have been practicable if it had been soundly managed.

But properties were put into the combination at inflated values. Stocks and bonds were issued for them out of all proportion not only to their market value but to their earning capacity. And Time, which is the surest regulator of trusts as well as of other things, has made short work of it.

The public becomes for the moment at least suspicious of some other mergers. Almost all industrial companies and consolidations suffer somewhat from distrust. But no sound one suffers seriously. The people stop a moment and reflect on the danger of organizing industry on an emotional basis and of expecting dividends "on general principles." They ask what others are thus inflated? The speculative spirit is checked; we come to our senses, fortunately, without any widespread disturbance. Once more we learn the old lesson that industrial and financial success has the commonplace basis of so managing a business that the cost of its conduct and of its product shall be less than its legitimate income. The humblest blacksmith knows this truth, but men in high finance sometimes forget it.

The collapse of an artificial combination makes for industrial and financial health. We are fortunate in our ability to see them collapse without becoming excited; and in this temper lies the chance of our continued prosperity and of continued confidence in the vast volume of well-managed industry.

A NAPOLEONIC TRUST-BUILDER

ANOTHER event that provokes reflection is the breakdown of Mr. Schwab, the President of the great steel corporation. The preachers have not failed to point the moral of it. Coming to the helm of the largest

industrial corporation in the world, he soon showed a lack of the sturdy self-control that this post of fabulous opportunity demanded. To manage such a great corporation with success a man must be as calm and steady and as far above the temptations of personal luxury or of mere gain as the helmsman of a great State. Mr. Schwab built him fine houses and enjoyed them; he traveled luxuriously; he amused himself at Monte Carlo. There developed in him a certain softness and a love of luxury which only the idle can afford. Vast chances of speculation opened before him. In the organization of the steel corporation itself successful speculation had played a part. Great individual fortunes were made in merely bringing its parts together. It was a situation to test the fiber of a man severely. The strain was too great for Mr. Schwab, in spite of his youth and good training; and his last venture—in the ill-fated ship-building trust—caused his practical retirement.

The saying that the great organizations of our era demand men of Napoleonic quality is less than true; for they demand men greater than Napoleon, greater in moral qualities, stronger in fiber—men who never forget that the management of a great corporation is a trust, and that qualities of character of the highest order are called for, as well as great executive ability. Napoleon was an unmoral giant. Moral giants are demanded in the leaders of modern industry—men whom riches cannot soften nor success make self-conscious.

COMMON SENSE IN OUR INTELLECTUAL GROWTH

BOTH the fruits of our prosperity and the sane mood of the people are shown in the general activity of the higher life also. The educational progress that is sketched in mere outline in this number of *THE WORLD'S WORK* is, to the man who reads it right, one of the most cheerful facts in our history. In educational work we are getting down to the ground—coming to the saving common sense shown in Mr. O'Shea's explanation of the school work done to correct children's defective senses; and at the same time we are broadening our conception of education and culture—witness Mr. Eliot's definition of a cultivated man.

We now have in the United States the



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MR. JOSEPH FOLK

THE DISTRICT ATTORNEY OF ST. LOUIS COUNTY, MISSOURI, WHO SECURED
THE PROSECUTION OF THE BRIBERS AND BRIBE-TAKERS

largest school for the training of youth in the English-speaking world—perhaps three larger than any abroad. The income of at least one of them is larger than the income of any other college. Yet in spite of this rapid growth, the life and thought that become a democracy prevail both in the bodies of men who teach and in the large student-world. Our colleges and universities are, in fact, the very nurseries and strongholds of democracy. Any man who knows their life and rightly measures their influence finds in them a secure fortification against the rampant commercialism of another section of American activity. The ideals of our trained youth are not lower than the ideals of the youth of preceding generations. They take somewhat different forms, perhaps, but they are noble ideals yet—sounder economically than the ideals of the former theological period, but based on as stanch qualities of manhood as any generation that we have yet bred could show.

It is as cheerful and impressive a spectacle as was ever witnessed in the world—this vast army of young men and young women coming forth from their training places with all the qualities of wholesome and ambitious youth. They go forth into trade, into scientific pursuits, into the professions, into the noble army of teachers, as ready to lift up the Filipinos and to build up our backward commonwealths as men and women ever were in any age to give their work for their fellows. The democratic common sense that they show—this is the saving fact seen and felt alike in the East and in the West and in the South. Everywhere the picked and trained young manhood and womanhood of the republic seem sound and worthy of their inheritance and of their opportunity—an opportunity that the industrial basis of our life makes higher and wider, perhaps, than any preceding generation has had in any land. We move forward in many forms of higher work even more rapidly than in industry and commerce.

THE SCANDAL OF POSTMASTER-GENERAL PAYNE

THE postal scandals that have thus far been brought to light are crimes of the vulgar profit-sharing kind, most of which antedate Postmaster-General Payne's administration of the Department. He cannot be

held responsible for them. He is, in fact, fairly entitled to public sympathy because he has this misconduct, for which he is not responsible, to deal with.

Yet the most painful impression made on the public mind by these revelations is Mr. Payne's own utter and disgraceful unfitness for the post that he holds. At first he would not listen to the charges of fraud and wrongdoing. They were "hot air." He showed the vulgar attitude of the small politician. As one event followed another, new evidences appeared of his inefficiency and of his unfitness for public office. He could have stood up promptly for a thorough investigation. His personality could have been felt throughout the Department as a cleansing and invigorating force—if he had had a strong and manly personality. But, instead of frankness and vigor, fear and silence seem to have swept over the whole Department. "Say nothing!" seems to have been the word passed along the whole line.

If a vigorous and frank man had been at the head of the Department under such conditions, the public would have said, "The swift punishment of these small thieves and jobbers shows the essential soundness of the public service." But Mr. Payne's character and conduct have not had this effect. On the contrary, the whole Department has been put on the defensive. His manner has kept suspicion alive. If the whole service were an organized fraud, the public does not believe that he would find it out. His method and his personality have a demoralizing influence. Honest men in the Department are silenced. Everybody must be judiciously secretive. It is a politician, not an administrator, who is at the head. If public clamor should seem to demand victims, nobody would be safe. In an atmosphere charged with suspicion nobody is safe. Mr. Payne has the confidence neither of the Department nor of the country.

The worst scandal of all, therefore, is the Postmaster-General himself. His methods, his training, his point-of-view all make plainer what was plain before: that he is a pitiful, political, discredited misfit. His public record is the record of a mere partizan promoter and manipulator. He has never rung true. He has never shown a higher ideal than the mere winning of "success"

in industrial or political schemes. He has trained with promoters of plans that profited by special legislation, municipal and State. He has never shown a conception of public office as a public trust. His thought and conduct and his very vocabulary are on the low level of machine politics.

The head of the Post-Office Department, which has been in many ways the most remarkable organization in the world, ought to be a man of exactly the opposite type; for all the shortcomings of the Department have been of a political origin. It is a fit place for a great administrator, for a master of one large branch of social economy, for a man who would sympathetically study the vast organization that directly touches by its service practically every person in the Republic, and who would take a pride in reducing every branch of its service to a scientific basis. Mr. Payne falls scandalously short of such an opportunity.

THE BATTLE-LINE ON THE TARIFF

IT is now certain that in the Republican campaign next year the party will "stand pat" for protection—that is, for the tariff as it now is. That portion of the party which desires revision, or is at least willing to consider revision, was represented by Governor Cummins of Iowa. The last Iowa Republican platform, before this year, was a tariff-revising platform. Especially did it call for a reduction of such duties as give benefit to the trusts. But in July the Iowa convention, although it renominated Governor Cummins, practically recanted. The plain meaning of its tariff planks, in spite of the laborious effort to make them face both ways, is that we shall let the tariff alone. Governor Cummins, in his speech of acceptance, expressed his complacent dissent. He and those that stand with him acquiesced. The significance of the incident lies in this fact—if a Republican demand for tariff reduction were to be made anywhere, it would have been made in Iowa. It will therefore not be made anywhere.

But while the Iowa Republicans held fast to protection as it is in the Dingley act, the Iowa Democrats, declining to reaffirm the old free-silver creed of their party, demanded tariff revision in the spirit of the party as it was under the leadership of Tilden and of Cleveland.

If the era of prosperity continues during the summer and fall of next year, the tariff will probably cut a small figure in the campaign. But if we should fall upon hard times, the Democrats will have a living issue in an earnest demand for reduction, provided they make it in a way that will not threaten the stability of the whole industrial fabric.

THE PROGRESS OF THE "DIRECT PRIMARY" REFORM

DIRECT primary elections have at length reached Massachusetts—a political reform born in Kansas and tried in as new a State as Oregon before being publicly agitated in the older communities. The principle for which a Democratic candidate in Michigan and a Republican candidate in Wisconsin made the last campaign for the governorship was accepted in Massachusetts by both great parties with an enthusiasm that emphasized the purely popular quality of the system.

The direct primary means simply the replacing of nominating conventions for party candidates by a system of choosing candidates in a regular election by the ordinary voters. Indeed, so closely was election day procedure copied in the famous Hennepin County system in Minnesota that citizens on registering as voters received a bunch of party ballots pinned together. Each voter retired to a booth, marked his choice of candidates on his own party ballot and then deposited the whole set in the ballot-box. Nominations in this way differed very little from elections. When the system had been tried it proved unsatisfactory, and Michigan remodeled the law, requiring each voter to name his party, and permitting him then to take only his party ballot. This is the procedure now commanded by the Massachusetts law.

The essence of the reform is that the direct primaries be mandatory and under legal supervision. In the South, where many States have direct primaries, the machinery of the system is not legally controlled, but in party hands. Mr. Ernst Meyer, who published an exhaustive study of the subject in "Direct Primary Legislation," quotes a party rule in South Carolina, which has shut out Negro voters, thus:

"Every Negro applying for membership in a Democratic club, or offering to vote in a Demo-

cratic primary election, must produce a written statement of ten reputable white men who shall swear that they know of their own knowledge that the applicant or voter cast his ballot for General Hampton in 1876 and has voted the Democratic ticket continuously ever since."

Pennsylvania and Ohio, and other Northern States, have direct primaries not unlike the Southern ones. In Indiana, a voter who cannot declare that he voted the ticket of his chosen party in the last election is not allowed to vote in the primary. But in New Jersey, Maryland, Minnesota, and now in Massachusetts, the system follows in general the revised Hennepin County plan, though the laws of no two States are quite alike. The people of Wisconsin and Michigan undoubtedly desire direct primaries, but the State Senate in each case blocks the way.

The flaw in the system is that a compact faction, even a base one, can outvote elements that do not combine. The worst elements of both parties are said to have combined to nominate the notorious Mayor Ames, of Minneapolis. In South Carolina last summer the four anti-Tillman candidates for the Senate received nearly twice as many votes as the two Tillman candidates, yet the two Tillman men went on the party ticket as nominees: their faction had centred its forces; the other had not. Yet in Minnesota, which has tried the system longer than any other State—for Oregon's direct primary law was speedily declared unconstitutional—the system is declared to be working well.

The workings of the Massachusetts law will be watched with especial interest, since under it a voter is permitted to declare allegiance to a national party in one primary and enroll if he wishes with an opposing citizens' party in the primary for municipal nominations.

IMMIGRATION AND THE PURITY OF THE AMERICAN RACE

THE gradual reclaiming of land from the desert will make room for many more settlers, for millions will inhabit those great spaces that are now barren only for lack of water. There is room in other parts of the country, too. Whenever the South becomes economically reconstructed and wages become higher there, there will be a rush of white

population from other States and from other lands. The United States is yet by no means densely settled. Much of our fertile territory yet has the sparse population of a frontier. We need not discourage immigration, therefore, for lack of room.

But many of the immigrants that are now coming to us ought to be excluded for lack of character and fitness for citizenship. This year the record of newcomers will be broken, for nearly a million will have come. We can afford heartily to welcome the strong and the economically independent. But our lax immigration law does not keep out many of the unfit. Obvious paupers and persons with diseases that are easily discovered are excluded; but these are very few. And they are the fewer because there is a system of "coaching" the unfit to pass the immigration bureau. The investigation made by a secret agent of the Government shows that in many parts of southern Europe the immigrant-bringing steamship lines have secret solicitors who fill their steerage quarters with the paupers of the worst population in the Old World. These miserable people are so instructed before they leave home that they manage to pass through the immigrant office when they land here. They do not go to new land in the West nor to unsettled places in the South. They fill up our slums.

It is partly from this point of view that the present American-Russian discussion of the Jews in Russia may properly be considered. International etiquette apart, it is a matter of direct concern to us how people are persecuted or oppressed in other lands, for it is an easy and cheap way to get rid of undesirable populations to drive them to the United States. For a month's wages of an American laborer of efficiency a man may come from a Russian province to New York and add himself to the push-cart population of the Ghetto.

It is a good time to shut out the burdensome comers of the Old World; for, except in the slums of our cities, our population is yet sufficiently homogeneous for the best results—homogeneous enough except for the Negroes and the Jews. The talk that we hear about the confusion of nationalities is an exaggeration. We are English yet—that is, we are of the same kindred stocks that went to the making of the English race. In a remarkably instructive article in the *Inter-*

national Quarterly, Professor Giddings, of Columbia University, shows that seventy-five per cent. of our foreign-born population in 1900 was of Teutonic and Celtic stock—the very same that made the English. Of course a still larger percentage of the native-born are of these races and of their admixture. It is an error, then, to talk of the American people as a miscellaneous conglomeration of races. There is an American race, and it is English by direct descent and by later fusion of the original races that made the English.

The point about the present immigration, then, is not its volume, but the large part of it that is of other than the Teutonic and Celtic stocks.

AMERICAN DIPLOMACY AND RUSSIA

THE massacre of Jews at Kishineff seems likely to have long diplomatic consequences indirectly if not directly. The English Foreign Office declined to present to the Russian Government a protest signed by influential Jews of the British Empire because the trouble at Kishineff was a domestic matter and did not directly nor technically involve international relations.

Neither can our Government interfere or try to interfere with a domestic trouble or problem in Russia; but it can transmit to the Czar's Government a petition signed by prominent American citizens. The Czar may decline to receive it. But there are precedents for sending such petitions and remonstrances. No direct result is expected to follow the sending of the petition for the better treatment of Jews; but the indirect results may reach far. And it is the possible indirect results that are more important.

Russia has not kept faith with the great Powers in the agreement made concerning the open door for trade in China. By the continued occupation of Manchuria, and the discrimination made against the trade of other nations there, Russia has broken her promises. Now the general discussion of the relations of the United States and Russia (which are technically friendly), provoked by the Kishineff incident, promises to become the occasion for a thorough going over of Russian diplomatic methods.

Nor is this all. Russian bad faith in Manchuria affects all the other great Powers as directly as it affects the United States.

But the other Powers have not taken her to task. If an explanation is demanded by us of her conduct in Manchuria, every other Power will be as directly concerned as ourselves. She cannot make an explanation to the United States that will not at the same time be an explanation also to England and to Germany and to the rest. The whole matter may lead even further yet. For Japan is eager for war with Russia. If Russia be called to account by us (for ourselves and for all the other allies in the expedition to Peking), the result may have a bearing on the relations of Russia and Japan.

Thus do our unhampered position and our frank methods of diplomacy keep us in a position possibly to serve all the great Powers as no other Government may do. And American influence in the world counts for more and more, and American diplomacy continues to serve the best interests of the whole world.

THE RAPID GROWTH OF GERMAN SOCIALISM

FIVE years ago the German Socialists polled a few more than 2,000,000 votes and elected fifty-six members of the Reichstag. At the recent election they polled 3,000,000 votes and elected eighty-one members. The Socialists' popular vote is now as large as the votes of the three next largest parties combined—the Centre, the Conservative, and the National Liberal; but the party's representation in the Reichstag does not correspond with its popular strength. Else it would have more than 130 members instead of eighty-one, out of a total of 397 members. The unreformed election law of 1871 in effect produces a "gerrymander" against them. The Kaiser will therefore continue to have a legislative majority on all measures of great importance, especially on subjects that touch the army and the navy.

The growth of the Socialists has gone on in spite of the utmost possible restriction on them by the Government. Especially have they increased their numbers in the cities—in Berlin, Munich, Dresden, Leipzig, Hamburg, Breslau and Frankfort. The Liberal factions have all lost a part of their parliamentary representation, their members having shrunk from ninety-eight to seventy. It is the extreme parties that have won, and

the process of making two strong parties, to the loss of the moderates of every faction, will now go on at an increasing rate.

The most important result of the German elections to the United States is the defeat of the Agrarians. Every one of the extreme members of that group has been defeated, and the danger of a tariff war with the United States seems to have been averted. Germany's most pressing economic need is the renewal of commercial treaties with her main customers—England, Russia, the United States, Holland, Switzerland, Belgium, Austria, Italy, France—and the election has turned out fortunately for this result. There will be a majority in the new Reichstag for this policy, of giving stability to commercial and manufacturing enterprise in the empire. The German industrial power was built up during the last decade on the system of commercial treaties concluded in 1892 and 1893 by Count Caprivi; and this system is now once more likely to prevail.

This great growth of Socialism shows an enormous social and political unrest. The mere platform of the party hardly gives American readers a clue to its radical character, for some things that we take for granted in the United States are revolutionary in Germany. Among other demands of the party are these:

- One vote for every adult, man and woman; a holiday to be election day; payment of members.
- The Government to be responsible to Parliament; local self-government; referendum.
- Introduction of the militia system.
- Freedom of speech and freedom of the press.
- Equality of man and woman before the law.
- Disestablishment of the churches.
- Undenominational schools, with compulsory attendance and gratuitous tuition.
- Gratuitousness of legal proceeding.
- Gratuitous medical attendance and burial.
- Progressive income tax and succession duty.

THE BEGINNING OF A GREAT PUBLIC WORK

THE national law to reclaim arid lands in the West is about to be put into effect in five important irrigation works. This law, it will be recalled, creates an irrigation fund out of the proceeds of the sale of public land in the arid States. The money, therefore, does not come out of the general funds of the treasury; and after it has been used to construct irrigation works, it is to be repaid into the treasury

out of the income from the irrigated lands and thus used to construct more works and to do continuous duty in extending the area of fertility. Ten millions of dollars out of the fund that has now accumulated will be spent forthwith in Montana, Colorado, Nevada and Arizona; and it is expected that by these works a million acres will be added to the tillable area of these States. A million acres of land thus made habitable will maintain a larger population, as all well-irrigated lands do, than the same area of other land, for there is less waste. This \$10,000,000 is a mere trifle in comparison with the sum that will be required; but the well-drawn law makes it the beginning of one of the most notable public works in the world.

It had long been obvious to the best students of the subject that the National Government would in some way and at some time have to take up the problem of redeeming these arid spaces; for the conflict of jurisdiction and of the ownership of waterways and other difficulties could never otherwise have been removed. It is therefore the beginning of a new era in the development of these regions that the Government now begins, and it is an event of historic importance. For many years we shall add to our habitable area till the "desert" becomes a part of the most fertile region of the continent.

NEW WAYS IN LABOR TROUBLES

ONE noteworthy result of the strikes of the summer has been a very general organization of employers. Not only have employers of separate trades organized, but in several cities there has been a general "federation" of allied employers' organizations. As it long ago came to pass that an employer in many cases could not deal directly with an employee, but only with a union, so it is now coming to pass that a union cannot deal directly with an employer, but only with an employers' organization. This counter organization is logical and natural and is likely to prove useful.

The pressure of organized labor on society in general is well illustrated by the recent action of the New York, New Haven & Hartford Railroad Company in increasing its freight rates. The President of the road made a frank public statement that an increase of freight rates had become necessary

because of the increase in wages to the road's employees. In other words, the public must pay the increase in wages. A similar result followed the settlement of the coal strike and a similar statement was made.

This is proper—provided, always, that the employing company does not use an increase in wages as a mere excuse to raise the price of its product or of its service, and provided, of course, that it can so raise the price without losing its trade to some competing company. At just what point the extra charge on the public becomes unfair or begins to be extortionate must be determined in every case by the willingness of the public to pay it. There is an equitable division of freight charges or of the cost of coal or of any other commodity or service—so much as a fair profit to the company, so much as fair wages to the company's employees. The public pays both, of course. To determine this fair division of cost, and to serve the public as cheaply as possible—to accomplish this result all the struggles of the three parties to every producing enterprise have been directed since organized industry began. It is about this that every contest in industry has been waged. And these proportions can never be determined with precision. But there is a distinct gain in public enlightenment whenever a frank statement is made such as the statement of the President of the New York, New Haven & Hartford Railroad Company.

LOOKING TO NEW YORK'S GREAT FUTURE

THE most crowded spot on the globe, at certain hours of the day, is the neighborhood of the City Hall Park in New York. The Brooklyn Bridge ends there, as well as one of the elevated roads, the subway now in construction, other projected subways, and many lines of street-cars. To this great terminus more human beings go morning and afternoon than go to any other terminal in the world. The problem of "handling" these great crowds presents itself at the same time as the problem of providing at the same place a proper home for the many departments of the city government. A plan has been proposed by the engineers and architects which provokes the criticism of being grandiose, but which has the merit at least of comprehensiveness. It leaves as large an open space as can be procured, with proper ap-

proaches, a noble series of buildings on the north side, the City Hall in the middle, a great station for passengers, and a *campanile* 650 feet high to have forty-five stories—all to cost at least about \$50,000,000. The plan contemplates the comfortable passing of 100,000 persons an hour; for it is estimated that before many years 300,000,000 persons will come and go there a year.

Any plan for such a comprehensive public work would, of course, provoke criticism, professional and political; for, in a democracy, every man and every newspaper is an authority on engineering and architecture. But it is a long step forward to have any comprehensive plan like this, and the city and the country owe Mayor Low's administration a debt of thanks for it. It appeals to the imagination, and it is a forerunner of some comprehensive plan that will be carried out—provided always that the pirate crew of Tammany can be kept out of office long enough for the best men in New York to develop a healthful civic pride, and that men can be kept in office long enough who have the capacity to become the builders of a great city.

The barest mention of such a great plan for a noble and worthy city hall and passenger station in New York ought to be enough to arouse its sluggish civic consciousness. Yet this is but one of a hundred compelling reasons why public-spirited and upright men should keep the leadership of the city's public affairs. For in the years immediately before us the chance will come to make New York the noblest home of commerce, of finance and of public art that was ever given to men. It has the wealth; it has the certainty of future greatness and of indefinite growth. No plan for permanent improvement can be made too comprehensive. The growth of the city—which is the growth of the whole country in epitome—cannot easily be anticipated, and no plan can be too ambitious for future demands. Anything done now in New York which is not done for all time will soon have to be done over again. To those that plan and build and rule, such an opportunity has perhaps never before come.

LYNCHINGS AND THE COLOR LINE

IN Illinois a Negro was lynched for the murder of a white man; in Delaware a Negro was burned at the stake for the crime

against a white girl which has usually provoked such vengeance; in Georgia, Arkansas, Tennessee and Louisiana six Negroes were lynched—all these events fell within a tort night, making about fifty deaths at the hands of mobs in the United States during the first half of the year.

All the talk in pulpits, in magazines and in newspapers makes no headway against mobs and the recurrence of their activity. Perhaps the most futile thing in the world is talk to, or even talk about, a mob—even if it were all wise talk. But the thoughtful part of every community has long ago made up its mind to two or three fundamental facts and duties such as these:

In the present temper of men, alike in almost every part of the Union, a Negro who commits a heinous crime against a white woman will be lynched, even if not burned. This is the fact, and no argument or appeal will change it.

A Negro is everywhere more likely to be lynched for any crime than a white man; and this likelihood increases as you go South. Lynching is often the expression of race-feeling.

Men are lynched for an increasing number of crimes, for lynchings spread by example. One suggests another.

There is no remedy but the general enlightenment of the people. The most determined efforts of sheriffs and other officers are often ineffective. The best direct work that can be done is prompt action by sheriffs and judges and grand juries. Such prompt action is too seldom done, but it is now done with increasing frequency in the South. But the best work of all precedes this, and is to a degree preventive—the prompt trial and punishment of criminals. Yet even this does not greatly discourage mob-violence; for many a lynching occurs in communities where a guilty man is sure to be lawfully punished without delay.

The lynching of Negroes for some crimes for which white men are seldom lynched (as for the recent murder in Illinois and for many murders in the South) shows that a Negro's life is everywhere held at a lower value than a white man's life. It is the more unfortunate that race-feeling is involved in the crime of lynching; for race-friction brings difficulties enough in the ordinary course of life.

THE ONLY WAY TO ALLAY RACE-FRICTION

A GAINST race-friction also talk is futile—generally worse than futile, because it is likely to make a bad matter worse. The way is plain to allay its evils—as plain as a pike-staff; but, on account of its magnitude, it is the most difficult task that our democracy has encountered. The statesmen-schoolmasters of the Southern States have shown the way—by making the education of all the people direct, practical, fitted to everyday life, a process of building character by trained industry. The whole nation has reason to hold in honor such men as Mr. McIver, of North Carolina, Mr. Dabney, of Tennessee, Mr. Alderman, of Louisiana, and the present Governors of Virginia, North Carolina, Tennessee and Mississippi: there are many more such men, but these by their zeal have become national characters. They see the “way out”; they have demonstrated it; they point to it. A demonstration that has won international fame and approval is the work explained in this magazine by Mr. Booker T. Washington—work which brings results that stay. There is no task in all the world that cries out for help more eloquently than this; no men in all the world more nobly engaged than these. Yet praise is not what they need. They need help, the encouragement that comes from hearty appreciation and the definite aid that money can bring when spent in broadening Southern educational equipment.

The only way to allay race-friction is to build up the Negroes and the whites to an independent economic life, to make them more prosperous, to make them more useful, to make wages higher, to settle the country more densely, to put rural Southern life on a higher plane. For the present, at least, the new type of practical education is the best force at work to do it.

Yet race-friction is plainly getting worse. Be the reason what it may—and endless discussion of all the assigned reasons gives no practical help toward the mending of the matter—there is need to bend every energy to the fundamental practical training of the young. The causes may be this or that or a thousand things; there is but one remedy.

And the endless discussion of it, so far from doing good, does harm. It keeps the minds of the people fixed on the subject. It narrows their thought by keeping it on one

grave trouble. It prevents the wider view of life which comes from thought on many large topics. If the subject of discussion could be changed—especially in the South—to industry, to farming, to education, to the weather—to anything—the result would be wholesome. You cannot meet a Southern man who is in public life, nor pick up a Southern newspaper, but the race question comes up. The Southern people are more concerned and more eager than any others for a quiet solution of the old question, and the first step toward a quiet solution is—to be quiet about it, sometimes at least.

Race-friction has not been allayed by any law nor by any political action or discussion, nor by anything whatsoever except the orderly training of the inefficient and the ignorant. The race-politician will never bring peace; he can only hinder it. The statesman-schoolmaster is the man to build our hopes on.

NATIONAL AID TO EDUCATION AGAIN

AN old plan to help solve the problem of Southern life, which was once discussed and discarded, was brought forward again by Mr. Charles A. Gardiner, of the New York bar, in a recent address before the Regents of the University of the State of New York. The plan is that the nation shall educate the illiterate. A bill, known as the Blair bill, to accomplish this was long debated in Congress, and finally narrowly defeated because it was described and by some regarded as a "bill to promote mendicancy." The argument of those who opposed it was that any community which could not or would not itself pay for the education of its children would lapse in resolution and in character if help were extended from without. This was the argument that caused the defeat of the bill, but there was an argument made also to show that it was unconstitutional.

Mr. Gardiner addressed himself chiefly to the argument that it is not only constitutional for the National Government to educate illiterate citizens, but that it is the only solution of the Negro problem. "Since the nation," as he argued, "can neither repeal the Fifteenth Amendment nor enforce Negro suffrage under the Fourteenth, what solution of the Negro problem remains? Endowed with omnipotent sovereignty to educate the

people, I maintain that education and education alone is the nation's supreme obligation."

Certainly the reduction of the Congressional representation of the Southern States, even if it be possible, would solve nothing. There is no solution but one—universal education of the proper kind. If the people can achieve it themselves, or achieve it by the help of private beneficence, so much the better; but the task seems practically an endless one. The plan to seek national aid is likely again to come up for discussion.

PEONAGE AS A SYMPTOM OF BACKWARD LIFE

A REVIVAL of discussion of national aid to education will be encouraged by the revelations that have been made of Negro peonage in the South, in Alabama in particular. In certain communities there has been a system of making labor contracts whereby Negroes have been kept practically in slavery year after year and cheated and treated with great cruelty. It is just such an abuse as naturally arises from a low Negro intelligence and a low white morality—it is an economic expression of a condition of life in portions of the black belt.

Although there seemed no hope of arresting the evil through the State courts, convictions of offenders have been secured in the Federal courts presided over by Southern judges; and in Alabama and Georgia public sentiment is waking up to the atrocity of such a condition. It seems certain that Southern sentiment, once aroused on the subject, will not permit this evil to continue.

It is not the mere fact that Negroes have practically been enslaved (bad as this is) that most strongly impresses the thoughtful student of the subject. It is rather the deplorable general condition of a community where such a thing can happen; for this economic barbarity is but one expression of a low state of life which may find expression in many other ways. Both Negro and white men in such a community must undergo a radical change in their attitude toward civilization before the matter is cured.

OUR TRANS-PACIFIC INTERESTS

THE practical matter involved in our relations with Russia is, of course, the trade of Manchuria. The value of this trade to the United States is considerable.

It would now be about \$5,000,000 a year if we really had an equal access to the market with the Russians—about \$4,500,000 in cotton fabrics and \$500,000 in flour and kerosene. But the Russian authorities discriminate against the United States. Thus our trade of 3,250,000 gallons of kerosene in 1901 fell to 603,000 gallons last year.

We are nearer to Manchuria, measured by the cost of transportation, than any other great producing country; and by a scientific cultivation of Manchurian trade (and we do not, as a rule, yet make a scientific cultivation of the trade of any foreign country, but rather a fitful and slapdash, energetic, but not thorough effort) we should be able to sell in a few years something like \$10,000,000 worth of goods a year there.

But the subject reaches further than this mere trade controversy, important as that is. It is a question of good faith. Are the benefits to the whole world that we gained by the settlement of the trouble in China to be lost by Russian duplicity? Is China to be again a closed country to us, and to become the victim at last of Russian domination?

The very asking of such a question indicates the new position that we have taken in international politics. Our stake in all Asia that faces the Pacific has now become greater than any other nation's; for the other side of the Pacific is nearer to us for all purposes of commerce than to any country in Europe, especially since an American cable now directly joins us to China.

A FIT MEMORIAL TO A WORTHY MAN

NOW and then something is so well done that it instantly gives the spirit satisfaction and becomes a joy forever. One such thing is the memorial that has been planned for the late Mr. Charles Eliot, of Boston. To him that city owes the beautiful encircling series of parks and reservations and their artistic unity. To the beautification of the surroundings of Boston he gave his high talents and the zeal of constructive work; and he died while yet in youth. What is a fitting memorial to such a man? The intelligent committee who had the task of answering this question decided to cut a path on the side of a hill in one of the parks and to build a memorial bridge over a ravine traversed by the path. The view from the bridge is one that he loved—over a wide

sweep of country. A memorial tablet will be put up on the bridge. And that is all. The simple dignity and the appropriateness of it leave nothing undone or unsaid.

THE COST OF A COLLEGE EDUCATION

THE cost of a college education so depends on the student that it is difficult to say what it ought to be or to find a fair average. It is reported that one Yale senior this year spent \$25,000, and there are always students who spend only a veritable beggar's pittance. Roughly speaking, their expenditure averages from \$200 to \$3,000 a year, a sum above which the wealthiest students at the larger colleges rarely go, though there is justification in the remark that Professor Palmer, of Harvard, once made, that every dollar above \$1,200 a year is a "dollar of danger."

The main matter is the possibility of a poor boy's going through college. "One of the fit"—who has brains and industry—can do it at any college in the country without financial backing. In the State universities fees are merely nominal, and in the eastern colleges there are scholarships which more than pay the tuition fees of those who win them. Moreover, at Harvard, Columbia, Chicago University and other institutions there are bureaus to help students find employment. Nor does opportunity depend on the college chosen; if Harvard and Yale have many students working their way, so have the "fresh-water" colleges and Western universities. Yet so many are the opportunities at the great city universities that Harvard and Columbia are rather poor-men's colleges than rich-men's. But the opportunity depends on the fitness of the boy.

A student at one of the New England colleges proved himself thus:

RECEIVED FROM PARENTS	EXPENSES
1st year, \$136.52	1st year, \$319.76
2nd year, 127.75	2nd year, 320.63
3rd year, 67.75	3rd year, 340.50
4th year, 00.00	4th year, 380.00
Balance on hand at graduation . .	\$100.00

He repaid his parents by work on the farm and earned enough in addition to pay his way himself. Nineteen men in this year's class at Yale earned all their expenses. Fully as many Harvard and Columbia

students did so, too. When the late Frank Bolles was secretary of Harvard University he gathered letters from a number of students who had lived cheaply at college, and among them was one from a student who had entered with the maximum of conditions and in debt \$116. He graduated *cum laude* after having played on a 'varsity team and engaged in all college activities, and his accounts ran as follows:

	Receipts	Expenditures
1st year.....	\$346.00	\$381.31
2nd year.....	345.48	361.54
3rd year.....	689.53	395.14
4th year.....	1021.21	462.80

He had engaged in various kinds of work, from extracting the brains from sheep's skulls for some of Professor James's psychological experiments, to publishing books. But tales of students who went through college on such small sums as \$150 a year or less have led boys of mediocre ability to attempt working their way at a task beyond their power. The officers of any college can tell pathetic stories of starving students who had the justification neither of brains nor of earning power ever to attempt a college education. Harvard, therefore, recommends that a student who cannot count on about \$400 for his first year's expenses had better postpone going to college until he can count on that sum. This sensible minimum would be somewhat lower at smaller colleges. A student may live at most colleges on less than \$600 a year, and he may get along on less than \$400. To secure the comforts and refinements of life he must have more than \$600, though harmful luxury or a temptation to "sport" is likely to follow an allowance much above \$1,200 for the college year of forty weeks.

THE HOMELESS RICH

THE practically incalculable growth of wealth in the United States is the one big fact of the last decade that stares everybody in the face. Spent for the development of industry and in permanent improvements, and for the real betterment of mankind, it is an unmixed blessing.

But in every era of great wealth-getting there has been demoralizing extravagance. How is it now with us? When, perhaps, thousands of men have private yachts and private cars and "palatial" residences, when

incomes of \$100,000 a year are perhaps more numerous (as a resident of New York recently declared) than incomes of \$10,000 a year were twenty-five years ago, and when incomes of more than \$500,000 are not uncommon, to what extent are our new and careless rich setting for the less rich the pace that kills?

A sane social philosopher familiar with life in our richest cities will not despair of republican society. The class that lives on its income contributes some idle men to our worthless if not dangerous classes; but there is yet a larger number of the rich in the United States who have occupations than in any other country of equal wealth. It is not yet respectable to be without an occupation. We are not in immediate danger of a large idle class of men. It may appear in the next generation. But it has not yet come.

But the worst result of misapplied wealth is the increasing idleness of rich women. It is they who are making our cities—New York in particular—aggregations of luxurious hotels and apartment houses. The familiar excuse for living without a home is the impossibility of finding good servants. But good servants are found by the hotels and they serve these very complaining women. One of the first "luxuries" that riches buys for too many families is the luxury of giving up their homes.

These homeless women have made a demand for the vulgarest thing in American life; for we have hitherto had no kind of "institution" comparable in its vicious influence to the flashy modern hotel and the corresponding apartment. She who enters there leaves home behind. These are surely the most conspicuous evidences of decay that has been caused by recently got wealth.

WHY MORE BOOKS ARE NOT SOLD

THE belief was recently expressed in these pages that a book which finds 100,000 buyers might find twice or thrice or four or five times as many if the machinery for distributing and selling books could be made as extensive and as efficient as the machinery for distributing and selling groceries, for example. A book that has qualities to commend it to 100,000 persons obviously has qualities to commend it to many more if they could be found and reached economically.

Naturally the booksellers and their journals have asked how such adequate book-selling machinery can be created.

If it were an easy task the question would not have been raised—the task would have been done long ago. Inherent difficulties are the cost of transporting books, the small profit on them, the reduction even of this small profit by the cutting of prices on many books by the department stores and other retail dealers, and the consequent inability of capable men to make a living by keeping bookstores in the smaller cities. The ability required to build up and to maintain a good bookstore under these conditions will build up and maintain some other business more profitable.

Yet there is a large book-buying public and a still larger public that might become book-buyers if the trade were more fortunately and more energetically managed. Throughout the land the houses of many well-to-do people are yet almost barren of books; and those who buy books would, under more tempting and convenient conditions, buy many more. Nobody who knows the book trade and the people doubts this. If we have ten more prosperous years perhaps twice as many books will be bought as have been bought these last ten years. The publishers and agents of subscription books profit to an increasing degree by the willingness of the people to buy.

It may very properly be asked, then, why the bookseller does not do the business in his community that the book-agent (many of whom are non-residents) now does? Why does he not control the book-agents of his community and have them sell for him? There are publishers who fill small orders from small bookstores in many towns and at the same time fill larger orders for less valuable books from book-agents in these same towns.

Or to make another comparison—more persons will buy books than will buy life insurance. Yet in many a town the life-insurance agents have at least as many patrons as the booksellers. But, if the life-insurance agents waited in their offices for their patrons to call and to order policies, they would soon retire from business.

It is easier to criticize than to do, but it seems plain that publishers and booksellers have not yet learned the art of finding book-

buyers as well as men who sell most other things have learned the art of finding the buyers that they seek. By proper methods there is little doubt that the proper men could find "consumers" for twice as many books as are now sold. But the same thing could hardly be said of shoes or hats. Shoes and hats may be regarded as necessities, and books as luxuries; but, since the first generation that had the full advantage of public schools in almost every part of the country is just now making homes for itself and beginning to rear children, in these prosperous times books also have become a necessity. At any rate, they will be so regarded by an increasing public as fast as they are put within tempting reach. It yet requires a more definite effort to buy a book than it does to buy almost anything else that is nowadays to be found in common use.

EIGHT THOUSAND GOOD BOOKS FOR A LIBRARY

EVERY day more than thirty books in English are added to the million or more already in existence. In foreign tongues at least as many new works offer themselves to the choice of the American reader or scholar. If this be an embarrassment of riches for the individual reader or student, what must it be for the librarian whose business it is to choose books, not merely in one field of letters, but in all? He can do nothing but what Mr. J. N. Larned has done for the literature of American history, and organize the best critical forces of the country to select books and to say about each what readers and students wish to know.

A noteworthy step in the same direction has been taken by Mrs. Salome Cutler Fairchild, who is the head of the New York State Library School at Albany. During the last academic year she conducted a course in book selection, cultivating the students' judgment of book values, and studying the adaptability of books to various types of libraries and readers. The characteristics of a good or useful book were constantly kept before the classes—such characteristics as these: that an author's knowledge should be at first hand and comprehensive, that he should be judicial in spirit, and that he should tell his story with perspective, conciseness and clearness. Every student was required to read with care a selection from current

literature and to write notes on what is read. These notes were then compared with the reviews of standard periodicals; and these critical periodicals were studied so that the students might become familiar with their merits and limitations.

So much for new books, but what of the writing of the past? In the building which houses the Library School, which is the Capitol at Albany, the State Librarian, Mr. Melvil Dewey, is busy compiling, with the aid of two hundred specialists, a list of about eight thousand books carefully chosen from all departments of literature. This will be published next year for the American Library Association, and, with the books themselves, will form one of the attractions of the great exposition at St. Louis. Because most public libraries are small, and because also most readers are not specialists, this guide will be of great value to the public, especially the explanatory and critical note on every book.

THE WRETCHEDNESS OF A LARGE PART OF MANKIND

IF one were looking for horrors in contemporaneous life to equal the worst in history, it would not be hard to find them. The raping of Jewish women in Kishineff as a deliberate part of the cruel plan of their oppressors (and the testimony that this crime was common seems to be conclusive); the great famine in China which has brought 1,000,000 human beings in the province of Kwang-Si to death's door and made them so desperate that they sell and buy children to eat; the atrocities on the Congo—and these are not all the chapter-headings in the tale of depravity and misfortune that come to our breakfast tables in the newspapers.

There has, perhaps, never been a time when such miseries were not suffered by some part of the human race; but it gives us an extra shudder to reflect that they are now suffered within the reach of the telegraph—this news (except the report from the Congo Free State) all comes by wire. The portion of the world that is efficiently organized under economic laws and is well-policed is, after all, a small part. We talk and write and read of our "problems" of philanthropy and of religion and of trade and of politics with the feeling that we are giving the cue to all mankind, whereas a large proportion of mankind

is yet face to face with the problems either of the primitive savage or of the untutored millions that cannot make provision against a drought. If it be the destiny of the Occidental nations to set the whole world in order, they will have very practical work to do for a good many centuries yet to come. For even the wretched news that the telegraph brings us from countries with which we trade is not the sum of human misery, perhaps not the worst of it. The larger part, perhaps, of the inhabitants of the world are not yet within easy communication with the organized and civilized minority.

THE CHANGING CHANNELS OF RELIGIOUS LITERATURE

OF the religious bodies in the United States, the Catholics have the largest number of papers, with the largest combined circulation—naturally because they have also the largest membership. Next come the Methodists, then the Baptists, then the Presbyterians, then the Jews, and then the Episcopalians. There is one Methodist church paper to every 53,000 Methodists; one to every 38,500 Catholics; one to every 31,000 Baptists; and one to every 3,100 Jews.

The circulation of most of these papers is proportionately to church membership less than it formerly was. Their average circulation is a little more than 4,000 copies each. The number of church papers shows a constant tendency to increase, for all the small sects have their own; but most of them show also a strong tendency to become (with all respect) a kind of trade papers. The dissemination of church news and of official information and the like is coming to be one of the principal reasons for the existence of many of them. As a class, they have less general influence on the whole community than they had a generation ago. But, on the other hand, the best weekly and monthly periodicals of serious purpose—the weeklies and the monthlies that are not church publications—give the whole religious public a far better and more varied religious literature than any public in any country ever before had. Religious literature is not declining—it is becoming broader and better—but what may be called sectarian literature becomes less and less influential.

THE N. E. A. AND TEACHERS' SALARIES

THE National Educational Association showed at its meeting this year in Boston that it can bring together the largest body of teachers that ever assembled. Mere size is not always the best measure of the importance of a meeting; but in this case size counts for much. It shows at least the practically universal interest in education. It was not many years ago that the meetings of this body attracted very little general attention. It was one of a dozen or perhaps of half a hundred conventions that were held every summer for discussing subjects of more or less technical value to the professions. But now it has become a gathering of men and women that is, in a sense, of national importance.

Committees of the Association have taken up one important subject after another and made investigations and reports that have radically changed school work. This year a petition was presented to it to investigate the pay of public school-teachers in different parts of the country, with reference to the cost of living. If this subject should be set before the public with the emphasis of a report by a prominent committee of the Association, it would receive universal discussion. Universal discussion would bring a large part of the public to the conclusion, not, perhaps, that higher salaries must be paid outright, but that in many communities better teachers must be engaged and the level of efficiency very greatly raised. No great teacher works for money, but great teachers nevertheless cannot be secured without reasonably high payment in this age of the world when all work is coming under better economic organization. In a campaign of this sort numbers do count. A well-balanced report on teachers' salaries would be an illuminating and helpful document.

ENGLAND'S MEDIEVAL EDUCATIONAL SYSTEM

IN the reports of the Mosely industrial commission, which, last fall, made a study of American conditions, the delegates agreed on one and only one point. They declared that the public school system in the United States is immeasurably better than that in England.

Considered in detail, the British national education bill passed last year would puzzle

an American mind beyond extrication. But essentially the system perpetuated by the measure—which is now England's form of public education—is simple. From time immemorial England has had sectarian schools, most of them controlled by the Church of England. As there were no other common schools before 1870, the Government, in order to keep public education alive, found it necessary to subsidize such schools, since the closing of one would mean intellectual darkness in its neighborhood. Indeed, any school by fulfilling certain conditions was entitled to have half its expenses paid; and through evasions of the law some Church of England schools had all their expenses paid. By the act of 1870, however, it was provided that whenever any district had enough children unprovided with school facilities the taxpayers should forthwith elect a school board, who would provide and maintain adequate schools. Under this law, if a sectarian school failed, a board school would automatically spring up to take in the neglected children. Here, then, was a system of many sectarian schools supported by Government funds—which in essence, of course, meant public taxes—and board schools also supported by public taxes, in active operation side by side.

The Government bill passed last year by the aid of the Irish members of Parliament, instead of extending the freedom of school boards and strengthening public schools, bound the whole heterogeneous hodge-podge of schools into a unified system, which gives a greater advantage than ever to the ecclesiastical managers of the sectarian schools. The bill did away with the local school boards and put the control of the schools into the hands of boards of management appointed by local governments with representation for the various denominations in proportion to the schools to be managed. This gave the ecclesiastical authorities the whip hand. It proclaimed indefinite extension and protection of sectarian schools, and gave new life to the Established Church.

This, then, is the organization of English education today: the people pay for the schools and have some representation; the ecclesiastics have much representation and in large measure manage the schools.

THE PROFITS OF BANKS

[THE WORLD'S WORK publishes every month an article in which some timely and vital subject of the financial world is taken up]

BANKS have shared in the harvest of prosperity of the past seven years, but there is no evidence that their share has been any larger proportionately to risks than that of other branches of business, though a contrary opinion has lately spread, based, apparently, upon the immense dividends which some banks pay upon their capital stock. The opinion is the result, also, no doubt, of that lingering prejudice against money-lenders which has existed so long and which the better knowledge of the functions of credit and of the services which banks perform for modern business and civilization has not been able altogether to remove. A violent attack upon the National banks was made in the United States Senate as recently as last February by one of the best known Senators. Men who would esteem a year's business a failure that did not yield a profit of at least ten per cent. will sometimes point to a dividend of similar amount declared by a bank as evidence of "the greed of the money power."

When the newspapers report, therefore, that the Chemical Bank of New York pays 150 per cent. dividend on its capital stock, that the Fifth Avenue Bank pays 100 per cent., that the First National Bank of New York in 1901 distributed to its stockholders an amount equal to 1,900 per cent., that the Central Trust Company declares dividends at the rate of 60 per cent. a year, and that the New York County Bank earns 75 per cent. for its stockholders, a wave of astonishment sweeps over the community, and the question is asked how can such profits accrue to any business conducted on a sound and conservative basis.

The answer is that none of these institutions earns or pays any such rate of profits as the dividends on the stock indicate. The First National Bank's great dividend in 1901 was a distribution of the accumulated profits of years, and was preliminary to a large increase in capital stock. The Chemical, which pays 150 per cent. on its

stock, actually earns less than 6 per cent. on the capital invested in its business, and only $3\frac{1}{2}$ per cent. on the market price of its stock. Yet this famous institution occupies a most favored position among the banks in New York. For one thing, it pays no interest on any of its deposits, whereas the only other banks of the city of which this can be said are the Fifth Avenue and the American Exchange National. The former's 100 per cent. dividend on its stock is equal to only $6\frac{1}{4}$ per cent. on the capital invested in the business and to about 2.7 per cent. on the market price of the stock.

Examine one of the weekly statements of the bank Clearing-house which are issued every Saturday. The first column of the tabulation gives the capital of each bank member of the Clearing-house. The next column states the undivided profits of the bank. The dividends are paid on the amounts given in the first column, but the actual capital invested in the business is the sum of the first and second column added together. The total stock of the thirty-nine National and seventeen State banks which are members of the Clearing-house is \$109,822,700, but the undivided profits are \$129,257,100, and the sum of these two items, viz., \$239,079,800, is the actual capital invested in these forty-six banking institutions. The fact that the dividends are paid on the amount of the stock is a matter of very slight significance. The important fact is that the dividends paid were earned by the capital and undivided profit. The dividends paid by the Clearing-house banks at the rate of dividend in 1902 amount to about \$10,531,000. This sum was equal to a trifle over $9\frac{1}{2}$ per cent. on the capital stock of \$109,822,700, and this by no means could be considered excessive, considering the large risks of the business. But when it is stated that these dividends amounted to less than $4\frac{1}{2}$ per cent. on the total capital invested of \$239,079,800, surely no one can claim that this profit is too large. The

annual report of the Comptroller of the Currency shows that for the six months ending September 1, 1902, the net earnings of forty-two National banks in New York to capital and surplus were 5.61. The dividends amounted to 5.25 upon the stock and to 3.03 upon the capital and surplus.

Undivided profits in the Clearing-house weekly statements are in reality both surplus and undivided profits. A surplus is a permanent fund additional to the capital, and is made up either of money paid in by the stockholders at the organization of the bank or of accumulated earnings which have been invested in the business. In either case, the surplus is a part of the capital, and no bank can reduce its surplus to an amount less than 20 per cent. of the capital stock. Undivided profits are the undistributed earnings of the bank, constituting a continuous fund out of which dividends are paid and additions made to the surplus. Rarely, if ever, does a bank distribute its entire profits. The custom is to keep a large sum standing, and this sum is of the same nature as the other capital of the bank, and the stockholders expect that it shall be employed so as to yield a profit. This profit constitutes a part of the dividend declared upon the capital stock. So in banking circles the real capital is regarded as being in three parts: first, what is represented by the issued stock; second, what has been set apart in a permanent fund to supplement the capital represented by the stock, namely, the "surplus"; and third, the "undivided profits."

With this explanation, it is easy to understand the nature of the immense dividends declared by the Chemical and other favored banks. The Chemical Bank has outstanding stock amounting to \$300,000. It is on that that its annual dividends of \$450,000 are paid. But its surplus is \$6,000,000, and its undivided profits on December 31, 1902, were \$1,368,173. Now the sum of these items—\$7,368,173—is the capital of the bank, and the \$450,000 divided among the stockholders is 5 $\frac{7}{8}$ per cent. of this capital. The stock of the Chemical, it is needless to say, commands a high price in the market. The highest price in 1902 was \$4,355 a share, the par value of which is \$100. The purchaser of a share at that price received in dividend an amount equal to only 3 $\frac{1}{2}$ per cent.

on the investment. From 1844 to 1849 the Chemical Bank declared no dividend, but during that time applied all its earnings to surplus, which in 1849 had accumulated to \$225,000. In that year it began to pay dividends on its stock, but has always maintained the policy of putting a share of its profits into the surplus fund, which has grown so large that it now constitutes the main strength of this great institution.

The Fifth Avenue Bank has adopted a similar policy. This bank determined to create a large surplus out of earnings before it paid a dollar in dividends. Therefore, for sixteen years it declared no dividends, and during all that time applied all its profits to surplus. This, on December 31st last, amounted to \$1,591,166. It is now able to pay its stockholders 100 per cent. on the capital stock of \$100,000, but this amounts to about 6 $\frac{1}{4}$ per cent. on the actual capital invested. Recently the Fifth Avenue Bank was able to declare an extra dividend of 100 per cent. out of the surplus earnings of the previous three years, but this, which looks so large on paper, does not amount to so large a sum when reduced to percentages on the capital and market price of the stock.

The New York County Bank, which pays 75 per cent. on the capital stock of \$200,000, has surplus and undivided profit of \$622,000. Even on the actual capital invested it earns more than 18 per cent., which is so large as to demand explanation. The New York County Bank is a comparatively small institution, but owns \$1,946,800 in stocks and bonds. Its investments in securities have been very profitable.

The largest banks in the city pay modest dividends. The National City Bank last year paid 6 per cent. on its capital stock of \$25,000,000, but this was equal to only about 3 $\frac{1}{2}$ per cent. on capital and surplus combined. The Bank of Commerce pays 8 per cent. on \$10,000,000 of capital stock (soon to be increased to \$25,000,000 by the absorption of the Western National Bank). But the yield on the capital stock and surplus is only about 4 $\frac{1}{2}$ per cent.

The following table names the banks and trust companies paying the largest rates of dividends in this city; it gives also what the dividends yield on the entire capital, surplus and undivided profits as they stood on December 31, 1902; and also what the

yield was on the highest market prices of the stocks in 1902. The rates of dividends are those declared in 1902. The percentages, while not exact, are close approximations.

	Dividend on Stock	Yield on Capital and Surplus	Yield on Market Price of Stock
Astor National Bank	20	9 5-8	2
Chemical National Bank	150	5 7-8	3 1-2
Fifth Avenue Bank	100	6	2 7-9
First National Bank	20	8 3-4	2 3-8
Garfield National Bank	20	9	4
Germania Bank	20	3 7-8	3 1-3
Importers & Traders Nat. Bank	20	3 7-8	3
Liberty National Bank	20	7 1-7	3
New Amsterdam National Bank	32	15 1-3	5
N. Y. County National Bank	75	8 1-4	4 7-8
State Bank	20	4	2 6-7
Central Trust Co.	60	4 1-4	3 1-8
Farmers' Loan and Trust Co.	40	5	2 3-4
Guaranty Trust Co.	20	5 1-2	2 3-5
Mercantile Trust Co.	30	7 9-10	2 2-5
N. Y. Life and Trust Co.	40	15	3 1-3
N. Y. Security and Trust Co.	32	6 1-4	2 1-2
Union Trust Co.	40	4 3-4	2 7-9
United States Trust Co.	50	7	2 9-10

The amount paid to stockholders by these nineteen institutions averaged about 7 7-9 per cent. on the capital and surplus.

Now this exhibit of bank profits does not show that the banking business is much, if any more, profitable than that of railroads, the manufacturing companies and the mercantile concerns. The Standard Oil Company in 1902 paid 45 per cent. on \$97,500,000 capital. The American Sugar Company paid 7 per cent. The United States Steel Corporation pays 7 per cent. on the preferred and 4 per cent. on the common stock. The H. B. Clafin Company has three classes of stock on which it pays 5, 6 and 8 per cent. dividends. Its net earnings equal about 7 per cent. on the total capitalization. The New York Central Railroad dividend amounts to 5 per cent. a year, and that of the Pennsylvania Railroad to 6 per cent.

Banking is profitable, but the risks are large, and the law of business is that the profits should always be proportionate to the risks. Considering the risks, therefore, the profits are not excessive. A simple illustration is given to show how the risk taken by the banker is larger than that of the merchant. The latter, let it be supposed, sells to the retailer \$10,000 of dry goods on time. The profit on the goods may be as much as \$2,000. If the firm fails before the goods are paid for in full, the loss of the merchant is much less than that of the banker, who loans \$10,000 on the single named paper of the same retailer, his profit being in most cases 5 per cent. for four months, which amounts to only \$125. Yet the purchase of mercantile paper is a legiti-

mate function of banks, and on the whole is the soundest business which they carry on.

It is shown by the last report of the Comptroller of the Currency that the percentage of cost of operation to amount of outstanding loans was, in the year ending April 30, 1902, according to the varying size of the banks, 1.10 to 1.71. The average rate of interest received ranged from 4.51 to 4.79. The President of one of the most conservative National banks furnished me with a statement showing the percentage of earnings last year upon every branch of its business. On bills discounted the rate of earnings was 4.86; upon demand loans, 4.66; upon dealers' bills, 4.84; upon time loans, 4.48; and upon bonds other than governments, 4.86, the average of earnings upon all these items being 4.32 per cent.

It is not in discounting paper, or even in making loans on first-class Stock Exchange collateral, that the dangers of modern banking chiefly consist. The legitimate risks of banking, while large, are normal, and in line with conservative and what may be called moral business. It is speculative banking which increases the risks and introduces an element of peril into the financial situation. Yet it is successful speculative banking that increases the profit. It is not believed that the virus of speculation has as yet entered largely into the banks of New York.

The late President of the Chemical Bank, George G. Williams, said to me, in an interview only a few weeks before his death, that in his opinion the banks of the country were never in so sound a condition as they are today, and never so able to stand the strain of a panic if such a convulsion swept over the country. Such testimony is worth volumes of bear talk in Wall Street.

The trust companies, more than the banks, have been under the suspicion of indulging in speculative ventures, but Bank Superintendent Kilburn, in his last annual report, said that there had been no failure among trust companies in this State in eighteen years, and that, with a single exception, no trust company has sustained in recent years even an impairment of capital, and then such impairment was a slow development and not a speculative misadventure. The stock investments of the trust companies, he says, are generally of a class to justify confidence, and the collaterals for loans, if in some

instances not such as prudent management would purchase outright, have at least an immediate market and are safeguarded by ample margins.

It is nevertheless true that the banks, or some of them, and the trust companies, or many of them, have increased their profits (1) by investments, more or less speculative, in stocks and bonds; and (2) by engaging in underwriting operations.

The trust companies of New York, on December 31, 1902, owned \$193,044,837 of stocks and bonds; the State banks, on May 23, 1903, owned \$9,720,400; and the National banks (exclusive of bonds held to secure circulation and United States deposits) owned on June 9, 1903, \$106,412,100. Here is a total of more than \$300,000,000 of securities owned by the banks and trust companies. Large holdings of securities by the National banks are a departure from old-fashioned banking. It is understood in the case of the First National Bank, which holds more than \$39,000,000 of stocks and bonds, that its security investments have been very profitable, so much so that its great dividend distribution of 1901 was paid out of these profits. It is argued with reason that purchases of bonds by banks are in the nature of loans to corporations, and therefore well within the scope of banking.

There is no other branch of high finance that is more profitable and at the same time involves more of risk than the underwriting of new securities. The profits in some instances have been enormous. For instance, in the underwriting of the United States Steel Corporation the underwriting syndicate pledged \$200,000,000, but actually had to advance only \$25,000,000, and so successful was the operation that the profits are said to have been \$40,000,000, which is 160 per cent. on the amount actually invested.

It is not strange that some of the banks, and to a larger extent the trust companies, have entered into these underwritings. Some of them have thereby made great profits. It was testified in the Metropolitan Securities case that the Morton Trust Company received as its share of an underwriting \$300,000. On the other hand, the Trust Company of the Republic was involved in difficulties requiring a reorganization mainly because of its underwriting of the Shipbuilding Trust.

There have been notable developments in the banking world during the past seven years. These may be summarized as follows:

1. A great increase in bank capitalization leading to the creation of \$25,000,000 and \$10,000,000 banks.

2. The establishment of powerful chains of banks and trust companies—that is to say, the close affiliation, by ties of common ownership, of a number of large credit institutions, so that it may be said that six or seven such chains constitute the money power of New York.

3. The organization of new trust companies and their invasion of the field of commercial banking in competition with the banks.

Along with these developments there have been others, related more to the method of transacting business than to the growth in size. Many important improvements in method have taken place. One of the best of these has been the establishment of the credit department. No well-conducted bank now loans its credit without a knowledge, through such a department, of the character and standing of the borrower, from whom the most minute statement of his financial condition is required. This has added to the safety of banking and has diminished losses. On the other hand, a fierce, and in some of its aspects an unseemly, scramble for deposits is taking place. Banks are offering unusual inducements to out-of-town institutions, as well as in some cases to corporations and individuals, for their patronage.

The new rules adopted by the Clearing-house several years ago, establishing charges for the collection of out-of-town cheques, have, it is estimated, saved the banks as much as \$3,000,000 a year, although there is even now no profit in the collection business.

On the whole, while there is no doubt that the bank and trust companies have to some extent gone into fields where they should not have gone, seeking profits that are not legitimately within the scope of commercial banking, yet they have on the other hand increased their resources and improved the mechanism of their business. And their profits, amply justified by the large risks they are obliged to take and by the splendid services they perform, are no larger proportionately than those obtained in other enterprises of equal magnitude.



THE SUCCESSFUL TRAINING OF THE NEGRO

THE RESULTS OF SUCH TEACHING AS IS GIVEN AT TUSKEGEE INSTITUTE—SCHOOLS FOUNDED ON THE TUSKEGEE IDEA

BY

BOOKER T. WASHINGTON

PRINCIPAL OF TUSKEGEE INSTITUTE, TUSKEGEE, ALABAMA

Photographs by Frances Benjamin Johnston

THE Tuskegee Normal and Industrial Institute at Tuskegee, Alabama, was started in 1881, in a little shanty, with one teacher and thirty students. Since then the total number of students who have been wholly or partly through the course—that is, who have been enrolled and have remained long enough to be helped in any degree—is about 6,000. This statement is based upon the reports made to me by Mr. R. C. Bedford, one of the school officers, who spends a very large portion of each year in visiting and corresponding with our graduates and ex-students at their places of labor.

The enrolment to date for the present school year is 1,892—1,487 students enrolled in the regular Normal and Industrial departments, and the rest attending night-schools in the town of Tuskegee and in the nearby village of Greenwood (both under the supervision of the school), and studying at the Children's House, or practice school, the kindergarten and the afternoon cooking class in the town of Tuskegee.

Thousands of adults, moreover, are reached and helped each year through the Annual Tuskegee Negro Conference, with its various local Conferences which meet annually through the Mothers' Weekly Meetings and the plantation settlement work conducted by Mrs. Washington. In addition, Farmers' Extension Leaflets are edited at the Tuskegee Institute and scattered broadly throughout the entire South.

From the first, the school has sought to find out the occupation by which the people chiefly earn their living, or are likely to earn it in the future, and then to train men and women alike to be of service in these occupations. In the main, those who go out (1) follow the industry they have learned, (2) teach in a public or private school or teach part of the year and farm or labor the rest, (3) follow housekeeping or other domestic service, or (4) enter a profession or the Government service or become merchants. Among the teachers are many who instruct in farming or in some industry; the professional men are largely phy-



THE TUSKEGEE FACULTY COUNCIL

Reading from left to right: 1, R. R. Taylor; 2, R. M. Atwell, Farm Manager; 3, Commandant-Major Ramsey; 4, Chaplain Edgar J. Penney; 5, M. T. Driver, Business Agent; 6, Wm. Mayberry, Head of Boarding Department; 7, Geo. W. Carver, Instructor in Agriculture; 8, Miss Jane E. Clark, Lady Principal; 9, Emmet J. Scott, Private Secretary; 10, Booker T. Washington; 11, Warren Logan, Treasurer; 12, John H. Washington, Superintendent of Industries

sicians; and the professional women are mostly trained nurses.

After diligent investigation, I cannot find

a dozen former students in idleness. They are busy in schoolroom, field, shop, home or

church. They are busy because they have



DR. BOOKER T. WASHINGTON
Principal of the Tuskegee Institute



THE CARNEGIE LIBRARY AT TUSKEGEE
Built by students

placed themselves in demand by learning to do that which the world wants done, and because they have learned the disgrace of idleness and the sweetness of labor. One of the greatest embarrassments that confronts our schools at the present time is our inability to supply any large proportion of

the demands that are constantly coming to us from the people of both races, North and South, for our students. But aside from their skill, what has made Tuskegee men and women succeed is the spirit of unselfishness and a willingness to sacrifice themselves for others instilled into them at Tuskegee. In



STUDENT CORPS MARCHING TO CHAPEL



THE STUDENTS DIGGING THE FOUNDATIONS FOR THE C. P. HUNTINGTON MEMORIAL BUILDING

many cases, while building up a school in a community, they work for months without any fixed salary or promise of salary, because they have learned that helping some one else is the secret of all happiness.

Owing to the demand for those trained at Tuskegee, it is difficult to keep any large proportion of students in the school until

they graduate. For this reason it is not so easy to show the results of the work in concrete form as it would be if a larger number of the students finished. But the fact indicates that the school is achieving its purpose in preparing its students to do what the world wants done.

Some years ago a young man named



STUDENTS BUILDING THE NEW GIRLS' DORMITORY



ROAD-MENDING UNDER THE DIRECTION OF A TEACHER

Williams came to Tuskegee from Mobile, Alabama. Before coming he had nearly completed the public-school course of study at Mobile and had been earning about fifty cents a day at various kinds of unskilled labor. He came to extend his studies in academic branches, with the object of combining this with the trade of brick-masonry.

To take the full course in brick-masonry, including mechanical drawing and so on, he should have remained three years. He remained for six months only. During this time he got some rough knowledge of brick-masonry and advanced somewhat in his academic studies. When he returned to Mobile it soon became known that the young



STACKING HAY ON ONE OF THE TUSKEGEE FARMS



BREAKING GROUND FOR A NEW ROAD

man had been working at brick-masonry. At once he was dubbed a full-fledged brick-mason. As there was unusual activity in building in Mobile just then, instead of having to seek odd jobs, he found himself sought after, and he soon saw that, notwithstanding his rather crude knowledge of the trade, he could earn one dollar and fifty cents per day

and have more work offered him than he could do. When the three months' vacation expired, Williams debated whether he ought to return to Tuskegee to finish his course or remain at home and try to purchase a home for his widowed mother. And seeing an opportunity to make two dollars a day at his trade he decided not to return.



SUGAR-CANE MILL ON THE MARSHALL FARM AT TUSKEGEE



AGRICULTURAL STUDENTS WORKING IN THE EXPERIMENT PATCH

As in hundreds of other cases, the Mobile man had unusual natural ability, and was able to get out of his six months at Tuskegee a mental, spiritual and bodily awakening that fixed his purpose in life. Not only this, but he got such a start in his trade that by close study and observation he was able to

improve from month to month in the scope and quality of his work, and within a few months he ceased to work for other people by the day and began to take small contracts. At the present time Mr. Williams is one of the most substantial colored citizens of Mobile. He owns his home and is a reliable



CUTTING SUGAR-CANE ON THE MARSHALL FARM



A CORNER IN THE TUSKEGEE REPAIR SHOP

and successful contractor, doing important work for both races. In addition to being a successful brick-mason and contractor, he owns and operates a dairy business, and his patrons are not confined by any means to the members of the Negro race.

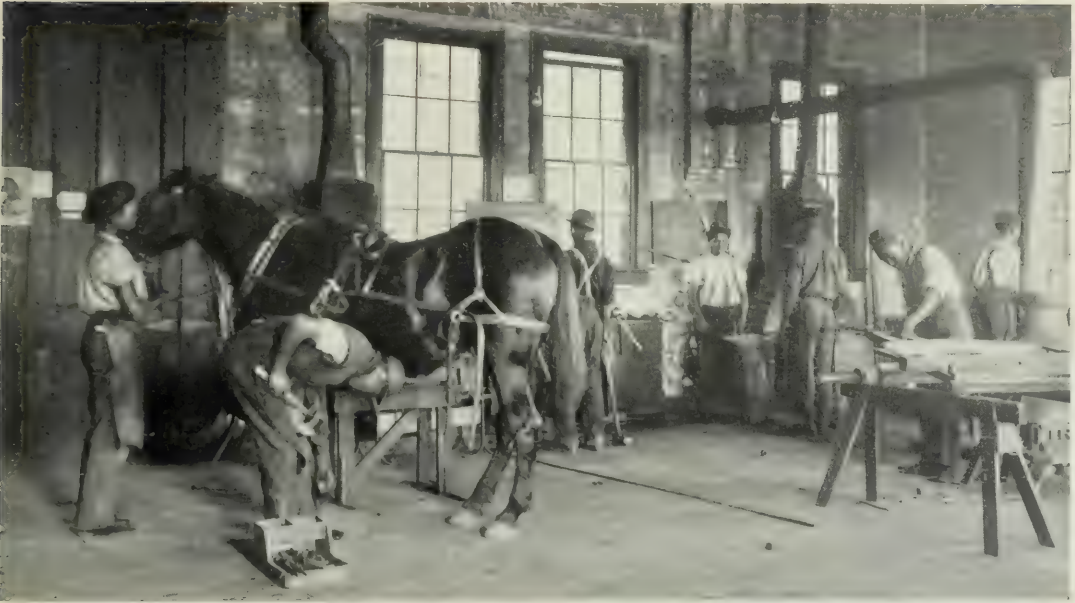
The value, then, of the work of schools, where the trade or economic element enters

so largely as it does at Tuskegee, cannot be judged in any large degree by the number of students who finish the full course and receive diplomas. What is true of the course in brick-masonry is true in a larger or smaller degree of all the other thirty-seven industrial divisions of the school.

Another example. Crawford D. Menafee



WOOD-WORKING IN THE CARPENTER SHOP



SHOEING A HORSE IN THE BLACKSMITH SHOP

came to Tuskegee about 1890 and began taking the agricultural and academic courses. He was considerably advanced in age before coming, and as a result he entered one of the lower classes. As he had no money to pay any portion of his expenses, he was given permission to enter the night-school, which

meant that he was to work on the farm ten hours a day, receiving, meanwhile, lessons in the principles of farming and in academic branches two hours at night. He was never classed as a very bright student, and in the purely literary studies made such slow progress that he dropped out before completing the



STUDENTS WORKING IN THE PAINT SHOP



A CORNER IN THE SHOE SHOP

full course, either agricultural or academic. In fact, he lacked two years of finishing, after repeating several classes. It was noted, however, while he was in school, that, notwithstanding his dulness in his theoretical work, he manifested unusual enthusiasm and special ability in practical farm work. His ability was so marked that he was asked to take a

place of responsibility as assistant to one of the school's farm managers. It soon became evident that he possessed extraordinary executive ability. He read constantly everything of value that he could secure upon agriculture, and soon began to show signs of considerable intellectual growth and the possession of a really systematic mind. Mr.



MAKING AND UPHOLSTERING BARREL FURNITURE



THE TAILOR SHOP

Menafee was soon promoted to a higher position at Tuskegee.

A few years later there came a call for some one to introduce theoretical and practical agriculture into the State Normal College for colored people at Tallahassee. Mr. Menafee was recommended. The students had no wish to learn agriculture. They were opposed

to it in any form. By tact and patience Mr. Menafee gradually won the students by showing the importance of the subject to them and to the race. The result is this: Mr. Menafee has had charge of the agricultural department of the Florida school for three years, and has made theoretical and practical farming so effective that it is now one of the



A CLASS IN DRESSMAKING



WHERE THE STUDENTS PRINT THE SCHOOL PAPER

most popular branches in the school. Not only do the young men cultivate a large acreage each year, but a number of girls also receive instruction in gardening, dairying and poultry raising. In a word, the whole spirit of the school regarding agriculture has been revolutionized, and the department has been placed upon an effective and practical foundation

There are hundreds of cases almost similar to that of Mr. Menafee and the Mobile brick-mason. These represent a class of students who have imbibed the spirit of the school as well as its methods, and are doing far-reaching service, though they are not enrolled on our list of graduates.

From the first at Tuskegee we have tried to give special attention to all forms of agricul-



THE CLASS IN MECHANICAL DRAWING



MATTRESS MAKING AT TUSKEGEE

tural training, because we believe that the Negro, like any other race in the same stage of development, is better off when owning and cultivating the soil. I do not believe that the black man's education should be confined wholly to industrial training, nor do I advocate anything for the Negro that

I would not emphasize for the Jews, Germans or Japanese were they in the same relative state of civilization.

The results of our agricultural work in the past have not been as apparent as they will be in the future, for the reason that in order to get under shelter we have been compelled



THE CLASS IN COOKING AND HOUSEWORK AT MISS DAVIS'S SCHOOL AT THE RUSSELL FARM OF THE THOMPSON PLANTATION



SCHOOL ROOM AT MISS ANNIE DAVIS'S SCHOOL

at Tuskegee to emphasize the building trades. The task of erecting nearly seventy buildings in which to house about seventeen hundred people has not been easy. Still, what are some of the results of our lessons in farming? A few weeks ago I took a drive through a

certain section of Macon County, Alabama. My drive extended a distance of perhaps eight miles, and during this time I drove through or near the farms of A. H. Adams, Thomas Courrier, Frank McCay, Nathaniel Harris, Thomas Anderson, John Smith and



THE STUDENTS AT MISS DAVIS'S SCHOOL



THE CARPENTER SHOP AT THE SNOW HILL INSTITUTE

Dennis Upshaw. These seven men had attended the Tuskegee Institute for a longer or shorter period, and each had already paid for his farm or was buying it. In three of these cases the men had studied in the Phelps Hall Bible Training School in the morning and had taken the agricultural course in the afternoon. When I visited their farms I saw the men

actually at work, and it was most encouraging and interesting to note the air of cleanliness and system about their farms and homes. In every case these men were not confining themselves to the raising of cotton, but had learned to diversify their crops. All were active in church and Sunday-school work, and were using their influence to get others to buy



CLASS IN PLAIN SEWING AT THE SNOW HILL INSTITUTE, SNOW HILL, ALABAMA



STUDENTS PICKING THE SCHOOL COTTON CROP AT MOUNT MEIGS INSTITUTE, ALABAMA

homes. The largest farmer among them was Mr. Upshaw. He began farming with practically nothing. At the present time he owns one hundred and fifteen acres of land, which is cultivated by himself and family. On this land is a neat, attractive house, a barn and outbuildings, and a small

sugar house for boiling syrup from the cane which he raises for his own consumption. His home and farm are models for other farmers. He raises not only cotton, but also corn and oats, vegetables, fruit, live stock and fowls. He has a particularly fine peach orchard. Mr. and Mrs. Upshaw



AN OUTDOOR CLASS IN LAUNDERING AT THE MOUNT MEIGS INSTITUTE

are leaders in the county Farmers' Institute. Mrs. Upshaw is also a member of the Mothers' Meeting which assembles regularly at Tuskegee town. While Mr. Upshaw's present house is better than the average farmhouse in that section, still, when I last visited this farm, I found lumber on the grounds to be used in erecting a new and larger house. Hundreds of such examples could be cited.

I have given these seven examples largely for the reason that people who know absolutely nothing about the subject often make the statement that when a Negro gets any degree of education he will not work—especially as a farmer. As a rule, people who make these sweeping assertions against the Negro are blinded by prejudice. The judgment of any man, black or white, that is controlled by race prejudice, is not to be trusted. With one exception, I did not know of the farming operations of these men before taking the drive referred to, but I was not in the least surprised at what I saw, because my years of experience have brought me into constant contact with Tuskegee men and women all over the South, and wherever I have met them I have found that they had in some degree raised the level of life about them.

Last January, when in Los Angeles, California, I met by chance a young man who had taken a partial course in our nurse-training department. I asked him if he were reflecting credit upon the Tuskegee Institute. Without a word he pulled out a bank-book and asked me to inspect it. I found a creditable sum to his credit. Before I was through inspecting the first bank-book, he handed me a second, which contained another amount to his credit at another bank.

I found in the same city that Mrs. Barre, one of our graduates, is one of the leading trained nurses of that city.

Nearly three years ago three of our graduates went to Africa under the leadership of one of our teachers, Mr. J. N. Calloway, to introduce cotton-raising among the natives under the auspices of the German Government. At the end of the second year the German officials were so pleased that they employed three other students. At the end of the fourth year the experiment was successful to the extent that a hundred bales of cotton were shipped from the colony of Togo, Africa, to Berlin. Only a few months

ago the German officials were kind enough to send me several pairs of hose made from cotton raised by our students.

Since starting this experiment, we have received applications from both English and Belgian cotton-raising companies that wish to secure Tuskegee men to introduce cotton-raising in their African possessions. The Porto Rican Government makes an annual appropriation for the purpose of maintaining eighteen students at Tuskegee in order that they may learn our methods. The Haytian Government has recently arranged to send a number of young men here mainly with the view of their being trained in farming. Besides, we have students present from the West Indies, Africa and several South American countries.

Another branch of agriculture to which we have for a number of years given special attention is dairying. We have demands from Southern white people for more trained dairymen than we have thus far been able to turn out.

In 1898 L. A. Smith finished the course of training in dairying and in academic branches, after making his way through by working in the day and attending school at night during a great portion of his stay. Soon after Smith graduated we had a call for a well-trained dairyman from the Forest City Creamery Company of Rockford, Illinois. Smith was recommended. He has been holding an important position in the creamery for five years, and has several times been promoted and received an increase of salary. Smith has paid for a neat and comfortable home where he and his wife reside. He has the confidence and respect of the entire community. In this connection, I might say that in taking up this work he looked so young and inexperienced that his ability was somewhat doubted, but it did not take him long to prove that he was fully equal to the occasion. The proprietor unhesitatingly said that he was one of the most proficient and valuable men that he had in his employ, and that he had placed him in a very important and trying place, that of making cultures for butter—that is, the development and use of the particular germs which have to do with the fine flavor of butter. This is a secret department in which no one except the employees operating it and the proprietor are permitted to enter. Mr. Smith also did

some very important chemical work in connection with a lawsuit which was supposed to involve the manufacture of spurious butter.

In Montgomery County, Alabama, for a number of years Mr. M. N. Scott, a Southern white man, has operated the largest and most successful dairy farm in his section. Mr. Scott has in his employ three Tuskegee men, with Scott Thomas in charge. Mr. Scott constantly tells us that those men trained at our school are the most efficient that he can secure. He keeps a standing order with Mr. George W. Carver, the instructor in dairying, to the effect that he will employ any one that Mr. Carver recommends. Not far from Mr. Scott's dairy is a smaller one owned by Mr. E. J. Hughes, another white man. Some time ago Mr. Hughes secured Luther M. Jones, who had taken only a partial course in dairying at Tuskegee, to make butter and cheese for him.

Such examples can be found in nearly every one of the Southern States.

While referring to agricultural subjects, I ought to add that, beginning three years ago, we now give the opportunity to a class of our women to learn gardening, fruit growing, dairying, poultry raising and bee raising. As yet there has not been enough time in which to judge of the value of this new feature of the school.

From the first the work of this institution has been closely related to the public school system of the South, for it must be clear to all that in the last analysis we must depend upon public schools for the general education of the masses, and it is most important that the larger institutions for the education of the Negro keep in close and sympathetic touch with the school officials of the Southern States.

Another way that we assist the public school system of the South is by sending out men and women who become the teachers of teachers. One of the best examples of this is the case of Isaac Fisher, a poor young man who came to Tuskegee a number of years ago and worked his way through, so far as his board was concerned. Two years ago Mr. Fisher, on my recommendation, was elected by the State officials of the State of Arkansas to the important position of Principal of the Branch Normal College of Pine Bluff, Arkansas, which is the main

institution for training colored teachers for the public schools of that commonwealth. Mr. Fisher has associated with him a rather large force of teachers, two of whom are also Tuskegee graduates. In the school are students a large proportion of whom will become not only public-school teachers in the usual sense, but having been trained by Mr. Fisher in the industries, will also introduce them gradually into their teaching. There is hardly a single Southern State where our men and women are not found in some of the larger schools for teacher training.

While students at Tuskegee, our men and women are instructed constantly in methods of building schoolhouses and prolonging the school term. It is safe to say that, outside the larger Southern cities and towns in the rural districts, one will find nine-tenths of the schools wholly unfit for use, and rarely is the public school session longer than five months. In most cases it is not more than four. These conditions exist largely because of the poverty of the States. One of the problems of our teachers is to show the people how through private effort they can build schoolhouses and prolong the school term.

Milton Calloway left Tuskegee three years ago. While here, in addition to taking the normal course, he learned the trade of tinsmithing. When he returned to his home at Union Springs, Bullock County, Alabama, he secured a school some distance in the country. The term of the school was so short that Calloway found he could not live all the year by teaching during the three or four months of the session. Now the term is six months. Calloway's trade came to his rescue. Soon after he began teaching he made an arrangement with a white man in the town by which he was to work in his shop on Saturdays and during his vacation months. By following this plan, the school is gradually being put upon its feet, largely by reason of the fact that Mr. Calloway is teaching the people how to save their money, improve the schoolhouse, prolong the school term and buy homes.

Moses P. Simmons, another one of our graduates in an adjoining county, has lengthened the term of the public school by teaching the children how to grow vegetables, which have been disposed of for school purposes.

During the last session of our Negro

Conference in February, one delegate from Conecuh County, Alabama, described how the people had nearly doubled the length of the school term by each family agreeing to plant an extra half-acre which was designated as the "school half-acre." A number of Tuskegee men and women have put on foot some such scheme as this.

For the sake of information, I asked one of the officials of the Tuskegee Institute to canvass our nearest large city, Montgomery, Alabama, to obtain the name of every student there who had received a diploma or certificate from Tuskegee, or who had remained long enough to be in any degree influenced by its teaching, and to report to me exactly what he found after making a personal inspection. Here are a few of his reports:

"Perry, J. W., class of 1889, lives near the city. Is farming. He controls 150 acres, owns five head of cattle, and teaches school six months in the year.

"Davis, Joseph, who has been away from Tuskegee three years, I found at work on a four-story building in process of erection on Commerce Street. He was getting \$2.50 a day. At work on the same job were William Fuller at \$3.60 a day and H. T. Wheat at \$2.50. Last summer Fuller received \$4.00 a day for four months at Troy, Alabama.

"Moten, Pierce, is at work as drug clerk in the drug store of D. A. C. Dungee, at the corner of Court and Washington streets. He graduated from Tuskegee in 1902. While at the school he worked in the hospital, and much of the time had charge of the drug room. He is studying medicine, and has already spent a session at Meharry Medical College, Nashville, Tennessee.

"Campbell, Mrs. Berry N. (Miss Bowen), graduated in the class of 1887, and her home has been in Montgomery most of the time since then, although her work at times takes her away from the city. She is a trained nurse of excellent reputation and wide experience, and has been frequently employed at Hill's Infirmary. When I inquired for her she was taking care of a private case. She owns two good houses on Union Street and on High Street, both of which I saw. She also owns a vacant lot.

There were only three whose records were found to be uncertain or unsatisfactory. The same kind of investigation will reveal almost similar conditions existing in a greater or less degree in other Southern cities.

Now let me show their life in smaller towns: one containing between four and five thousand inhabitants. Some time ago Mr. Bedford, one of our trustees, made a personal investiga-

tion in Eufaula, Alabama. I quote directly from Mr. Bedford as to what he found:

"Sidney Murphy graduated in 1887. He went at once to Eufaula. For three years he taught and farmed in the country. He was then made principal of the colored public schools of the city. He still holds this position, and is now serving his thirteenth year. He has a nice home in the city, three houses that he rents, and some vacant lots.

"John Jordan, 1901, a graduate in harness-making, opened a shop in Eufaula, September, 1901. He reached Eufaula with \$16 and a very few tools. He paid \$7 license, \$3.50 in advance for a month's rent, and had \$5.50 for board and other expenses. He curtained off a little space in his shop for a bedroom, and with an oil-stove cooked his own meals. In this way he saved up \$50, but lost it in the failure of the bank of Eufaula. He has gone right on with his business, and now has one of the best shops in the city. He has established the People's Library, which now has more than 600 volumes in it. He has a reading-room and literary society over which he presides, and is superintendent of the A. M. E. Sunday-school."

After having spent several years at the school, during which they worked upon the school farm, Frank and Dow L. Reid left Tuskegee at the completion of the B Middle Class. Frank, the older brother, left in the year 1888, and Dow in the year 1891. Before coming to Tuskegee these young men had lived upon a rented farm with their father, but on returning home they decided to buy a farm of their own. They entered into an agreement to purchase a farm of 320 acres, four miles from the old homestead, and with little or no money, but with a determination to succeed, they began to cultivate the land. They agreed to pay \$5.50 per acre for the place, and regardless of the fact that they had little money at the time they bought the farm, within a few years the whole amount of \$1,760 was paid. In addition to this farm, the Reid brothers, as they are styled for miles around, have bought another farm of 225 acres at \$10 per acre. This farm is about two miles away from the first place mentioned. When the last payment upon this last purchase is made in the fall, after crops have been gathered and marketed, it will make a total of \$4,010 made and paid for land alone by these young men since the younger one left Tuskegee some twelve years ago.

The stock and farming implements on these farms are far superior to those seen upon most of the plantations. On the farm of

320 acres are seventeen fine horses and mules, all large and in good condition; there are thirty well-bred cows and fifty fine, healthy-looking hogs, besides a large number of chickens and guineas, which furnish plenty of eggs for the families' use. The farming implements, including plows, mowers, rakes, harrows, etc., are of the latest improved Deering make. The four double wagons, the single top buggy, the road wagon and go-cart are all in good order and are kept under cover when not in use. Not infrequently do we find farmers in the South, who, when the crop is made, leave the plows, the mower, the rake, and, in fact, all the farming implements standing out in the field in all the weather during the winter months. A visitor to the Reid brothers' plantation, however, will not find this to be true with regard to their farm machinery. Each piece of machinery on this plantation has a place under a shed built for the purpose, and is kept there when not in use.

There are eight dwelling-houses—a four-room frame building in which the young men and their families live, and seven log cabins in which the farmhands live with their families. The first is rather old and uncomely in appearance from the outside, but the interior is more pleasing. The bedrooms are large and clean, each having sufficient windows and doors to permit of necessary ventilation during the sleeping hours. The dining-room is well kept, and the whole interior of the house presents a neat, tidy and attractive appearance. This house is to be replaced by a larger one, to be built during the winter.

A large cotton-gin, with an eighty-tooth saw, is owned and operated by these young men. Last year, besides ginning the 125 bales of cotton raised upon their own plantation, they ginned the cotton raised by nearly all the other farmers in the neighborhood.

The post-office at Dawkins was formerly about four miles from its present location, but since the Reid brothers settled where they now are and the community built up so rapidly, the post-office was removed to their place and the plantation was named Dawkins. The post-office is located in the general merchandise store of the Reids, and Mr. Frank Reid is postmaster.

There was neither a church nor a schoolhouse in the community when these young men went to Dawkins. They purchased

four acres of land nearby and donated it for the purpose and assisted in building a comfortable church, which has been used as both a church and schoolhouse. Preaching services are held regularly in the church, and a flourishing school is now being taught from seven to nine months each year. Last year there were more than one hundred boys and girls registered. Mr. J. N. Calloway, who graduated from the Tuskegee Institute in 1892, is principal of the school and has one assistant teacher. A new two-room schoolhouse is now being built through the efforts of Mr. Calloway and will be completed at the time of the opening of the school the latter part of next October.

I am often asked to what extent we are able to supply domestic servants directly from this institution. I always answer, "Not to any large extent, notwithstanding that women are trained here in everything relating to work in the home." When a woman finishes one of our courses she is in demand at once at a salary three or four times as large as that paid in the average home. Aside from this, we are helping more in the direction of preparing workers in the home by sending out in the different portions of the country strong leaders who will go into local communities and teach these lessons, than we would be by trying to send a cook directly into each family who applies to us. The latter would be a never-ending process. Miss Annie Canty, for example, teaches cooking and other industries in the public schools of Columbus, Georgia. There is a little leaven that we hope will gradually help leaven the whole lump. Largely through the influence of our graduates, cooking and other industries are being taught in many of the public schools of the South. Another young woman, Miss Mary L. McCrary, is doing the same thing in the Industrial College for colored people in Oklahoma.

Not a few of our men have become merchants, and in all cases they are patronized by both races and have high commercial rating. Two of the best examples of this class are Mr. A. J. Wilborn, who is a successful merchant in the town of Tuskegee, and Mr. A. J. Wood, Benton, Alabama.

One of the questions that I am most frequently asked is, to what extent are Tuskegee graduates able to reproduce the work of the parent institution? Just as the Tuskegee

Institute is an outgrowth of the Hampton Institute, so other smaller schools have grown out of the Tuskegee Institute in various parts of the country. There are at present sixteen schools of some size that have grown directly out of the Tuskegee Institute or have been reorganized by Tuskegee men and women. In all cases these schools have grown to the point where they have been chartered under the laws of the State.

The Voorhees Industrial School at Denmark, South Carolina, for example, was founded by Elizabeth E. Wright, class of 1894. It is now in its seventh year. Miss Wright was greatly opposed at first by both the white and colored people, but she persevered until now all are her friends. She has three hundred acres of land, all paid for. A large central building has been erected at a cost of \$3,000. This contains offices, class-rooms and a chapel that will seat six hundred. This building is paid for, and a girls' dormitory to cost \$4,000, for which the money is in the treasury, is in process of erection. The plans for both of these buildings were drawn by a Tuskegee student. A barn to cost \$800 is nearly completed, and there are several other small buildings. Miss Wright is assisted by three Tuskegee graduates, one the farm superintendent, one as treasurer and bookkeeper,

and the other the carpenter and teacher of drawing. The day and boarding students number more than three hundred. Farming in its various branches is the principal work of the students, but they are also taught shoe-making, carpentry, cooking, sewing, house-keeping and laundering, while printing and blacksmithing are soon to follow. The school spent \$9,000 last year in current expenses, building expenses and the purchase of land.

In closing, I wish to add that I do not want my readers to get the impression that all of Tuskegee's men and women have succeeded, because they have not. Some have failed miserably, much to our regret, but the percentage of failures is so very small that they are more than overshadowed by the successes.

My greatest regret is that I am compelled to leave out of this statement any detailed description of the influence of the Tuskegee Negro Conference, which has been the means of helping hundreds of our people to buy land, build dwelling-houses, schoolhouses and lengthening school terms.

Despite all that I have said, the work has merely begun. I believe we have found the way. Our endeavor will be to continue to pursue it faithfully, actively, bravely, honestly. With sufficient means, such work as I have indicated could be greatly increased.

THE EDUCATION OF WOMEN

ITS RAPID GROWTH—THE INCREASE IN COEDUCATION DESPITE CHECKS
IN SOME PLACES—THE EFFECT OF HIGHER EDUCATION ON THE HEALTH
OF WOMEN AND ON THEIR ATTITUDE TOWARD MARRIAGE AND THE HOME

BY

J. M. TAYLOR

PRESIDENT OF VASSAR COLLEGE

THE most significant thing in connection with the education of women is the prodigious growth of the movement. No figures that could be given can tell the story, even if figures were more trustworthy in connection with education than they are elsewhere. The advance is remarkable not merely as compared with a generation ago, when the higher education was a comparatively new question. Even within five years

the increase of women students in America has been so great as to suggest to the open-eyed nothing less than a glacial movement in society. Women constitute nearly thirty per cent. of all our college students, speaking now only of the really important colleges of the country, and women graduates of these institutions in the United States, both coeducational and women's colleges, number about 20,000. One has only to think of the

prodigious influence of this element in American life to see how significant it is.

The discussion regarding coeducation has passed through several phases since 1870, and latterly the practice has been more sharply questioned in some quarters than for years past. The very significant action of such colleges as Wesleyan and Western Reserve, followed by the recent and more impressive procedure of Leland Stanford and Chicago, gives point to this statement. Nevertheless, there has been a steady progress in the proportion of coeducational colleges to those offering separate education to men and women, and the increase of women in these colleges has been notably greater in the past ten years than that of men. It is not my purpose to discuss the question involved, but only to point out that while coeducation is almost as potent as ever in the West, it has been regarded with less favor in the more settled East. The only significance to be attributed to this statement is that it is a revelation of the bearing of certain social tendencies upon coeducation, and an indication that it will be finally settled, providing that there is any real question involved at all, upon social rather than logical and theoretical grounds. Whatever change of feeling may have taken place has been due to the growth of our society in complexity. It is not at all unlikely that coeducation may adapt itself to these changes in the social environment and maintain itself as the larger factor in the education of women. It may be added, however, that women have increased more rapidly in the separate colleges than in the coeducational colleges in the last few years, but these separate colleges are in the East, and it is in the East only that there has been any marked development of the independent education of the sexes. But whatever the system, whether by coeducation, by separate education, or by the affiliated college, which has many of the excellencies of both and weaknesses known to neither, there can be no doubt that women are purposing in an increasing degree to obtain all the education within their reach. When it is remembered that more than half the pupils in our secondary schools, and a still larger proportion of the graduates, are girls, the mighty importance of the movement to American life is at once apparent.

One notable fact in the current discussion of women's education is the constant recurrence of the view that women should have some special training in their colleges differentiated from that appropriate to men and fitting them more especially for "woman's sphere," whatever that sphere may be. This finds expression in such sentiments as President Charles W. Eliot has frequently expressed regarding the need to cultivate the gracious side of woman's life by which she becomes the maker and leader of our social life.

President Stanley Hall has argued, from the biological point of view, that as woman is nearer the life of the race than man, specialization tends to injure her more for her general duties and relationships, and that her studies should lie rather along the general than the highly specialized lines. This demand would seem to be met in the elective system, and in any case would have its application to university work, if it is applicable at all, rather than to the liberal training of the college. It has been urged by one or two women who are prominent in the work that men have one sphere of life and women two, that a woman should therefore be trained for the possibilities of the home and the family as well as for her self-support, and that the studies of the college course should therefore be shaped particularly, in the case for example of chemistry, economics and art, toward fitting a woman for the double sphere she may be called upon to fill. Passing over the general question whether it may not be as truly and properly said of a man as of a woman that there are two possible spheres of work and life, I call attention only to the fact that this is the recurrence in woman's education of the questions which have been asked ever since colleges were founded for men—namely, whether a practical education that fits a boy for life at once is not of more value than the general and liberal training which develops his character and gives him outlook and familiarity with many vistas of mental and moral interest. The supporters of our colleges have favored the liberal training and will doubtless continue to do so, and those who have not faith enough to believe that the more broadly educated youth will in the long run be the better furnished man will, of course, send their children to technical institutions or in some way hurry

them into what is narrowly called the practical work of life. The question is no more significant in connection with the training of our girls than of our boys. It may be added that this very tendency and this discussion have had their results in modifying somewhat the curriculum of our colleges, more especially perhaps of the coeducational institutions, and in introducing what are called "practical courses," which are supposed to be of special value to girls.

The bearing of the higher education on the health of women and on their attitude toward marriage and the home is a question of perennial interest, and has been most widely discussed even during the current year. The independent women's colleges have been under the necessity from the beginning of facing these questions, and have been at some pains to keep their statistics and to watch the tendencies among their graduates. This is no place for a thorough discussion of the question or for the multiplication of statistics, but it may be said in brief that it has been abundantly shown over and over again by the most careful investigation that the health of college women improves during the four years of the college course, and that while that is not true in all cases, it is as certainly not true in the case of all men. It would be difficult to find several hundred young women of the same general social conditions in more generally good health and spirits than are those who have just closed the current academic year in our women's colleges. Only three of the 153 graduates of Vassar College in 1903 assert that they have not improved in general health since entering college. Such evidence is not scientific, but is noteworthy and probably well-based. The question has not received as careful attention in the coeducational institutions, but is by no means neglected, and in some of our larger universities particular provision has been made for the care of the young women and for their social direction and culture.

So far as the relation of education to marriage and the home is concerned, there seems to be little or no bearing upon the matter in the system of women's education, whether coeducational or independent. Published statistics give no support seemingly to the popular feeling that coeducation contributes to favor marriage more than the independent college. It has been clearly

shown in the June number of the *Popular Science Monthly* that among the college men of the generation the number in the family has by a slight fraction surpassed the number in the native-born population. The same figures would probably hold for the educated woman, but I am not aware that any statistics as careful as those of Doctor Engleman have been published. All figures are untrustworthy unless fully interpreted, and in gathering averages of classes it must be remembered always that the college women are likely to marry a little later than those who do not go to college. It is certainly true as far as the first ten years of the history of Vassar College are concerned, that more than half the total number are married, and that the proportion of children to each marriage is from two to three. The very large classes graduating now at all of the institutions which train women would of course bring down the average to very small figures, but manifestly this is a point where the figures of recent classes should have small influence on our conclusions. Of the classes graduating at Vassar from '67 to '77 (that of '67 was the first, and numbered only four), containing 368 students, 201 have married, of whom 133 have borne children—223 sons and 181 daughters, or 404 children. The average per family varies from two and one-eighth to three and one-third, which is, I believe, fully up to the average shown in families of similar social conditions throughout America. For the next decade the results are less favorable, as must be expected, as we come down to within sixteen years of graduation. The averages are nearly constant down to 1884 (inclusive), but adding the classes from '85 to '87 we have for ten years 369 graduates, 180 married, 105 mothers, 149 sons, 118 daughters, or 267 children.

There is nothing in the college training of American women to contribute to abnormal results. A healthy mind and a healthy body and absolutely healthy and natural sentiments toward life are the general product. Those who have seen most of the work are foremost in their belief in it, and in their scouting of the fears of men based on considerations unsupported by experience and without warrant in anything known of woman's nature. No work in America promises more for its future than the thorough education of its girls.

THE DEMOCRATIC EDUCATION OF THE MIDDLE WEST

PRACTICALLY FREE INSTRUCTION FROM THE KINDERGARTEN TO
THE PROFESSIONAL DEGREE—NEARLY AS MUCH MONEY EXPENDED
AND AS MANY STUDENTS AS IN THE EAST — THE QUALITY OF
THE COLLEGES — A SIGNIFICANT PHASE OF AMERICAN LIFE

BY

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THERE is no more striking illustration of the democracy of the West than is afforded by its educational system. Huxley's conception of "a great educational ladder with one end in the gutter and the other in the university," is realized nowhere in the world so fully as in this central region of the American republic. Indeed, Huxley was anticipated by the framers of the Indiana constitution of 1816, who incorporated a requirement for "a general system of education ascending in regular gradations from township schools to a State university wherein tuition shall be gratis and equally open to all."

All the States of the Middle West have their universities, supported by State and Federal funds, controlled by officers elected by the people or appointed by the State Government, furnishing an education almost gratis, in courses that allow a wide range of choice. In no other section of the country is the correlation between the high schools and the universities so close, whence it results that these schools, which are the very embodiment of the democracy of the section, pour an increasing stream of democratic influence into these higher institutions. From the primary grades up to the graduate work, throughout this great area, the way is clear for the boys and girls with brains to rise to the full measure of whatever intellectual power is in them.

Nowhere else has democracy so completely embodied its educational ideals. The State has frankly and liberally accepted the education of the people from the lowest to the highest studies as one of its most important functions, and in this education it has made provision for keeping together all the ranks and classes of society. From the kinder-

garten to the graduate department, the sons of the banker and of the breadwinner may sit side by side and are furnished the same opportunities by the State. The boy and the girl are educated in the same institutions. Even more than the medieval Church, the public educational system of the West provides for the free ascent in society of the intellectually able. It is a magnificent piece of machinery for conserving the solidarity and democracy of the nation.

The significance of this subject is better appreciated when the place of the Middle West in the nation is borne in mind. Here in the vast area of the Great Lakes Basin, the Ohio Valley and the upper Mississippi and the Missouri, lie the politically dominant forces of the republic. Here is the centre of its economic power. The future of the nation rests in this region. Its ideals and conduct will be the determining element in the ideals and conduct of the American people as they work out their problems of social development. To the thoughtful student of American evolution there is no more pregnant question than this: Will the forces producing class distinction, which appears so plainly in the older North Atlantic section, where processes of development are more fully worked out, pass toward the West and dominate the social type of the great Interior; or will they find in the centre of the republic social forces that will stay the flow of this transformation of primitive American democracy and work out a new organization of society that shall conserve the old democratic ideals of the nation?

The population of the North Atlantic States (New England and the Middle

States), at the last census, was about 21,400,000. That of the North Central States was 26,800,000. Some 3,700,000 pupils were enrolled in the former section, as against more than 5,800,000 in the latter. In the North Atlantic Division the total number of secondary students in public and private schools was 234,000; in the North Central, 319,000. The undergraduate attendance in the public and private universities, colleges and schools of technology of the North Atlantic Division in 1900 was 33,000; in the North Central Division, 37,000. If we turn to the subject of expenditures for education, we find that in the public schools of each of the sections something like \$90,000,000 are expended annually. The income of the universities and colleges of the North Atlantic section amounts to about \$10,000,000, while in the North Central section it reaches a little less than \$8,000,000.

Statistics of attendance in the leading universities of the country for the present year show that while the great universities which rest upon private foundations take the lead, they are closely followed by the State universities of the Middle West. By these statistics, Harvard has 5,468 students; Columbia, 5,352; Chicago, 4,296. The State University of Michigan comes next with 3,764, followed by California, 3,696; Minnesota, 3,505; and Illinois, 3,288. The privately endowed University of Cornell has 3,281, after which comes the State University of Wisconsin with 2,884. The Northwestern University, on private foundations, shows a total of 2,875. The ancient institutions of Yale and Pennsylvania are closely pressed in numbers by the young State University of Nebraska, which has 2,289. Both Indiana University and the University of Missouri surpass Princeton and Leland Stanford in numbers, and have more than double the attendance of Johns Hopkins. When it is remembered that but a few years ago ambitious students in search of the higher education flocked in great numbers from the Middle West to the eastern institutions, the significance of this showing is still more highly emphasized.

Financially the State universities have also made remarkable advance. The declining rate of interest has checked the financial progress of the older institutions, which rest on private endowments, and the State Legislatures have shown an extraordinary liberality

in building up the institutions confided to their care. The expenditures of the University of Michigan, as reported in *Minerva* for 1901-1902, were \$719,000; Nebraska, \$489,000; Wisconsin, \$436,000; Minnesota, \$403,000. The Illinois Legislature in 1901 made appropriations for current expenses, apparatus, buildings, etc., amounting to \$521,330. Roughly speaking, the annual expenditures of the leading State universities of the Middle West for the past few years have been between four and five hundred thousand dollars each. Capitalizing half a million at an interest of four per cent. would give each institution the equivalent of an endowment of twelve and one-half million dollars, which compares favorably with the endowment of many of the oldest private institutions. When it is remembered that most of these expenditures are by young Western commonwealths which are hardly yet beyond the pioneer stage, and which have not fully reaped the benefits of increased valuation and of the large private endowments certain to be added to them as the State increases in wealth, the financial future of this class of universities certainly compares very favorably with that of the great institutions based upon private benevolence. It appears, therefore, that in spite of the age of New England and the Middle States, where wealth and culture have been accumulating for many generations, the youthful Middle West has, in educational population and expenditures, placed itself well abreast of these two sections combined. And yet it is hardly more than a hundred years ago that the Middle West was an almost untenanted wilderness—and the Mississippi portion has been built up chiefly since the Civil War.

Magnificent as this advance has been, its full significance can only be thoroughly appreciated when we turn from the figures which simply express the educational attendance and expenditures to a more careful consideration of the spirit and organization of education in the West.

The democratic forces of the nation have, it is true, steadily widened the educational opportunities and increased the activity of the Government of the State in the older sections. The private academies of these older sections have been supplemented by public high schools, and in many cases have transformed themselves into public high schools. But

these forces, eminently characteristic of the West, have not so distinctly appeared in the East. This is shown in many ways. The tendency of the well-to-do, not to mention the wealthy, in the North Atlantic Division has always been to send their sons and daughters to the privately endowed academies. There is a decided contrast between the two sections in this respect. In the North Atlantic Division the enrolment of pupils in private schools for 1900-1901 was 13.45 per cent., while in the North Central Division it was only 6.82 per cent. The students in private high schools and academies in the former divisions *increased* .2.02 per cent. between the years 1899-1900 and 1900-1901, while in the North Central Division they *decreased* 12.72 per cent. The real significance of the private schools of the East lies in the fact that they mark and accentuate distinctions between the laboring class and the well-to-do more definitely and generally than in the West.

The establishment of the common school system of the Middle West constituted one of the most significant activities of the pioneers. The land grants for schools provided by the Ordinance of 1785 furnished a fund which had to be dealt with by the early settlers; but independent of the Federal bounty, the pioneers, particularly those who came later from New England, were profoundly convinced of the importance of education. They had gone into the West in order to hew out for themselves and their children a freer and more prosperous life. They desired to give their sons and daughters a better opportunity than they themselves had possessed, and they realized that for success in life education was a necessity. Consequently the schoolhouse has been one of the accompaniments of the advance of civilization throughout the forests of the Northwest and across the prairies of the trans-Mississippi country. The boom towns of the Middle West rivaled each other in proclaiming the educational advantages of their respective communities, and this desire to advertise the growth of the community by good schools has been one of the features of educational development in the section.

The common schools have been more fully systematized and coördinated in the Middle West than elsewhere. This has been possible because of the essential homogeneity of

education throughout the section. One of the most significant features of school organization is the system of inspecting and accrediting by the State universities. This system originated in Michigan some thirty years ago. It is closely connected with the conception that the university is an integral part of the public educational system of the State, and that the transition from the secondary schools to the university should be as natural as promotion from one grade of the schools to another. It is common for the catalogues of State universities to give a prominent place to some such statement. In the beginning of the system, a committee of the faculty examined the courses of study, the equipment and methods of instruction in the school, and reported whether or not it was entitled to send its graduates to the university without examination.

Little by little this system has spread in some form or other through all the State universities of the Middle West. More recently a tendency has shown itself to conduct the inspection of the schools by a specially appointed officer whose work is supplemented by occasional visits from members of the faculty. In some States both the university and the State superintendent of instruction inspect. In Minnesota the inspection is conducted by an officer appointed by the State High School Board, and in Indiana the inspection is performed by the State Board of Education. This system has been very influential in shaping higher education in the Middle West. It has undoubtedly greatly increased the attendance upon the State universities, not only by facilitating the process of admission, but also by bringing a knowledge of the university directly to the various schools and by stimulating the schools to elevate their work to the standards of university preparation.

As President Draper, of Illinois, has said: "It remained for the newer States of the American Union to organize a movement which should lead all the youth of the land to consider the question whether or not they would go to college, and to make the road smooth and continuous and practically free in order to induce them to pursue it to the end and to enable them to pursue it easily." Upon the university the effect has been to compel the institution to have a more sympathetic and intelligent

interest in the preparatory schools and to prevent it from rising too rapidly above the general educational conditions of the commonwealth. Upon the schools the effect has been to elevate the courses, improve the teaching force and the methods of instruction, and to increase the library and laboratory facilities of the institutions. The State of Missouri may serve to illustrate the effects of university influence. In a recent report President Jesse declares that "largely as the result of the labors of the university, the number of good high schools has increased in eleven years from six to one hundred and thirteen, and the enrolment of pupils in them from about five thousand to more than thirty thousand."

The State universities are in their origin children of the National Government, for its bounty, expended through land grants, gave the start to these institutions. For their development, however, the State itself has furnished the larger portion of the financial resources and has exercised administrative control over them. The States of the Middle West may be divided into two classes with respect to the place of the State university. In one class fall those States in which privately endowed institutions, chiefly sectarian colleges, gained so important a position in the State prior to the growth of the State university that they have prevented its complete ascendancy and in the past have contended on fairly even terms with that institution. In this class would fall such States as Ohio, Indiana and Iowa. The other class is marked by the complete dominance of the State university. Michigan, Wisconsin, Minnesota, Kansas and Nebraska are States of this type, although in some of the newer commonwealths the State university has only recently achieved its supremacy. Illinois lies in a class by itself. The State university has had a striking growth, both in resources and in attendance. Its numbers have doubled within the last five years, leaping from 1,582 in 1897 to 3,288 in 1902. At the same time the privately endowed University of Chicago has achieved its extraordinary position as one of the great universities of the world, and Northwestern University has greatly increased.

Although the privately endowed colleges and universities of the Middle West constitute important elements in the educational

conditions of the section, it is clear that the State university is the distinguishing feature of the higher education in that great region. Even in Ohio and Indiana, where the rivalry between these two types of institutions was intense and long continued, the State university has gradually established its leadership over any other institution in the State in resources and in attendance. In this respect the section is in sharp contrast with the East. Of the undergraduate students in public and private universities, colleges and schools of technology of the North Atlantic Division, only five thousand were in public institutions in 1900, while in the North Central Division there were sixteen thousand.

The State exercises complete control over the university by furnishing revenues and determining the government. In some of the commonwealths of the section a mill tax furnishes a large portion of the income of the university, automatically increasing the revenues with the growth of the State. In others a definite sum is voted from year to year, but in all cases the university makes upon each Legislature special demands for building, equipment and other expenditures, so that the development of the institution is determined by legislative action. In this connection it is noteworthy that the generous rivalry of the various States of the section has tended materially to increase the appropriations to the State universities.

The form of State control over the university was first furnished by the University of Michigan, under the influence of the Prussian educational system. The government of the State universities of the Middle West rests in each case in a Board of Trustees generally appointed by the Governor or elected by the people. Very frequently the trustees are men of large political influence. In the case of the younger institutions this has sometimes led in the past to the reconstruction of the faculties and to some interference with the freedom of teaching, but it is safe to say that this evil has completely disappeared from all of the larger institutions, and is not likely to become a serious factor in the future. It belongs to the childhood of the State university. On the other hand, the large political influence of the board of trustees contributes materially to the success of the institution in securing from the Legislature the means of growth. The president and

faculty of the State universities of the Middle West have come to possess at least equal independence and power in respect to their boards of trustees with the president and faculty of the eastern universities.

Following the analogy of the common schools, education in the great State universities is almost gratis, although incidental fees are charged in some institutions, particularly for the expense of laboratory material, etc., and moderate additional fees are imposed in the professional schools. The following States serve to illustrate the practice. Excluding the charges for technical and professional departments, Indiana and Kansas require no fees. In Missouri there is an "entrance, laboratory and incidental fee of \$5." Michigan, besides matriculation and diploma fees, imposes an incidental fee of \$30 a year; Wisconsin, an incidental fee of \$20; Illinois, \$24; and Iowa, \$25. These fees are trivial in comparison with the charges imposed in the large private institutions. Moreover, the cost of living in the western State universities is distinctly lower than that of the eastern institutions. These facts conduce materially to the democracy of the institution by rendering it available to students from the humblest homes, not by means of special scholarships for exceptional students, but normally and naturally.

In the organization of the western State university, all interests of the State are represented. The ideal of furnishing a practical education for the various walks of life has been in the foreground. Most of the State universities in their earlier years made large provision for manual labor, thereby enabling students to assist themselves through college. The classical studies constituted the core of the course in the earlier history of university development in the West as well as in the East, as was natural in view of the fact that the presidents and faculties were usually brought from the eastern institutions, yet they had a continual struggle with the demand for the immediately practical studies in the Middle West.

Steadily the universities were reconstructed in partial concession to this demand. Michigan was the leader in placing a distinctly scientific course on terms of equality with the classical courses. Freedom of election between groups of studies was early offered. And the tendency to shorten the college course by cor-

relating it with professional work given on the same campus is a characteristic of all the western State universities. The development of agricultural, engineering and law schools as an integral part of the State universities constitutes one of their distinguishing features. In respect to agriculture and engineering, the practice differs in different States. Ohio, Illinois, Wisconsin, Minnesota, Missouri and Nebraska have devoted the revenues arising from the grants of Congress for agricultural colleges to departments of the State universities, while Indiana, Michigan, Iowa, Kansas and North and South Dakota have assigned the funds to independent institutions. The advantage to the State university of drawing to itself the interest of all the industrial elements within the State is beyond question.

These gains, however, are not without their corresponding disadvantages. There can be little doubt that the older humanities have suffered somewhat by the dominant practical interests of the West. Recent statistics seem to show that the great increase in attendance in the universities of the Middle West is due to the increase of the technical departments. The college proper has held its own principally by the large increase in the attendance of women upon the State universities, and there seems to be some danger of a differentiation of study by the women seeking the older type of liberal culture, while in increasing numbers the men pass over to the technical branches. This tendency has doubtless been exaggerated by the great material prosperity of the country during the past few years, which has offered peculiar prizes to the graduates of the engineering departments. Moreover, the universities have already begun to check the movement by a freer system of electives, which provides for the incorporation of a moderate amount of professional work in the general college course, and by the introduction of special courses in political science, economics and history, preparing men for public service, and by courses in commerce designed to adapt the older type of education to the special needs of those who propose to make a business career. In a word, there seems to be developing in the Middle West a coördination of professional work with the older type of studies—a movement which will doubtless do much to support the older studies by adjusting them to the

desire of the university to afford a training to all classes of society.

With the increase of the leisure class in the Middle West, the purely culture studies are likely to receive increased attention. It should be noted, moreover, that the decline of the old classical courses is apparent in the East as well as in the West. Indeed, the statistics of studies in the public schools show that the study of Latin, for example, among the students of the Middle West is pursued quite as generally as in the East.

The fact seems to be that in the free atmosphere of the Middle West adaptation of the university to the conditions of American life has more rapidly and easily shown itself than in the conservative eastern sections. The State university is a complete expression of the democracy of the State, a democracy continually growing stronger and more liberal by dealing with problems of culture and training itself in the process. The United States Commissioner of Education, William T. Harris, has said: "A culture for its own sake is a noble aspiration, and it is well to have it advocated at all times; but a culture belonging to a class that rests like an upper layer upon the mass below, who in turn have to dig and spin for them, is not the American ideal." Whatever limitations are found in respect to cultivation of the older humanities in the western universities, it is undoubtedly true that they are doing more than any other institutions to elevate the whole body of the people to a higher intellectual life.

One of the most striking indications of the development of these State universities lies in the large increase in provision for investigation and for graduate work. Already in library and laboratory equipment, as well as in their faculties, several of the larger State universities of the Middle West, particularly Wisconsin and Michigan, have placed themselves in the same rank with the great institutions of the East. The Middle Western universities have succeeded in bringing into the ranks of their faculties some of the ablest men in the East, and on the other hand there is a marked and increasing tendency on the part of eastern universities to make new appointments in their faculties from leading scholars in the West. The day has gone by when the "fresh-water college" was a term of reproach.

More than in the East, the students who

come to the university represent the sons and daughters of the common people. The awkward rustic lad, often of German or Scandinavian parentage, who enters the halls of the State university, is nevertheless filled with a vigor and an ambition which rapidly bring him to the front, and the transformation which a university course of four years makes in such a man is remarkable. A tone of earnestness and energy is given by such students to the State university; they are there for work. The number of such students who achieve the highest rank in the political and business life of the States which have educated them shows in a marked way the service which the university performs for the common people.

What the effect upon the democracy of the Middle West will be from the complete prevalence of the system of coeducation in the State universities is an interesting topic which cannot here be considered, but it is certain that in most of the State universities coeducation is accepted naturally and without question. Coeducation is the practice of the public schools, and the university is simply the highest stage in the public school system.

President Van Hise, of the University of Wisconsin, in a recent speech struck the keynote of the present educational situation when he declared that the State university of a democracy could be carried to as high a point of efficiency as the State university of a monarchy. What Germany has done in the way of developing universities that widen the bounds of knowledge, that the State universities must come to do in this country. It certainly would be a great misfortune if the thought of the country were shaped exclusively by scholars trained in institutions resting on endowments by the millionaires of the United States and dependent for their development upon the class of the wealthy alone. In the working out of the great social problems of the United States, the State university, which represents neither one class nor another but the interests of the State as a whole, is certain to play a beneficent and important part. Here, if anywhere, is found a body capable of mediating between contending forces and of educating all classes into respect for law and order in the promotion of the higher interests of the commonwealth.

FARMER CHILDREN NEED FARMER STUDIES

THE MISTAKE OF COUNTRY SCHOOLS IN USING A CITY SYSTEM—
COUNTRY CHILDREN INEPTLY TRAINED AND MADE UNWISELY DIS-
CONTENTED—WHAT MORE RATIONAL METHODS CAN ACCOMPLISH

BY

CLARENCE H. POE

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OUR educational system has been made by city people for city people, and the country school finds it second-hand, ill-fitting and unattractive. To this fact more than to any other, perhaps, is due the backwardness of education in agricultural states. The school has not taken hold on farm life. Plants, soils, animals, insects, flowers, the weather, the forests and the sky—from all these things it has stood apart, while it has babbled of subjects unfamiliar and uninteresting to the country-bred child. All rural education has been hacked and hewed to fit the Procrustean bed of the city model.

A striking protest against the present irrational policy is found in a private letter now before me, written by one of the most efficient American professors of agriculture:

"Statistics show that in this State each year sixty young men take up the ministry, sixty-six law and seventy-two medicine, while 13,000 annually take up agriculture as a gainful pursuit. But our school-books are written for the few, not the many. . . . Put such words as phosphate, protein and nitrogen prominently in our spelling-books, and they will not be as meaningless as Greek to adult farmers. Let nature-lore give freshness to our reading-books and the mass of country boys will not be so blind to the everyday life about them. Let our arithmetics apply addition, subtraction, percentage and common fractions to agricultural problems, and the farm boy will see the need of education as preparation for his own life work. At present, however, the entire curriculum leads away from the farm."

Nor is it in the West and South alone that this evil exists. Doctor John Graham Brooks, of Cambridge, Massachusetts, has said:

"Look with me into an average Massachusetts

schoolhouse. Its arithmetic, its geography, its penmanship, its bookkeeping and its reading-book appeal to the imagination of the farmer's child, are still dominated by clerk and trading point of view. As one listens to the teaching, it is as if the one object were to create discontent with the country life, to make every bright child hate his surroundings. The instruction seems to assume the failure of the farm life. The inexhaustible charm and resource of the country have no part in this teaching."

This is a severe indictment of our present methods, but it is not a whit too severe. To find proof you have only to examine the text-books in use in our rural schools. Apparently they have been written solely for city children, sons and daughters of clerks, merchants, bankers and traders. They do not even suggest to the farmer's child the possibilities of science and training in agricultural work. On the contrary, the natural and logical inference from our general scheme of rural instruction is that education is not indispensable to the farmer, but is intended chiefly for the commercial and professional classes.

Take, for example, the first study mentioned by Doctor Brooks—arithmetic. Pick up any high-grade arithmetic in use in the rural schools and you will find no lack of attention to banking and commissions and foreign exchange and commercial affairs generally. But agriculture rises to no such dignity—not even in schools that will furnish five times as many recruits for the farm as for the city. Moreover, you will find special departments for common mechanical trades—plastering, stone-work, carpentering, and even gauging and lumber measuring, subjects quite as difficult to teach or to understand as the rules for compounding feeding rations

or mixing fertilizers. But in no school arithmetic have I ever found one reference to either of these important forms of agricultural mathematics. You would never learn from these text-books that farming calls for anything more than the dull drudgery that blighted and brutalized Millet's "Man With the Hoe." Shall we marvel, then, that the boy who expects to farm finds little to encourage regular attendance on such schools, and his tax-paying father little to encourage more liberal support?

True, the arithmetics give some examples based on farming, but there are comparatively few of these, and there are practically none that illustrate the possibilities of applied science as a profit-making factor in agricultural work. Your class of bright farmer boys, for example, may have learned all the mathematical formulas relating to stocks, insurance and banking, but it is not at all improbable that nine-tenths of them have never seen arithmetic applied to agriculture in such practical problems as the following:

Calculate the value of a ton of fertilizer containing 2 per cent. nitrogen, 8 per cent. phosphoric acid and 2 per cent. potash; nitrogen being worth 14 cents a pound, phosphoric acid 4 cents, and potash 5 cents.

Two dairy cows produce each 5,000 pounds of milk a year. The butter-fat test of No. 1 is 4.6 per cent., and of No. 2, 6.3 per cent. Butter selling for 25 cents a pound, how much greater is the yearly income from No. 2 than from No. 1? (Note.—One pound of butter-fat is equivalent to $1\frac{1}{2}$ pounds butter.)

Calculate the nutritive ratio in a feeding ration supplying 3 pounds protein, 1 pound fat and 14 pounds carbohydrates.

The analyses of cottonseed meal, muriate of potash and phosphoric acid being given, in what proportion shall we mix, using the necessary filler, to get a fertilizer with 9 per cent. phosphoric acid, 3 per cent. nitrogen and 3 per cent. potash?

There is nothing impractical or extreme in such problems as these; they might well be given in any arithmetic in use in rural schools. To the larger number of pupils they would be of immensely greater practical value than examples based on commercial affairs, while as intellectual gymnastics the agricultural problems would be as good. Of course, the farm boy's arithmetic should not be devoted exclusively to such matter. But from the very first a large proportion of his sums—in

addition and subtraction as well as in the more advanced branches—should deal, not with work foreign alike to his knowledge and his interest, but with familiar and practical subjects.

While I have given so much attention to arithmetic, the reader will bear in mind that I have used it, not for its own sake, but only as an illustration of the general misfit in rural school studies. Reading books, spelling books, geographies, histories—all, as Doctor Brooks says, are "dominated by clerk and trading point of view."

But the work of improvement should not stop here. A right point of view should be required in the branches already taught, but we should go further. Text-books combining the elements of agriculture and the proper forms of nature-study should be adopted for use in all rural schools. In these books the practical and the esthetic should go hand in hand. The pleasures of country living should be set forth, and a constant effort made to interest the child in the common things about him—the mysteries of plant and animal life, the beauties of nature, the everyday wonders of the fields and woods. With equal earnestness the profit of intelligent farming should be emphasized; the elements of agricultural science should be given.

Recent educational progress makes it unnecessary to defend this idea. No one now regards it as a visionary suggestion; in view of the vast interests affected, it is not an unreasonable one; in view of the great good that would result, it is not an unimportant one. Millions, for example, are lost every year by unscientific stock-feeding, that could be saved to the farmer if he would practise the simple rules for compounding feedings. Millions more are lost annually by irrational fertilizing because the farmer is not taught the properties of the common fertilizing elements and the needs of different crops. Millions, too, might be added to each year's farming profits by proper crop rotations and proper combinations of farming specialties—the knowledge of a few fundamental principles are sufficient to enable the farmer to plan them. To learn of these subjects would require no special ability. Children of ordinary capacity in ordinary public schools could practically master them.

Far-reaching effects would follow in due

season. Practical education is the philosopher's stone that has revolutionized every commercial and professional calling of civilized man; and, with a properly modernized school curriculum, its golden touch would reach agriculture also, transforming and uplifting this most ancient of occupations. Every class would share in the benefits, and the nation itself would be immeasurably strengthened; for with the rural half of our population intelligent and independent, we shall always have a protecting balance of power in our political life. Anarchy and socialism among the city poor, greed and snobbery among the very rich, will each find an antidote in the content and conservatism of a great farming class. Moreover, our

commercial supremacy is largely dependent on the well-being of the rural districts—men as well as crops being considered in this statement.

To stop our teachers and text-books from fostering the idea that education is needed in the city but not in the country, needed in managing a store but not in managing a farm; to stay the over-crowding of the professions and city trades and to develop the latent possibilities in scientific agriculture; and—last, but not least—to instil a love of nature and joy in country living: this task is not hopeless that we should shrink from it, nor small that we should neglect it, but it is in truth a worthy and reasonable one for America to try its strength on.

TEACHING SOLDIERS HOW TO SHOOT

THE METHOD EMPLOYED BY THE UNITED STATES ARMY TO MAKE ACCURATE MARKSMEN

BY

MAJOR CHARLES T. BOYD

37TH INFANTRY, U. S. V.

SUCH people as had observed our soldiers at target practice before the outbreak of the war with Spain were convinced that all of them were sharpshooters. The reason for this high average at the targets was that the different Department Commanders had made it a custom to devote two months of each year to rifle, carbine and pistol practice, during which time approximately three hundred and fifty rounds of ammunition were issued to each soldier.

But proficiency in the use of these arms does not alone fit a soldier for battle; he must also be well drilled and disciplined. So it is that target practice is allowed to take up only one-sixth of his time; in order, however, to make the best use of this time, his other duties are for the time being suspended.

Sighting drills, position and aiming drills and gallery practice occupy the time of the first month.

Sighting drills teach the soldier how to bring the object aimed at and the line of sight in the same straight lines; to judge between

a full, a fine and a half-sight; to learn of the irregularities in sighting which he may commit due to not taking the same amount of front sight each time he aims; and the necessity of so holding the gun that it will be inclined neither to the right nor to the left.

It is necessary that the soldier should select one of the three sights mentioned and that he should limit himself to its use, for in no other way can a score be more rapidly spoiled than by changing from one sight to another in order to "get on the target."

If a full sight is used, the greatest error is not to take for each shot the same amount of front sight.

If a fine sight is used the reflection of the sun on the sights of the gun at different times will cause an error in judging the amount of front sight taken.

The best sight to adopt is the half-sight, because by using it one secures the greatest uniformity in estimating the amount of front sight taken for successive shots, and this amount must be constant in order to shoot



TARGET SHOOTING FROM A RUNNING HORSE

Photographed by C. Freshman

with accuracy. In using this sight the front sight must be seen directly in the middle of the notch of the rear sight, and its top must be seen on the *horizontal* line passing through the points of the two shoulders of the rear sight. Many misses, especially at the long ranges, are caused by inclining the gun more or less to one side.

Because of the necessity of rough handling, the sights on the rifle and carbine are coarse. By providing a sight guard the sights might well be made finer, thus improving the marksmanship of our soldiers. In any case, our sights will not permit of so fine an adjustment as do those of marksmen in civil life.

Position and aiming drills are of use in exercising the muscles of the arms, in teaching the proper way in which to hold the gun, and in giving the soldier, whether standing, kneeling, sitting or lying down, a perfect command of his gun and an easy position of the body. These drills teach steadiness of person and gun, and insure such a prompt and intimate connection between the hand and eye that the gun will be discharged without deranging its direction.

Gallery practice is similar to the gallery shooting one sees on the streets and with which most boys are familiar. In our service it is conducted with the rifle and carbine, using reduced charges and firing at a target fifty feet away. The value of this practice is due to the fact that the errors caused by the wind and the changes in light and tempera-

ture do not enter. There does enter the error due to the fouling of the barrel, but besides this all errors considered are those due to the firer.

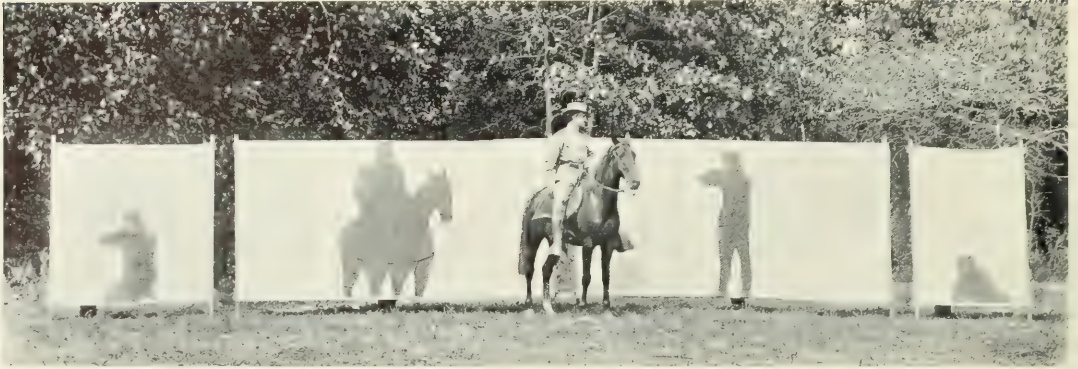
The soldier should be able in this firing to discover his errors and to eliminate them before beginning his regular practice.

The second month of the target season is taken up with practice on the range. If one can have a choice, warm, damp days with the sky uniformly overcast are the best for this practice.

For individual practice four targets are used. The short-range target (used for the distances one hundred, two hundred and three hundred yards) is a rectangle four feet wide and six feet high, at the lower edge of



THE FOUR POSITIONS



THE FOUR TARGETS FOR INDIVIDUAL PRACTICE.

which is the silhouette of a soldier in the lying position. The mid-range target (used for the distances five and six hundred yards) is a rectangle six feet square bearing the silhouette of a soldier kneeling. The eight-hundred-yards target is a rectangle six feet high and twelve feet wide bearing the silhouette of a soldier standing; the one-thousand-yard target is of the same size, but bears the silhouette of a soldier mounted.

When the bullet strikes in the figure it counts five, a hit in the "centre" surrounding the figure counts four, a hit in the "inner" counts three, and a hit in the "outer" counts two. In action nearly all soldiers shoot high, and in order to develop the habit of shooting low all the figures are placed touching the bottom of the target.

Standing, kneeling, sitting and lying down are the four positions prescribed for firing. The lying position alone is prescribed for the eight-hundred and the one-thousand-yard ranges, while at all the other ranges up to two

hundred yards the lying and sitting positions are used. At one hundred and two hundred yards the sitting and standing positions are prescribed. Wherever the sitting position is prescribed the kneeling may be substituted, but for the majority of persons the sitting is by far the better position of the two.

After the firing at the rectangular targets is completed the company is divided into squads for skirmish firing, and here the target for each member of the squad is made up of a group of three figures, one standing, one kneeling and one lying down.

The squad is deployed some seven hundred yards from the line of targets, and is moved forward at the quick and double time, halting at designated ranges to fire a limited number of rounds. This skirmish firing serves to illustrate to the young soldier the conditions likely to exist on the battle-field, and when he is able to make a good score at this practice we may be sure that he will do effective shooting when engaged with the enemy.



MAKING A SKIRMISH RUN

Firing two rounds at 400 yards in thirty seconds.

After all the squads have finished their skirmish runs they are united in the company for volley firing. The target now consists of three lines, each line containing sixteen figures. Volleys are delivered at all ranges from seven hundred to one thousand yards, each range being one hundred yards greater than the preceding one. There is no haste, however, in the firing.

The greatest amount of care and patience is necessary in order to secure good results on the range. In aiming, one should hold his sights on the lower edge of the figure, thus seeing all the figure above the front sight; otherwise it is difficult to judge how much of the figure is covered, and at the moment of firing the gun is liable to be directed above the figure without one's knowledge.

After the season's practice has been completed, each company commander selects one of his men to compete for a place on the department team, which is made up of the best ten shots in the department.

The winner of the gold medal in this team may, if he desires, receive, in lieu of the medal, a rifle or carbine of special design and superior workmanship.

In every even-numbered year all the department teams compete for places on the army team, which also consists of ten men. The four men making the best score in this team receive gold medals, while the remaining six men have to be satisfied with silver ones.

In addition to the practice already described the soldiers of the cavalry service engage in pistol practice. The mounted practice con-



THE VOLLEY TARGET

The great difficulty to overcome in teaching men to shoot accurately is their flinching at the moment of pulling the trigger. The recoil of the gun, if the latter is not held tightly against the shoulder, will cause a bruise, and with such a bruise one is almost sure to flinch. The necessity of careful instruction in position and aiming drills now becomes apparent.

The soldier who in his individual and skirmish firing makes an average with the rifle of seventy per cent., or with the carbine of sixty-seven per cent. of the possible score, qualifies as a sharpshooter, and is given a medal indicative of his excellence.

sists in firing, while moving at a walk, the trot and the gallop, at figures of men placed at distances of from five to twenty-five yards from the track. Quick-aimed fire with the arm straightened out is insisted upon.

As accuracy in pistol firing is greatly influenced by the behavior of the horse, it is necessary to give considerable time to his training. The important thing is to get the confidence of the horse; if this can be secured the remainder is easily accomplished, provided the rider has the qualities of a good horseman. Haste and excitement on the part of the rider put the horse in the same spirit, and a poor score is the result.



THE REVOLUTION BY FARM MACHINERY

HOW GROWING A BUSHEL OF WHEAT, WHICH ONCE REQUIRED THREE HOURS' HUMAN LABOR, NOW COSTS ONLY TEN MINUTES' LABOR—ALL THE INHABITANTS OF THE COUNTRY COULD NOT SHELL THE CORN CROP BY HAND IN 100 DAYS—SOCIAL CHANGES BROUGHT BY FARM MACHINERY—AN INVESTMENT OF 170,000,000 OF DOLLARS—WHAT THE WORLD-WIDE RESULT WILL BE

BY

W. B. THORNTON



hand, they would have cost nearly \$700,000,000 more than if they had all been planted and gathered by machinery. It has not only added so much to our wealth, but it has

FARM machinery may sometime do work for us that will be worth \$1,000,000,000 a year. Theoretically it is already saving us nearly three-fourths that sum; for as far back as 1899, if all the crops to which machinery is adapted could have been planted and gathered by

made us the foremost exporting nation, and it is changing the character of the farmer by freeing him from monotonous hand-toil. More than that, it is fast changing the immemorial conception of agriculture and the pastoral and idyllic associations that have gathered about it since the time of Abraham. Wealth, industry, commerce, the character of men and even their sentiment are all affected by it.

Yet so sudden have been these changes that we have yet hardly caught their meaning. The cradle-scythe is only a little more than a century old, and the cast-iron plow was first used even later than the cradle-scythe. In other words, a century ago agricultural machinery was almost as primitive as it was a thousand years ago. Now we have steam plows, combined harvesters and threshers and auto-mowers. They have come into use



HARVESTING WITH AMERICAN MACHINERY ON AN ESTATE IN HUNGARY

so recently that only a small part of the population have even seen them at work. Yet they are changing our life in all its wide reaches—from commerce to poetry.

All the great crops are now planted and all except cotton are gathered by machinery. Let us follow a crop throughout a season's work and see the changes that have come in its treatment.

The plowman no longer trudges slowly and wearily back and forth across his field. He rides a sulky plow with a spring seat. There are special plows for every need: turf

plows, stubble plows, subsoil plows, plows for heavy work, plows for light work, and gang plows turning three furrows at once. So simple are many of them that a boy may drive one. Plowing by steam is not commonly practised in the middle West, but out on the great wheat ranches of the Pacific Coast it is common. On the tule lands of California a sixty-horse-power traction engine drawing twenty-one feet of disk plows will break the ground to a depth of ten inches at the rate of forty-five to sixty acres a day. With mold-board plows designed especially



AN AMERICAN HARVESTER AT WORK ON RUSSIAN FIELDS



THE OLD WAY OF CUTTING AND BINDING GRAIN



Photographed by C. W. Mott

ONE OF THE NEW MACHINES WHICH DO THE WORK OF MANY MEN



A LONG LINE OF HARVESTERS

for this work, a strip twenty-eight feet wide can be broken. This means that a man and a pair of horses with a single mold-board plow would have to cross a field twenty-eight times to do the same work that the traction engine does by one trip of its plows. A farmer of the central West who uses a small traction engine and a gang of four fourteen-inch plows says that it costs him from fifty to sixty-two cents per acre to break his ground. He considers steam economical.

The plowing done, the manure-spreader replaces the hand-fork and its backache. While the farmer with a pair of horses drives back and forth across his fields, from the rear of his wagon the fertilizer is mechanically spread evenly over his land. Manure, commercial fertilizer, cornstalks, straw, lime, ashes, or litter from the barnyard, are spread with greater economy, because with greater evenness, than by hand, to say nothing of the saving of time and of toil.

The land made ready for the reception of the seed, machinery still does the work that muscle used to do. The sower goes forth to sow, but not as he once did, dropping his seed into the soil, trudging backward and forward from dawn till twilight. His grass or his grain is broadcasted or drilled in with mechanical evenness, and the machine automatically registers the acreage sown. In like manner his corn is drilled in, listed or planted in hills, his potatoes are planted, and even his cabbage, his cauliflower and his tobacco plants from the seed-beds are set out by machinery, and the work is done better than it could possibly be by hand—this, besides the saving of time and toil. Even in the vegetable garden, seeders for all kinds of seeds are now extensively used. The machines are pushed in front of the operator, and they automatically drop and cover the seeds at the desired distances and depths and at the same time mark off the next row.



WORK ON AN IOWA FARM

Promptly after the crop is planted come the weeds. They once meant the hoe, blistered hands, weary backs, and, in a wet season, a long and weary battle. Today the farmer has his choice from a great variety of cultivators, either guided by handles, the driver walking behind, or made with wheels and a seat, the driver riding in comfort. Thus corn and potatoes are ridged up and the ground is kept clean and in good condition. There are hand-cultivators worked on the same principle as the hand-seeders, and there is a great variety of hoes, rakes and plows for the cultivation of special crops, which have supplanted the old hand-tools on the great seed-farms and market gardens.

But it is when we come to the harvest that we find the greatest marvels in mechanical ingenuity. Every one is familiar with the mower, the tedder and the horse-rake to save the hay crop. To these have been added the hay gatherer and stacker drawn by horses

and a press operated by horse-power. harvest and to press a ton of hay by hand requires thirty-five and a half hours of labor; with modern machinery, eleven hours and thirty-four minutes. The greatest saving is in the cutting and the curing of the crop, which by hand require eleven hours and by machinery one hour and thirty-nine minutes.

But it is in the harvesting of the two great crops, wheat and corn, that the greatest advance in agricultural mechanics has been made. Drawn by horses, the self-binder cuts an eight-foot swath across the field of ripened wheat. But instead of leaving it strewn behind as the mower does the grass, it gathers it and automatically binds it in bundles. Or, if a header be preferred, the heads of the standing grain are taken off cleanly and poured in a steady stream through a chute into the wagon that is driven beside it. But even more than these—the most spectacular scene of agricultural progress is



HOW THEY USED TO GATHER A CROP OF ALFALFA

the combined harvester and thresher which is used on the great grain ranches in California. As far as the eye can reach stretches a sea of golden grain. It is a glorious sight, this immense plain of ripened wheat—the food of a nation awaiting the hand of the reaper. Where are the harvesters who shall garner a crop so large? Measured by the methods of small eastern farms, the problem of saving such a crop seems hardly less than the emptying of the Great Lakes with a dipper. But the

steam-harvester moves steadily forward into it. On one side the grain falls in a great swath. It melts away before the majestic advance of the machine. On the other side with the same regularity drop sacks of grain ready for the miller. The ranchman following with his team picks up a sack filled with threshed and winnowed wheat from the very spot where but five minutes before the wheat stalks stood in the sunshine. In the broad path between the standing grain and the line of brown sacks has passed one of the greatest triumphs of American machinery, the combined harvester and thresher.

This machine is at its best on level plains like those of the great central valley of California, but special side-hill machines for rolling country have been so far perfected that they can go wherever the gang-plow can go. Horse or mule power is used instead of steam for many of these, thirty-two and thirty-six animals being required. Such a machine, with a twenty-two-foot header, under favorable conditions can cut, thresh



A MODERN REAPER IN A TENNESSEE FIELD



PUTTING UP ALFALFA ON A RANCH IN KANSAS

Where one hundred tons a day are harvested by machinery

and sack forty acres of wheat in a day. It requires a crew of four men—a driver, a header-runner, a separator-tender and a sack-sewer. The cost of cutting and threshing is usually about \$1.25 per acre.

Last year there was in operation in the San Fernando Valley of California the largest combined harvester in the world. It consisted of a traction engine capable of haul-

ing seventy-five tons and which takes the place of sixty horses; a header or mowing machine which cuts a thirty-six-foot swath, and a complete threshing machine. The header and threshing machine are run by a separate thirty-horse-power engine getting its steam from the same boiler as the threshing engine. The drive wheels of this monster traction engine are eight feet in diameter,



HARVESTING IN INDIA



Photographed by J. A. Ward

A THRESHING CREW ON THEIR WAY FROM ONE FIELD TO ANOTHER

with tires forty-eight inches wide on which are ridges an inch and a half high. It can average three and a half miles an hour in good grain. The thresher has a capacity of 100 acres a day. Eight men are employed on the thresher. The grain is threshed clean and finally carried to a bin from which it is sacked. When twelve sacks have been filled they are allowed to slide off the cart to the ground. This huge machine will work equally well on level or hilly country, having sufficient power to take a twenty per cent. grade without difficulty. It is sixty-six feet long, half as wide, and weighs more than 100 tons. Oil is used as fuel. This harvester has been

successfully used for shelling peas and beans as well as grain. It is purely a Californian production.

The amount of human labor now required to produce a bushel of wheat from beginning to end is on an average only ten minutes and the cost of such labor is $3\frac{3}{4}$ cents. Yet when men now living were boys a bushel of wheat represented three hours and three minutes of labor at a cost of $17\frac{3}{4}$ cents. Just previous to the Civil War a bushel of corn represented more than four and one-half hours of human labor at a cost of $35\frac{3}{4}$ cents, while today forty-one minutes of labor produce the same amount for $10\frac{1}{2}$ cents. The potential



REAPING BY MODERN METHODS



THE AUTOMOBILE PLOW

Copyright, 1903, by Underwood & Underwood

The latest successful invention in agricultural machinery



THE HEAVY DISK HARROW IN USE IN SCOTLAND

Photographed by Charles Reid

saving in money, to say nothing of time and strength, thus becomes enormous.

In the great corn belt the corn-binder does what the mower does in the hay field. It cuts the corn, binds it in bundles, and deposits five of them in a spot as fast as a man can shock them up. A still further advance is a corn-shocker which cuts the standing corn, and, by a vertical rotary reel and a revolving table, forms a perfect shock, which, when

bound, is lifted by a crane and deposited where it is wanted. One man and a pair of horses can do the work of two or more field hands.

Husking and shredding, too, are now done by machinery. The corn in the stalk is fed into the husking machine from the wagon. By tapering rolls the ears are snapped from the stalks and then husked. The stalks are shredded and with the husks dropped on an



INDIANS HARVESTING ON A MINNESOTA RESERVATION



THE MODERN WAY OF PLANTING A CORN FIELD

Photographed by Charles Reid

inclined sieve which takes out such of the corn as may have been shelled. The fodder passes on to a fan and is blown through a tube up into the mow. The machine does this work at the rate of thirty bushels of husked corn an hour. Not only is there a saving in time and labor by using this machine, but there is also the addition of a new food-value to the product. This we owe to the shredder. The once nearly useless stalks are made available as a fodder relished by the cattle. Thus the husking-bee with its merrymaking is doomed. And in the last step before the corn reaches the miller behold again the use of a machine. The steam sheller will shell a bushel of corn a minute, while in the old way the labor of one man was required for one hundred times as long. It has been estimated that it would require the entire population of the United States for 100 days to shell by the old hand method the annual

corn crop of this country. Almost equal progress has been made in clover-hullers, bean-separators, etc.

So much for the planting and the gathering of the great crops—wheat and corn—and for the preparation of the land for all others. The one great task that has defied the application of machinery is the gathering of the cotton crop, and recent developments indicate an early triumph in this field.

But machinery plays hardly a smaller part in the lesser industries of the farm. The hen has seen herself outdone by the incubator. The cream separator has replaced the skimming-pans of the dairy; the wind-mill pumps running water for the cows. Instead of the whisk-broom and pail of solution, spraying machines drawn by horses take care of the potato bugs. A shearing machine has been used with success on the big western sheep ranches. Even the cow



THE OLD WAY OF PLANTING A FIELD

Photographed by Charles Reid



HAYING ON A WESTERN RANCH

may not escape, for milking machinery seems likely to be invented.

In the minor and incidental work of the farm, machinery is proving an important factor. The gasoline engine furnishes power in a most available form. It is rapidly supplanting hand labor in many ways. It grinds bone for the poultry and feed for stock. It saws the year's supply of wood. It runs the lathe in the farm workshop, thus adding largely to its efficiency. In many other ways it lightens farm work and eliminates much of the drudgery. Lately the gasoline motor has been successfully used to drive

mowing machines. By a small steering wheel in front, the machine is made to run just outside the standing grass, and its work is most effective. Auto-mowers are now used in many large city parks. The soft earth of the farm has thus far prevented the extensive use of automobile machinery in the fields, owing to its weight, but in districts where good roads prevail it is already a factor in the marketing of crops, notably in certain fruit sections.

Last summer five of the largest agricultural implement manufacturers in the United States, following the fashion of the time,



USING A MACHINE ON A STEEP GRADE

pooled their interests and organized the International Harvester Company with a capital of \$120,000,000. No stock was offered to the public, the cash required being provided by the stockholders. Nearly \$50,000,000 more invested in smaller concerns not swallowed up in the merger brings the total investment in the making of agricultural machinery very close to the tremendous sum of \$170,000,000. Yet at the outbreak of the Civil War this industry required but little more than \$3,500,000. The cost of material yearly consumed in the manufacture of farming implements is more than \$40,000,000. The value of the annual products is considerably more than \$100,000,000. It is worthy of note that the agricultural work of the United States is performed entirely with tools and machines of American manufacture.

Illinois leads all the States in the manufacture of farming implements, harvesting machinery especially. In Chicago alone is invested more than twenty per cent. of the total capital in this industry for the United States. Chicago builds more of the costly and complicated machines, such as the combined harvesters, binders and mowers, than all the rest of the country. The great crop-producing States are in many cases among the smallest producers of the tools which have given them their preëminence.

Machinery has changed western agriculture in one way and eastern agriculture in another way. The northeastern States have developed intensive farming; the prairie States and the Pacific States extensive farming. New Jersey and Connecticut, for examples, have more farms than they had a decade ago, but less acreage. Although the farms are smaller than they were, the value of their farm products is half as much again. These farmers stopped growing the great crops when machinery was applied to the prairies, and took to growing crops of truck, making a far greater profit on less land. On the other hand, in the West during the same decade both the number of farms and the acreage increased. Machinery has thus brought a different result and to each a greater profit. The eastern farmer is relieved of using too much land, the western farmer is enabled to use more; and each has profited by the change.

Only a generation or two ago the prairie schooner went its slow way over the plains.

The next familiar scene in the story was the weary breaking of the virgin soil with slow plows drawn by oxen. Next came—in the wonderful panorama of prairie development—the smoke and whiz of the transcontinental railroad. Now the steam-plow and the great harvester and binder complete the succession of typical scenes. In the eastern States the isolation of farm life is past. The farmer's wife has been freed by machinery from most of the old-time drudgery. No more wholesome change has come in our practical world, either east or west; for agriculture has been moved further forward among the great industries in the lifetime of men now living than it was before moved since man's earliest pastoral days. The revolution has come so fast that it has not even displaced labor; for farm laborers are less abundant than they were in the old days. The emancipation of the farmer has come without bringing hardship to any class.

American agriculture gratefully acknowledges its debt to American inventive ingenuity and enterprise. It has solved the problem of successful competition with those countries where labor is cheap. The European, the Canadian, the South American and the Australian farmers acknowledge the facts and are hastening to meet the American farmer with his own methods and with his own machines. France and Germany are the largest foreign buyers of American agricultural implements and machinery, each having taken nearly \$3,000,000 worth during the last census year. Canada and Argentina come next with close to \$2,000,000 each, Russia, the United Kingdom and British Australasia following. The total exports of this kind in 1900 reached the great sum of \$16,099,149, a splendid tribute to the superior efficiency of American farming tools and machinery.

This rapidly growing export trade may easily mean more than appears on the surface. We know what improved machinery has done for the American farmer within the span of a man's lifetime. What will be the effect of its widespread adoption by his competitors for the world's markets? How will it affect the production and prices of the great staple crops? It is not going too far to say that an economic force has been set in motion the result of which cannot be wholly foreseen.

THE YEAR'S EDUCATIONAL PROGRESS

IMPROVING SOUTHERN SCHOOLS—THE GROWTH OF THE KINDERGARTEN—VACATION SCHOOLS, AND SOCIAL ACTIVITIES IN PUBLIC SCHOOL BUILDINGS—THE ELECTIVE SYSTEM RECEIVING A BACKBONE—WHAT AMERICAN EDUCATION WOULD BE IF ALL INSTITUTIONS WERE UP TO THE AMERICAN STANDARD

BY

WILLIAM DE WITT HYDE

PRESIDENT OF BOWDOIN COLLEGE

THROUGHOUT the South, under the wise guidance of the Southern Education Board, with the judicious aid of the General Education Board, and mainly through the heroic efforts of the Southern men and women themselves, a movement is going on which has all the enthusiasm, the diversified agencies, the massing of forces, the raising and expenditure of money, the distribution of literature, the organization of conferences, the utilization of the press, which mark a great political campaign. Out of this united effort are coming increased appropriations by the States, a great extension of local taxation, improved school-houses, consolidated schools, great free summer schools for teachers, improved courses, lengthened terms, higher salaries, better teaching, expert supervision. This is the most hopeful feature of the educational progress of the year.

The kindergarten has had a steady growth, both in the increase in its own numbers and in its influence on the general practice of elementary education, by uniting the home and the school in mutual helpfulness, and making self-activity the basis of all education. The two-session kindergarten, where the same teachers meet the same children twice a day, has proved an excessive drain on the nerves of both teachers and children; and its continuance anywhere is an educational blunder amounting almost to a crime. The best compromise yet devised is that in practice in New York, where two sets of children are taught daily in the same room, the morning kindergartner assisting for an hour in the afternoon kindergarten, and the afternoon kindergartner assisting for an hour in the morning kindergarten.

The kindergartners, like all active bodies, are dividing into two camps. One camp would make of it a self-sufficient cult, regardless of its connection with the school system as a whole, and cling so closely to the letter of Froebel that they are in danger of missing his spirit altogether. The others are ready and eager to make the transition to the primary grades easy and natural, and have enough of the master's spirit to discard on occasion, and with more advanced children, pretty much all the letter of his law.

Manual training is gaining steadily in public estimation, thanks in part to the phenomenal success of industrial education at Hampton and Tuskegee. The new manual training building of the Brookline, Massachusetts, High School, the new Technical Institute given to Indianapolis, the new science building for practical scientific work at Colorado College, the new foundry at the Worcester Polytechnic Institute, the new research course in engineering at the Massachusetts Institute of Technology, the new departure at the Sheffield Scientific School, by which a part of the work for the degree of mining engineer is done in the field rather than at the university, are all illustrations of the great wealth that is being expended, and the progressive spirit that animates all grades of manual and technical education. The new Simmons College of Boston is an attempt to complete the courses in sewing, cookery and stenography offered in the schools by what shall be an institute of technology for highly educated women.

School architecture is receiving more liberal and intelligent consideration than ever; yet the distinctive progress of the year has been in the provision of adequate playgrounds,

with their increased use in vacations, either in connection with vacation schools or independently. Joliet, Illinois, takes the lead in this movement, with its eighty acres in school-yards, one of twenty acres, one of seventeen acres, and several of five acres each. The model school to be established in Knox County, Tennessee, is to have its six-room building surrounded by twelve acres of land.

School gardens, by bringing a bit of the country into the heart of the city, afford an admirable and inexpensive form of manual training, provide botanical material, foster a respect for weaker forms of life, and develop perseverance, fidelity, obedience to natural law, mutual helpfulness, and an appreciation of property rights in natural products.

Vacation schools utilize the school plant during the summer, take the children off the street, and give them valuable social experience, as well as manual and physical training. Last summer in New York there were 56,000 children in school playgrounds and 12,500 children in vacation schools, at a cost per capita for the entire season of 97 cents for playgrounds and \$3.44 for vacation schools. The total cost of these and kindred extensions of the use of school property was \$130,000, and this sum made of real value for some 400 hours nearly \$35,000,000 of municipal property which otherwise would have been unused. This summer the Board will operate fifty-three vacation schools, sixty-six playgrounds, seven pier kindergartens, twelve open-air playgrounds, thirteen roof playgrounds and kindergartens, fourteen swimming-schools and eleven roof concerts.

The use of the school building for evening schools, for free public lectures, for choral clubs and Shakspeare clubs is an indication of a widening of the scope of our idea of education to include the intellectual and social elevation of the whole life of the community. The Speyer School, in New York, in connection with Teachers' College, is the first attempt to combine the work of an ordinary school with that of a social settlement. This school occupies two floors of a five-story building, the other floors being given to libraries, gymnasium, clubs, lectures, and living rooms for the principal's family and seven residents, who will devote themselves to this school-extension work.

Increasing attention is being given to the

health of school children through enlargement of the work of the school physician, the employment of district nurses in crowded sections, better teaching of hygiene in the schools, and better hygienic and sanitary conditions in school buildings. Some schools, like the Horace Mann School in New York and the High School in Amesbury, Massachusetts, issue a blank to be filled out by parents, covering such points as weaknesses or tendencies to ill-health, average number of hours of sleep, appetite, number of hours out of doors, average time devoted to school work at home, time spent in other work at home, number of evenings spent in recreation away from home, opportunity for outside help in school work, fondness for reading, class of books read, time devoted to music, and the like. In these and other ways there is evidence of a growing recognition that home and the school are parts of a single life; that the school is made for the health, happiness and usefulness of the children; and that the breakdown in health of a schoolboy or schoolgirl from preventable causes is murder in the first degree, for which high averages cannot atone.

IMPROVEMENTS IN ORGANIZATION

The greatest advances of the year in school work are in improved organization. The tendency is toward small centralized boards, elected on a general ticket or appointed by the Mayor, with legislative work only, so that the best men can afford to serve for long periods. The Board of nine in Baltimore, appointed by the Mayor under the new charter which became effective in 1900, besides lifting the schools out of scandalous conditions of favoritism and inefficiency, at the end of its first year returned to the city's sinking fund \$40,000 of the sum that had been appropriated for its use, and in the second year estimated its requirements as \$71,000 less than the previous year's appropriation.

New York City, however, shows the most marked and rapid gain. Since February 1, 1902, its schools have been under a new system. The four borough school boards, with their local jealousies and political constitution, and the rule that inhibited by law the city superintendent from "interference with the actual conduct of any school," have been superseded by one board of education

and one board of superintendents, of whom the city superintendent is chairman, and both *de jure* and *de facto* professional head of the city schools. The civil service system has been applied to all teachers, those of the evening schools, the summer schools and the playgrounds included. Promotion to higher salaried grade positions is on the same basis. This, together with the yearly increase of salary between fixed limits for meritorious teachers, has completely divorced the teacher's position from politics.

With this improvement has come an increased pride in the public schools, shown by the appropriation for 1903 of \$20,000,000 for the support of the schools, of which more than \$15,000,000 is for salaries of teachers. Adding liberal appropriations for new schoolhouses, the city has given \$50,000,000 for schools since February, 1902. High schools have been introduced, the elementary schools have been reorganized on an eight-year plan; and promotion and graduation from the grammar schools have been made to depend not on pages studied or examinations passed, but on the ability of the pupil to do things which a grammar school graduate ought to do: write a letter or composition, use a dictionary, figure accurately, and have a sufficient knowledge of history and geography. The endless grind at arithmetic gives place in the seventh year to algebra and geometry; United States history is supplemented by English history; and in the eighth year, either German, French, Latin or phonography may be taken as an elective. The high schools offer a wide range of subjects from which to select the requisite number of counts; also a two-year technical course for girls. There are special schools for abnormal children; rigid medical inspection; and the service of nurses when required.

Departmental teaching in the higher grammar grades, increasing demand for college graduates in all grades of the public schools, and the recognition that it is ruinous to appoint all or nearly all the teachers of the primary and grammar schools of a great city from the graduates of a single local institution, and that these positions must be open to the best teachers from every section and from every source, are other principles of administration which have gained ground.

Consolidation is the distinctive step of

progress in the rural schools. It is authorized in twenty States; is in operation in twenty-eight counties in Iowa and forty-eight counties in Indiana. In Ohio twenty-three townships have all their schools centralized, and a hundred or more have partial centralization. Duval County, Florida, reports a net saving of \$237 per month from the partial consolidation of its forty-five schools. As a rule, it reduces expense, wagons and wagoners being cheaper than schoolhouses and teachers. It gives better teachers, better classification of pupils, easier supervision, larger enrolment, more regular and punctual attendance, more competition and stimulus, improved buildings, ventilation and equipment, affords better protection to children on lonely roads, furnishes a centre for the social and intellectual life of a widened neighborhood; and in general, by enriching rural life, keeps the well-to-do farmer on the farm, instead of driving him to the city to educate his children.

COLLEGE ENTRANCE REQUIREMENTS

The relations between colleges and preparatory schools are becoming closer. The requirements for admission are becoming more varied, music being the latest addition to the list at Harvard. These requirements are being organized on the system of points; one point usually representing five recitations a week for one year. It is at length possible for the small high school to fit for college without maintaining at disproportionate expense a separate preparatory course. The University of California has strengthened its system of accrediting schools by the addition of an officer who is to give his entire time to this work for a half-year. College Entrance Certificate Boards in New England, and in connection with the North Central Association of Colleges and Preparatory Schools, have been organized to rescue the certificate system in these sections from the looseness into which it had fallen. The New England plan does not contemplate actual inspection of schools; but does provide for careful inquiry into methods, subjects and equipment in the schools, and a record of the early college work of all certificated students.

There is a dawning consciousness, perhaps more clear at the University of Mississippi than elsewhere, but worthy of cultivation in

other sections, that the first duty of a college or a university is to support by high standards of admission faithfully enforced, thorough work for the full course in the schools immediately below. A university or a college which by low standards of admission or cheap courses entices young men and women to leave the secondary schools before their work there has been thoroughly and completely done is guilty of the folly of killing the goose that lays the golden egg; the crime of taking the money of such students under false pretenses; the parasitic vice of sucking the life-blood out of the educational system of which it professes to be the crowning ornament.

Yale and Dartmouth within the year have added their influence to the movement to make the degree of A. B. stand for a liberal education, regardless of whether or not it has included a course or two in a particular ancient language. The action of Williams in making the last three years elective, and of Yale in introducing electives into the freshman year, marks the beginning of the end of that long struggle for the elective system in American colleges which President Eliot has so magnificently led.

THE SECOND STAGE OF THE ELECTIVE SYSTEM

Yet liberty, though the first word in all reforms, never is the last. Already the elective principle is passing into its second stage. The group system—not the old rigid group system imposed by authority from above, but a group system in which each student shall choose a major study, and perhaps one or two minors for himself, so as to insure consecutive, cumulative study of one subject leading to an advanced course in the last year—previously established in Yale University, Leland Stanford, Jr., University and the University of California, has been adopted this year by two New England colleges, Dartmouth and Williams. This is the logical development of the elective principle, and aims to combine freedom of choice with the requirement that something solid, consecutive and valuable shall be chosen. It puts into the elective system the backbone which was the strength of the old requirement of Latin, Greek and mathematics. But it leaves the individual free to determine what the backbone of his own course shall be. For a college to do this requires a pretty

large staff. It is, however, the most positive step forward taken within the year in college education; and we may expect to see colleges making haste to adopt it as fast as their resources will permit.

If to this requirement of a major we could add a suggestion made by President Wilson, of Princeton, that examination, in the major subject at least, should be, not on particular courses, but on the subject as a whole, we might to that degree avoid some of the evils growing out of large courses, wholesale methods of instruction, and so-called "seminar" devices for passing examinations.

SHORTENING THE COLLEGE COURSE

No educational proposition ever received such sweeping and emphatic condemnation from school and college, press and platform, private conference and public assembly, as the proposition to grant the degree of A. B. at the end of two years of college work. It is a project to vivisect our most distinctive educational institution; to halve the college course, and throw the better half away.

Still the time must be saved somewhere. Providence, Rhode Island, has reduced the grades in its public schools from nine to eight; the superintendent of the Boston schools recommends the same change; and in the West they have in some cases reduced the grades to seven, and even propose to reduce to six, transferring the two upper years to the high school, making that a six-year course. Semi-annual promotion with frequent irregular promotion for bright and healthy pupils will save for them another year. Admission by points enables a bright and vigorous pupil to offer more points than are required and thus anticipate some portion of the college work required for the degree. The Boston Latin School proposes to prepare its students for three years of college residence. The statement of college requirements for graduation in units of work rather than lapses of time gives another opportunity to gain time by extra work. Many universities count the same work for both the last year in college and the first year in the professional school. Western Reserve University and the Case School of Applied Science give both the literary and the scientific degrees for three years in the University and two in the Case School. The new college in connection with Clark University opens with a three-

year course. In these various ways we are working out a plan by which one who goes through all the stages from the kindergarten to the professional school may shorten the period by from one to three years.

THE EDUCATION OF WOMEN

In the education of women there is a revival of the Old Country seminaries like Wheaton and Bradford. Chicago University, in the face of bitter local prejudice, and in defiance of the whole tradition of the West, has had the courage to ask such questions as these: "Is the intellectual stimulus which the women receive through coeducation wholly of a salutary sort?" "Are there not too many cases of young women who have lost some of the fine attractiveness which closer reserve would have attained?" "Is it not a pedagogic and social mistake to assume that men and women should be trained as nearly alike as possible?" "Is there not a serious loss to both men and women if the university places too much emphasis upon what they have in common, and gives too little weight to the fact that in many respects these essential common interests may be best promoted separately?"

Now, if it is brave to ask these questions, it is braver still to answer them as Chicago University has done, in a way that on the face of it is partial, prudential, tentative, illogical and inconsistent. "Consistency," as Emerson tells us, "is the hobgoblin of little minds." This action of Chicago University is a declaration that coeducation is not a matter of merely administrative detail, but involves the profoundest sociological and social considerations; that it is not, to use General Hancock's remark about the tariff, "a local issue," which can be answered permanently in one way by the East and in another way by the West; that in every section of the country there will always be those who from circumstances or conviction will prefer coeducation, and others who from social or pedagogic considerations will prefer more or less segregation; and that the determination of the policy of each institution should be based on an inductive study of its own specific situation and resources and the preferences of its constituency.

OTHER FEATURES OF PROGRESS

Other important steps of progress must

be passed over with a mere reference; the organization of the Religious Education Association, which promises to prosecute this important department of educational work with candor, vigor and progressiveness; the tendency to divide professional schools into two groups—those which do and those which do not require the bachelor's degree for admission; the splendid gifts of Mr. Rockefeller, Mr. Morgan and others, to establish the Institute for the Study of Pathology, and place the Harvard Medical School on a basis of permanent efficiency; the raising of the money for the Emerson Hall at Harvard, where in a building named for our greatest seer and devoted to philosophy Professors Palmer, James, Royce, Munsterberg, Peabody and Santayana will have the best provision for the study of philosophy since the Athenian Lyceum and Academy.

The wise policy of the Carnegie Institution deserves especial commendation. By its refusal to compete with other agencies; by its impartial constitution of advisory committees; by its encouragement to research; by its utilization of the immense historical and scientific resources accumulated at Washington, the Carnegie Institution has already won the gratitude of the scholars of the country. Incidentally it has effectually side-tracked the sentimental agitation for a Washington Memorial University. What might have proved a rival to other institutions has become a stimulus and ally to all. It was a fortunate thing that this munificent gift of our great and generous captain of industry, Andrew Carnegie, came under the administration of that prince of scholars and past master of educational organization, Dr. Daniel Coit Gilman.

We may in conclusion draw a picture of what our educational system would be if it were everywhere as good as the best that anywhere has been attained.

We should have small boards of education composed of the best citizens, devoted exclusively to legislation, employing trained experts to carry out their measures. We should have trained teachers whose attainments are years in advance of the stage at which they are teaching, granted, after careful selection and adequate probation, permanent tenure at salaries proportioned to their efficiency and length of service.

We should have in the elementary schools

kindergarten ideas, manual training, literature and nature-study; yet all in due subordination to the old-fashioned idea that the individual must master with the greatest economy of time the symbols of human knowledge and human intercourse.

We should have attractive buildings, situated in spacious and beautiful grounds, used both summer and winter, day time and evening, by both children and adults, in the service whenever needed of social as well as of intellectual ends.

We should have the length of each stage of education determined in part by individual performance, instead of by a rigid time-table imposed on all alike; so that, without lowering the standard of any single stage, a bright

scholar might pass through them all in a substantially shorter time.

We should teach women as expensively and thoroughly as men; yet not necessarily the same subjects at the same time and place. The degree of A. B. would stand for the knowledge of several important subjects, and the thorough knowledge of at least one.

We should give the exceptional man of proved ability such aid as he requires to make his largest contribution to science and human welfare.

The elements of such an educational system are all present at isolated points. It is for us to return to our homes and cultivate our own garden plots up to the standard of the best that has been anywhere attained.

A SUCCESSFUL REVOLUTION IN GRADING PUPILS

HOW THEY HAVE ADVANCED IN INTELLECTUAL LOCKSTEP—
THE NEW SYSTEM OF KEEPING CHILDREN OF EQUAL ABILITY
TOGETHER—SLOWER CHILDREN REMAINING LONGER AT
SCHOOL AND BRIGHT CHILDREN SHORTENING THEIR COURSE

BY

WILLIAM J. SHEARER

SUPERINTENDENT OF SCHOOLS OF ELIZABETH, NEW JERSEY

THE most careful students of education agree that the proper grading of schools is by far the most important problem of school organization. The lock-step has been abandoned in army and prison. Why not in schools? It is no easier and more senseless to make fifty children walk in intellectual lockstep than to keep fifty clocks ticking together. Yet the decree of the demon of uniformity seems to have been "In together, on together, out together," if there are any left to finish.

Most schools profess to grade the work for the slower pupils—an outrage on the large majority who could go forward more rapidly. Thus the brighter children are drilled in habits of inattention and idleness. This criticism which applies to the public schools applies with even greater force to private schools.

Many schools claim to grade for the brighter ones. Regardless of thoroughness, all the others are hurried over the work. They fall behind, stumble for a time at the foot of the class, and then, misunderstood, unappreciated and discouraged, drop out of school, or are quickly obliged to leave lest "they bring down the examination average." Yet teachers know that most of the dropped pupils could have been saved if only they could have been permitted to go at the pace that the Almighty intended they should, instead of at an arbitrary rate fixed by some Board of Education.

To an inquiry made some time ago by Dr. William T. Harris, United States Commissioner of Education, five hundred and sixty-five superintendents made reply. Less than fourteen per cent. thought the bright pupils were not held back and greatly injured.

Less than nine per cent. denied that, under the usual plan, "The progress of the whole school is kept down to the pace of the slowest and weakest pupils." Only nine per cent. were willing to assert that the usual plan did not "discourage the less mature and waste the opportunities of the bright minds."

Surrounded by limiting conditions, is it possible to have a more pliant plan of grading which will combine the advantages of the individual and class systems of instruction? Can the work be suited to the pupils so that all may go just about as fast as is best? Too many have been ready to accept as final, negative answers to these questions. But it *is* possible to have a satisfactory plan, unless the writer has failed to learn the lesson taught by fifteen years' experience in putting such a plan into effect.

Any proper plan must comply with all of three important requisites.

1. Pupils of about equal advancement must be placed together.
2. Proper provision must be made for reclassification, that they may be kept with their equals.
3. They should be taken over the course only as fast as they can do the work well.

In too many cases the pupils are not accurately classified the first of the year. No teacher should be sent any pupils unable to take up the work expected to be done. The more nearly the pupils of a class are of equal ability, the better can the instruction be suited to their needs, the greater is the power of emulation, the larger the number that can successfully be taught together, the better the training given. No matter how close the grading, there will always be sufficient differences to give that quickening influence.

After the first accurate classification, a hundred different determining factors influence the progress of individual pupils. Hence all classification should be only temporary. In the past the machinery of the graded school has been started and then left to run itself, though it really needs constant adjustment. Such a system seems built upon the supposition that pupils will go together month after month and year after year without diverging in attainments or in ability, though that they cannot do so all intelligent observers admit. Experience in our own city proves that five per cent. of the pupils need reclassification every month.

Lastly, no fixed amount of work should be demanded of any class within a given time. With but few if any exceptions, all graded schools have the work so apportioned that a fixed amount of work must be finished by the end of the term or year. Without uniformity of conditions, such a system demands uniformity of results, and makes the time limit the same for all, no matter how widely the pupils, classes or teachers differ. Does such a system show the commonest kind of common sense?

On every side earnest educators, realizing the injurious effects of the usual plan of grading, have been striving to work out a more rational plan. But all of the following mentioned plans for making the schools less ironclad have failed, in whole or in part, because they meet none of the primary requisites already mentioned.

Many are trying various plans while still retaining final tests to determine promotion. Under such plans not more than one of the requisites can be reached. The pupils may be fairly well graded at the start; but there can be no real reclassification until examination time, and there can be no change in the amount of work required in a given period. Moreover, instead of basing the promotion in whole or in part on a promotion examination, it should be determined by the teacher's careful estimate of the pupil's ability to do advanced work. A premium should be put upon the character of the work done day by day—rather than upon the amount of "cramming" which can be done—giving the pupils a moderate and continuous stimulus, instead of an excessive and spasmodic one. The promotion examination prevents broad and progressive teaching, makes out of the teacher "a grind," and turns out machine pupils. It is not a test of the ability either of pupils or of teachers. It is a great temptation to deceit and causes many mental wrecks. It causes the loss of more than one-third the time in school. It is the cause of the uniformity in school work. It shortens the school life of the majority and menaces the intellectual life of every boy and girl in the graded schools.

Many tried to secure flexibility by having two or three "finals." This is just as sensible as cutting an inch at a time off the dog's tail that it might not hurt the dog so much as cutting it off at once.

Others abandoned the promotion test entirely. While a step in the right direction, yet such a plan does not necessarily meet any of the primary requisites. Some tried an ungraded room in each building and found that this helped but a few of those who needed help, and caused considerable extra expense. A few others had two teachers to each room. Few places could afford to do this, and the results obtained do not justify its trial.

Finding it absolutely necessary to do something for those falling behind, a few tried the experiment of having an ungraded room in each school where it was possible. The fact that this method gives relief to but few of the many needing help, the lack of additional class-rooms, and the considerable extra expense, prevented its general adoption, even in the cities where it was most strongly favored. Some were desirous of trying the plan mentioned above and were unable to find vacant class-rooms. Some appointed additional teachers to assist the laggards. This was beneficial to but a very limited number of pupils; for every teacher of experience knows that such plans cannot help one-twentieth of those who need assistance.

A few have permitted the brighter pupils to take up additional subjects whenever their attainments and capacities were such that they were likely to be injured by being held down to the pace of the slowest. The greatest objection to this method is that it brings to the overworked teacher a great deal of extra work, worry and planning.

Two or three cities are trying a plan quite different from any yet mentioned. The course of study for the grammar grades is "double-tracked"—divided in such a way that it may be completed in from four to six years. It is flexible only at the one point and time, and makes no provision for reclassification in the primary grades where frequent readjustment is most needed. A visit to a school where this plan has been in operation for years showed that, in spite of the additional expense, only fifty-one out of eighteen hundred children were being benefited by the plan. A return to the system of ungraded schools was also a failure.

In many cases schools have abandoned class recitations and returned to individual instruction, believing it to be the best for the

pupils. This certainly implies a false idea of education to develop children for proper living in society. The class is the best place for pupils to learn to correct wrong ideas by seeing things through the eyes of the other members of the class, for children learn more from others than they do from their teachers or from their books.

Many tried making the class interval one-half year or less. Statistics prove that this is of little use in itself. The injury is the result of the fixedness, not of the length, of the intervals. In certain cities which have the shortest class interval the records of reclassifications prove that the plan is but little if any more elastic than the usual plan.

In the earnest hope of helping those who are striving for some more satisfactory plan, a number of suggestions, drawn from years of experience in providing an elastic system of grading in the public school of Elizabeth, New Jersey, are given. This plan meets all the primary requirements of flexibility, and can easily be adopted in any graded school of the country. Unlike others, it has been well tried, not only in one show school for a short time, but for years in every class of every school in several cities. It requires the expenditure of no extra money for additional teachers or for patent machinery. And it is so simple that it may be started in any school, and once started it will perpetuate itself, as teachers, pupils and parents would never voluntarily nor willingly return to the antediluvian methods.

It is first necessary to decide which plan can be used to best advantage in the schools under you. Then see clearly the serious defects of the usual method and plan to remedy them, taking great care not to go to the opposite extreme. Give special consideration to the various local conditions.

Have good reasons for every change suggested. You should not advocate any change unless you have strong arguments in favor of such changes. You have no right to expect others to accept your conclusions unless you have the best of reasons for your convictions.

"Make haste slowly." It is better to bear with the old plan a little longer than to put in jeopardy the success of the effort to improve upon it. After having been in the rut for many years, it is unreasonable to expect principals and teachers to get out

of their accustomed grooves suddenly. It is well to take one step at a time, give good reasons, and wait for more intelligent and thoughtful teachers to discover the benefits of the change. Plan for a gradual evolution rather than for a sudden revolution. It will be found that a large majority of the principals and teachers are deeply interested in doing what is for the best, and when shown clearly what steps should be taken to this end they are very quick to respond to them.

Consider well the attempts which others have made to remedy the defective grading, and learn from their failures and successes. Principals and teachers who do not learn from the failures of others will have much to learn from their own failures. It is a wise teacher who learns from the mistakes of others; and a very foolish one who insists upon learning nothing save at the dear school which experience keeps.

Plan carefully for the accurate classification of pupils, so that those who can do the same work may be placed together. Grade as accurately as possible, for the weakness of the graded school is not in its being graded, but in its not being sufficiently well graded. A basic condition of any proper method of grading is accurate classification. Then divide the pupils under each teacher into two, or three, divisions, and then, at the time for moving pupils from one teacher to the next, have the teachers recommend each pupil in accordance with his advancement, for the first, second, or third divisions of the next year's work. The superintendent or principal should see that this is done with great care. Pupils not properly recommended should be returned to the room whence they came and care taken that the teacher does not repeat her mistake.

The next step is to provide a plan which will make possible reclassification whenever necessary. The class interval must necessarily be quite short, as even with a half-year interval the records prove that the reclassifications are very few. Not many pupils can skip the work of even one month. Still fewer can omit the work of half a year. In large schools it is much easier to secure a short class interval than in schools having fewer pupils. The plan of grading which does not make it possible is weak at the most important point.

When pupils go to a new teacher they should be classified according to advancement, not in all subjects, but in those few essential subjects upon which promotion usually depends, into two or more divisions. Allow each division to go forward only as fast as the pupils can do the work thoroughly. In a short time the divisions will be found some distance apart. As pupils are divided only in essential subjects there are no more recitations than when there are two grades to each room. All teachers who have worked under this plan say they would never willingly return to the old way. When there are two or more classes of any grade, send to each room those who are of about equal advancement. Then, by dividing each class into two or three divisions, it will be easy to have from five to ten divisions in each year's work, at as many different places in the course of study. Thus the pupils in the school, instead of being at one of eight points, a year apart, will be at one of from twenty to forty points, but a few weeks apart.

At any time that a pupil falls so much behind that he cannot receive benefit from the instruction, place him in the next lower division. When any pupil has not sufficient work to keep him busy, place him in the next higher division. Have reviews of the essential work at the beginning of each month. This will provide for those pupils who could not advance satisfactorily because of having skipped even a small portion of the essential work.

While provision should be made to reclassify pupils under each teacher at any time, it will be found most convenient to have the majority of changes from teacher to teacher at the beginning or end of the month. Those having charge of the records will appreciate this fact. Reclassification in each class may be largely determined by the teacher. Those changes affecting more than one teacher should be directed by the principal or superintendent.

Make additional divisions in the essential subjects, if such seem necessary to meet the requirements of any class. Continue divisions only so long as they are needed. A few may fall behind, and there may be no place for them in the next lower room. If such are placed together for a short time they can generally be brought up to the next division and then allowed to go on with the pupils of that class.

Have one division recite while others are

studying. Thus almost all the study can be done in school under the direction of the teacher. It seems advisable, also, to provide a time in each session for attention to those who need individual help. In this way the mind of the teacher will come into close contact with the mind of the pupil.

Have short recitations with small classes, rather than long recitations with large ones. It takes no longer to hear forty children read in three divisions than to hear the same number in one division. And when any division is reciting it will often be found advantageous to have the next lower division listen or follow the work. It is astonishing how much pupils will thus learn from the instruction given to others.

While this plan is not offered as the only one, years of experience have proved it the most satisfactory. If pupils fall behind their class they drop into a class but a short distance behind the one left. As promotion may come at any time, this lost ground is easily recovered. The records in Elizabeth show that, except for absence, very few lose any time. As schools are generally managed, if any but the brightest fall but a short distance behind the class they lose a year when, actually, but a month or two behind. Statistics gathered in different cities show that eighty per cent. of the pupils lose from one to four years; and for every one hundred pupils in the schools examined there have been from one hundred to three hundred years lost.

With this plan, the pupils have more than one-half of their time in school to prepare their lessons. Thus they may be prepared under the direction of the teacher, who is best qualified, both by knowledge and by experience, to give the pupils the assistance they should have, and whose duty it is to relieve the parents of this task. Time is provided both morning and afternoon for individual help. In most schools of the country, on the other hand, pupils recite nearly all the time, and there is but little time left for the preparation of lessons in school, where most of the lessons should be prepared.

Statistics show that in places where this system of grading is in vogue a much larger proportion of the pupils remain in school until the higher grades are reached than under the ordinary system. In every grammar school in Elizabeth there has been a large increase in the proportion of pupils in the higher grades.

The attendance in the high school has increased four hundred per cent. in four years, whereas, in some cities, ninety per cent. of the pupils do not reach the higher grammar grades, and the reports show that eighty-one per cent. of all the pupils in the graded schools of this country are in the four lower years of a twelve years' course, while not more than four per cent. reach the high school.

Under this plan from five to eight per cent. are reclassified each month. With the usual plan not one per cent. are reclassified during the year. This shows not only the need but also the feasibility of reclassification. The best claimed for any other flexible plan is that, in one building, four per cent. were reclassified during the year. Ten times as many should have been classified.

With this plan no teacher has, in any class, a pupil who should not be there. Under the usual plan few if any teachers are so fortunate. The instruction is accurately suited to the needs of the pupils of each division, for pupils of nearly equal advancement are always together. Children love to do what requires a reasonable amount of effort. In idleness only is there misery for pupils and teachers. When the pupils were so closely graded that work suitable to all could be assigned, the tendency to idleness almost vanished, and the need of punishment was greatly diminished in all classes and entirely disappeared from many. Under the usual plan, the brighter children are not kept busy, and therefore they get into mischief.

The records of thousands of pupils prove that, under this plan, pupils will average a gain of at least two years. An examination of the condition existing in many systems, using the usual plan, shows there is an average loss of not less than two years. Therefore, if pupils receive the same amount of education they otherwise would there would be saved to the district on each pupil what it costs to school a pupil four years. When this is multiplied by the number of pupils in the schools, the saving is seen to be very great. When to this is added the amount saved to the pupils by increasing the years of their productive lives, the financial saving becomes enormous. But the importance of this financial saving is not to be compared with the great gain that can thus be made in the character of the instruction and the improved mental habits of the pupils.

THE BUILDING TRADES EMPLOYERS AND THE UNIONS

WHY 100,000 MEN HAVE BEEN IDLE AND \$100,000,000 UNEMPLOYED IN
NEW YORK CITY—HOW THE SITUATION COMPARES WITH THE
GREAT CHICAGO LOCKOUT OF 1900—THE EMPLOYERS' FIGHT AGAINST
THE WALKING DELEGATE—A NEW CHAPTER IN LABOR HISTORY

BY

WILLIAM ENGLISH WALLING

JUNE usually marks the height of the building season. Yet in New York City this June there was nothing but stagnation. A lockout was on that tied up every building in the city.

More than a year ago I heard a New York contractor predict: "If these sympathetic strikes continue we're going to have another 'Chicago lockout.' The contractors must get together as they did in Chicago. They broke this strike business up there in 1900 and they haven't been troubled since." The contrast he went on to draw between the New York and Chicago situation was startling.

The lockout in Chicago stopped building for almost a year. As factory inspector there I had some opportunity for observation. When the agreements made at the close of the lockout were to be renewed this spring, I set out to investigate the feeling among contractors and walking delegates, but just then a lockout became imminent in New York, and I returned at once—to find the building of the city in a state of chaos and each side waiting to see what the other would do. I soon ran across an aspect of the struggle the public knows little about.

The contractors who share \$100,000,000 worth of building every year were divided into two rival camps—the construction companies and the employers' association of the various trades. Perhaps half of the larger buildings of New York are now erected by half a dozen big construction companies, with a labor policy radically different from that of the other contractors. These companies came into being with the steel structures—stores, hotels and office buildings—of the last decade. Erecting only modern

buildings, they employ a larger proportion of skilled men than the older builders, in structural work, decoration and luxurious interior, finish and equipment. Their buildings are often rented before they are built, and their financing is on a basis of exact estimates of building costs and practical guarantees of rental income instead of on speculative calculations. They submit to heavy bonds for the completion of the work, often leaving out the strike clause in contracts, and have erected some of the largest buildings in the city in half the time formerly required. In New York they have no more enthusiastic admirers than the walking delegate and the union men. Under special arrangements the "Board of Building Trades," the organized body of the walking delegates, has guaranteed them the pick of the workmen and a comparative immunity from strikes. In return they have paid wages even higher than the union scale, have employed none but union men, and have dealt freely and gladly with the Board.

"We favor these companies," said one of the delegates, "because they're fair. It's not so much that the wages and conditions are better as that they don't try to sneak out of agreements. Of course, they pay a half-dollar more than other concerns, and they don't spare expense to protect the men from danger. But that's not the main thing: they do straight business. They don't keep us waiting for wages, like a lot of little fellows, nor hanker after scabs. They don't try to use us as a club against one another like some of the subcontractors. Those fellows are a different proposition. They'll promise the union anything, or bribe the delegate in a minute if they see a chance to get the men

pulled off. That's the way they have of using the strike clause in their contracts to get off the penalties for not finishing in time. Besides, they're always wanting us to agree to work exclusively for members of the association and let them fix it up who the members are to be. Sometimes they simply hold down their membership by high fees, and sometimes they discriminate against outside competition. We don't get any of these deals handed out to us from the construction companies, and that's why we're ready to stand by them."

These companies have given the handling of labor to experts. Employing thousands of workmen of every trade, they have found it worth while to know personally the more influential delegates. The men have reciprocated, and the relation has in some cases led even to personal friendship. Thus it was not the construction companies, but the contractors' associations, that forced the lockout.

Wages and hours were not involved. Recognition of the unions had long been conceded, and the contractors deny a desire to crush them. Both parties believe in arbitration. All the trades have agreements and arbitration boards to interpret them. Even the six principles of the Chicago lockout of 1900, where the "working rules" were paramount, are not at stake. The Chicago agreements adopted after the lockout provide that there shall be no limitation of work, no restriction of machinery, material or appren-

tices, no interference by business agents or walking delegates in working hours, and that the foreman shall be the agent of the employer instead of the union. Under this arrangement the Chicago building business is now carried on without friction. The abuses that led to the arrangement are not under discussion in New York, nor do such questions enter as the use of violence and political influence, which lowered the plane of the Chicago dispute and confused the public. The troubles lie deeper.

The New York unions have been better organized than the employers. The contractors for the most part have belonged to one or more of the thirty trade associations, such as the Mason Builders, the Master Carpenters, and others. But until this spring they lacked any higher organization, while the unions have had central bodies of their walking delegates for more than a decade. A year or so ago they all came together to form the all-powerful "Board of Building Trades." By sympathetic strikes this Board has brought the whole force of thirty unions and 100,000 men against the separated associations of contractors.

As a consequence, no city east of the Rockies can show terms of agreements so favorable to the workmen. One clause even abrogates the contract when the union is "called out" on a sympathetic strike. Other clauses equally favor the men. Wages average higher than anywhere else in the country, as the following table shows:

THE UNION "SCALES" IN THE BUILDING TRADES—1902

(This table was prepared by the Building Contractors' Council of Chicago)*

	Average of Eight Trades	Masons and Bricklayers	Structural Iron Setters	Plasterers	Plumbers	Steam- fitters	Carpenters	Painters	Laborers & Hod- carriers
New York.....	\$4.26	\$5.20	\$4.50	\$5.00	\$4.25	\$4.00	\$4.50	\$4.00	\$2.68
San Francisco.....	4.18	6.00	2.75	5.42	4.50	4.50	4.50	3.50	2.87
St. Louis.....	4.09	4.60	4.00	5.00	5.00	4.50	3.20	3.20	2.50
Denver.....	3.58	5.25	3.20	4.40	4.25	4.25	3.20	3.50	2.71
Pittsburg.....	3.53	4.80	3.80	4.50	4.00	4.00	3.50	3.20	2.04
Chicago.....	3.50	4.40	4.00	4.00	4.00	4.00	3.60	3.20	2.40
Washington.....	3.46	4.50	4.00	4.00	3.75	3.50	3.25	2.90	1.62
Minneapolis.....	3.45	4.40	3.20	4.50	4.00	4.00	2.50	2.80	1.68
Kansas City.....	3.41	4.50	2.90	4.00	4.00	4.00	2.90	2.80	2.09
Cleveland.....	3.35	4.00	4.60	4.00	3.50	2.90	2.80	2.80	2.12
St. Paul.....	3.20	3.90	3.90	4.50	4.00	2.90	2.70	2.67	1.75
Cincinnati.....	3.14	4.50	4.00	—	3.50	2.90	2.80	2.80	2.20
Philadelphia.....	3.11	4.00	—	3.60	3.20	2.90	2.80	2.90	2.21
Buffalo.....	3.10	4.60	3.60	4.00	2.90	3.25	2.65	2.90	1.48
Milwaukee.....	3.09	4.00	3.20	3.20	3.50	2.90	2.80	2.80	2.20
Providence.....	2.80	3.50	2.50	3.50	2.90	3.89	2.50	2.75	1.82
Detroit.....	2.75	3.50	2.50	4.00	2.76	2.75	2.40	2.25	1.60

*These wages are calculated on the basis of an eight-hour day.

But side by side with the regular union methods employed by the New York unions to gain such high wages, appeared frivolous sympathetic strikes, senseless trade disputes and extortion from employers.

A citizen, noted for his friendship to working-men, recently watched a structure rising opposite his Madison Avenue home. At breakfast time everything would be progressing; the building would be crowded with busy workmen. After lunch, the building would be empty. In a day or so work would be resumed, only to be as mysteriously stopped again. Inquiries showed in each case a sympathetic strike. It became a matter for family jest to speculate whether building would be going on at any given moment. Somebody was certainly responsible for this farcical performance. The men themselves were sensible enough to talk with, but did not know why they had struck. "Who could be to blame," the observer felt, for he knew the unions, "but the walking delegates"?

A common cause of trouble is the trade dispute: this spring the Brotherhood of Carpenters tied up half the buildings in the city by their strike against the Amalgamated Association of Carpenters. Again the walking delegate! The unions refused to coalesce because half the walking delegates would thus be obliged to go back to the hammer and chisel; the walking delegates keep them apart to hold their power. Last winter a quarrel between the elevator constructors and the hoisting engineers as to the running of the completed elevator tied up one building and gave the builder such trouble that it was agreed that both men should be paid for the work. The second man was told that he might "light his pipe and sit and watch the first finish the job." This proposal was cheerfully acquiesced in, and building was resumed. Disputes between other unions were settled in the same way, and the blame was put on the Board of Business Agents—the walking delegates again—for confessed inability to discipline its members.

The strike epidemic beginning with the opening of the season culminated when the new Material Teamsters' Union backed by the Board of Building Trades struck for an increase of wages and shorter hours amounting together to a fifty per cent increase. The lumber and material dealers, fearing they

would find themselves at the mercy of the new union, closed their yards, bringing all building, except that of the construction companies, to an end and giving the contractors their opportunity. Within a week after the suspension the new Building Trades Employers' Association was formed, and the long-planned war was declared on the walking delegate.

The contractors called upon the District Attorney to prosecute these "blackmailers," and began at once to collect evidence for criminal proceedings. The first arrest was that of Samuel Parks, the delegate of the Structural Iron Workers and former President of the Board, on five distinct charges of extortion. The unions had been in the practice of fining their employers. Wages lost during a "justified" strike were charged "waiting time." When unpaid, they were recorded as fines against the building or against the contractor's other work, *wherever found*. "Waiting time" was the principal source of the so-called blackmail. The ground of Parks's first arrest was a \$2,000 cheque paid him, as he says, for time lost to the union while on strike. He claims that he paid the money over to the union, and the union seems to sustain him, though most of the union men with whom I talked, including some from his own union, declared their belief that he had "made his pile and spent it," but mostly "with the boys." Parks's official income is \$27 a week, plus expenses, which include, among other things, a cab.

But there were others "in the graft." One delegate spent several hours going over with me the list of the members of the old united Board. As a rule, the unskilled men were passed over lightly as being "out of it" altogether, or were mentioned as "mixed up in little dickers now and then, but not in the graft." "The delegates from some of the laborers' unions can be 'seen' to my personal knowledge," said my informant, "but they're not consulted on matters of importance."

"Some of the skilled men," he said, and he proceeded to name them, "are absolutely shameless in their grafting. They don't make any more bones about it than Parks. And what's more, they stand together. Didn't they raise \$500 from their own pockets to defend a delegate charged with extortion last winter? Two more of them bought their reelection in their own unions

by the judicious expenditure of the prize-money only a short time ago. And that money came from their friends on the Board, too. Why, a couple of them came to me the other day for \$100 apiece. They said I owed it to them for standing by my union in a matter that came up before the Board."

It is generally alleged both by the men and by the contractors that Parks and others have been regularly on the pay-roll of one of the largest construction companies; certain contractors spoke bitterly to me of this abuse. I asked a delegate who is invariably mentioned in this connection if he knew of any delegates who were carried on the rolls. "There may be some," he said, "but if there are I don't know 'em." He then naively went on to make an elaborate defense of the system.

"If you've done all you can for the union and then the employer comes along and says, 'Look here, you've given a lot of time to this business and I consider that I owe you \$300 or \$400,' what are you going to do about it? What harm does it do the union if I get marked up a few hundred? Did you ever hear of a business man or lawyer that didn't make a little extra coin in ways he wasn't confiding to the public?"

Among the delegates generally, however, I found little sign of financial prosperity. Their homes and daily lives are not such as to make credible the tales of fat bank accounts and profitable investments. If any large sums are made they must be quickly spent or laid away for use in the distant future. I have found it possible to reach most of the delegates at any hour of the day or night, and have visited them in homes little better than those of the average workman.

But the plan to exterminate the walking delegates, or at least to throw their ringleaders into jail, was at first the principal business of the Association. Later it was proposed to turn over the interpretation and enforcement of agreements to an arbitration board, the members to be "neither business agents nor members of any central body of employees." At one stroke all three elements of the "vicious system" to which the employers attribute the paralysis of the building industry were to be done away with. The sympathetic strike was to be made impossible by an arbitration board representing all the trades. The walk-

ing delegates were to be deprived of executive authority outside the union, and the "Board of Delegates" was to lose its reason for existence. This was the ultimatum delivered to the unions and the *raison d'être* of the lockout.

In Chicago it was the central body rather than the walking delegates that bore the brunt of the attack. The terms of surrender after the lockout of 1900 were based on the resignation of each union from the "Building Trades Council." The central bodies of both cities were executive boards with the means and the power to act. Through them the delegates have acquired an expert's knowledge of the character, labor record and fighting qualities of the contractors that oppose them. Some of those delegates who have been in office fifteen or twenty years are considered invaluable by the men. "If we lost Blank," said a group of New York men I was talking with, "we have no one that could take his place."

"They're no mutual admiration society or talkfest either," said a delegate from an unskilled trade. "They're a plain business proposition. You don't hear any loud mouths shooting off on the rights of labor at the Board. It's all dollars and cents. They get through more business in one meeting than some labor bodies I might mention do in a year." Some of them even have the manners and appearance of typical business men. "Who was that lawyer that gave such a sensible talk?" asked a business man after a Civic Federation conference. The "lawyer" was the President of one of the strongest unions, a man who is called by the delegates "the brains of the board." The contractors insist, however, that these men must go.

The arbitration plan of the employers is really a "new constitution" for the building trades. Briefly, it proposes to retain the agreements that now exist until they expire and the present plan of separate arbitration boards in each trade, but special arbitrators are to be chosen from these boards as a court of appeal. The arbitrators, the employers propose, are to be "employees of the Building Trades Employers' Association, but not business agents or members of any central body of employees."

"It is all a one-sided business," was the unanimous verdict of the unions, as, with few

exceptions, they voted to table the plan. They had paid little attention to the new Employers' Association, and many of the delegates had not even read the proposals. I had difficulty in getting them to talk on the subject. "If they wanted to get our opinion, why didn't they call a committee from the unions?" they asked.

The men clung to the hope that the new construction companies would not join the association, but later the Fuller Company, largest of all these concerns, closed down on fourteen of its fifteen buildings. At the time of writing, the employers are waiting until seventy-five per cent. of the unions accept the plan. Then its details will be discussed.

After the ultimatum the unions were expected by both employers and the public to weaken, but instead they answered the lockout by declaring a strike against all the members of the Association. The more moderate leaders among them were swept off their feet by the fighting spirit of the union meetings.

All of the delegates I met both here and in Chicago are in favor of the sympathetic strike and a central body to enforce it. Even the conservative national unions, which are often strong enough to act alone, believe in complete organization on both sides.

"They say they've abandoned sympathetic strikes in Chicago," said a National President who helped to settle the Chicago lockout. "So they have. They're all 'individual walkouts' now; they're chary about using them.

I had made the acquaintance of the "individual walkout" when in Chicago. "The sympathetic strike is practically abolished," an experienced Chicago delegate told me, and then related with some glee how the men had walked out "as individuals" to aid the sheet-metal workers, "without orders from headquarters, of course," he added.

At the time of writing, none of these questions are settled and a complete deadlock exists.

"Resume work," say the unions, "and we will talk over the plan."

"Sign our arbitration plan as a preliminary," say the employers, "and then we will resume work and talk it over." The deliberation with which the Employers' Association has worked leads one to believe that it will not recede from the demand for a general board.

The use the unions have made of the sympathetic strike makes it unlikely they will give it up.

But both sides grant the need of better organization—a "federal government for the building trades." The agreements and arbitration boards of the separate trades will probably rest undisturbed. But a central authority will be established, acting under a "constitution," which will provide for representation of both employers and unions. All questions affecting more than one trade will be referred to this central body, and it may also act as a court of appeals. Contractors and men now all approve some such a plan for a general arbitration board.

This question is a national question, and the whole country is awaiting the action of New York. The building industry has involved in recent years in the United States an annual outlay of something like \$400,000,000 and employs more than 1,000,000 men. This year promised, at the outset, to surpass all others in money and men employed, when building in every part of the country was interrupted by an epidemic of strikes. Chicago, San Francisco and St. Louis alone were excepted. St. Louis is building its World's Fair and cannot afford to risk delay. Chicago and San Francisco have evolved organs of sufficient power to insure temporary peace—in Chicago the Contractors' Council, in San Francisco the central body of the unions. All the other cities were more or less affected. At one time, when 150,000 men were calculated to be out in New York and Brooklyn, 50,000 were on strike in Philadelphia and 20,000 in Baltimore, while the Pittsburg district was on the verge of a complete lockout involving 40,000 more. The only common cause was lack of organization either among employers or employees.

The lesson of this epidemic of sympathetic strikes and lockouts is, that the building trades must be considered as a single industry, and that their labor problem must be treated as a single problem, not as a problem of thirty different trades. Both capital and labor must be organized and a constitution must be provided for the trade. When this is accomplished a new era will have opened for the building industry and a new chapter will have been added to the history of labor. New York seems destined to lead.



POPE LEO XIII.

THE CAREER OF THE MAN—HIS INFLUENCE ON THE CHURCH—
CATHOLICISM UNDER HIS REIGN IN THE PRINCIPAL COUNTRIES
OF THE WORLD—ITS CONTACT WITH THE AMERICAN SPIRIT

BY

HENRY D. SEDGWICK, JR.

THE beginning of the next pontificate and the close of that which has just come to an end mark an epoch in the history of the Roman Catholic Church. Leo XIII. was crowned in 1878; since that time the great material superiority of England, Germany and the United States over the Latin nations has become patent to the world. A church that claims to be universal and aspires to be a great factor in modern civilization, in order to achieve success, must be more than tolerated in those three countries. It may well be that the Latin nations will continue to play an important part in the world's

history; but the more they recognize the material superiority of people of Teutonic stock, the more they will imitate them, and not in purely economic ways only, but also in matters which bear indirectly on material progress; they will follow them in their behavior toward the Roman Catholic Church, paring and clipping down its power where they can. To save itself in the South, as well as to restore itself in the good opinion of the North, the Church must in some way win the confidence and respect of the liberal thinkers of the North, for they guide the liberal thinkers of the South. As a leader in the

work of adapting the Church to the habits of mind in the North, Leo XIII. was in liberal eyes a disappointment. At the time of his election many hopes were entertained that he would infuse liberal life into the Church. He did not do so. He chose to

Church were right; he did all that he could do to hinder and oppose liberal thought. But it would be unjust, and in great measure irrelevant, to judge him by the liberal standard, and to say that in so far as he diverged from that standard he was wrong. Liberal ideas



THE SIXTINE CHAPEL—SHOWING MICHELANGELO'S "LAST JUDGMENT"

devote himself to the task of strengthening the Church in her old ways; his chief means was a strict alliance with the interests of conservatism and property throughout the world. He accepted at every point the traditional doctrine that the old ways of the

have prevailed in many countries, but peace, content and happiness do not seem to be their inevitable companions; it may be that Leo XIII. better served the interests of Christendom in strengthening the old machinery of the Church than if he had attempted

to bring her into harmony with liberal ideas. A far more just method in which to judge him is to judge him in relation to the actual condition of the Church during his lifetime. One

The Roman Catholic Church is the most wonderful organization in the world. The German Empire, the French Republic, the Italian Kingdom are in their infancy, the



FRANZ VON LENBACH'S PORTRAIT OF POPE LEO XIII.

man, be he ever so able, cannot do what he would with a body like the Roman Church; he may modify it a little, he may mend it a little, or mar it, but make a radical change he cannot.

United States a little more than a hundred years old; the empires of Russia, Austria and of England cannot run their claims back a thousand years; but within a hundred years after

the death of Christ we find a Bishop of Rome writing to other churches with authority; and within a few centuries the Church was organized very much in the same fashion that it is today, and the Pope had become in importance second only to the greatest kings. Exceptional as the Roman Church is in time, so it is in space. The British Empire includes Australia, Canada, South Africa and New Zealand; the Russian Empire extends from the Baltic Sea to the Behring Straits; but the Roman Church, without a rival in Italy, Spain and Portugal, is the chief church in

them all passed away, that it brushes off new ideas as if they were mosquitoes. We cannot judge the Church fairly without bearing in mind the enormous spiritual disadvantages of its great age.

THE CAREER OF THE MAN

In attempting an estimate of Leo XIII., we must remember that he had to deal with this old, old society, of which every member, clerical and lay, had been taught in infancy, boyhood, youth and manhood to venerate the Church in that very condition in which they found it, as a sacred army fighting for the cause of God; we must also remember that Leo himself did not come to his great office with an education received in the democratic schools and colleges of a republican country. On the contrary, he had received the most conservative education possible; this was his greatest hindrance, or his greatest advantage, according to the point of view.

Joachim Vincent Pecci, Leo XIII., was born on March 2, 1810. He was descended from a noble family of Sienna which, obliged by some political troubles in the beginning of the sixteenth century to seek safety in the states of the Church, had settled in Carpineto, a little mountain town not far from the railroad between Rome and Naples. His father, Count Pecci, had been a colonel in Napoleon's Italian guard; his mother, an exceedingly pious woman devoted to religious rites, belonged to a good family of the neighborhood. The ancestors of both parents had been subjects of the papacy for two or three hundred years. At eight years of age Joachim was sent with his brother Joseph to a Jesuit school at Viterbo; from there he went to the Roman College in Rome, also a Jesuit institution. At twenty-two he took his degree as doctor in theology, and then attended the Academy of Noble Ecclesiasts, where young Roman noblemen are fitted for taking part in ecclesiastical administration. In 1837, at the age of twenty-seven, he was ordained a priest; and the next year the Pope appointed him civil Governor of Benevento, a little province lying, like an island, in the midst of the kingdom of Naples. His task was difficult; the petty nobility turned their castles into strongholds and tried to take the law into their own hands, and Benevento was a place of refuge for brigands and *carbonari* flying from the Neapolitan police.



THE STATUE OF ST. PETER IN ST. PETER'S

France, Austria, Belgium and Ireland and the states of South America, and a strong church in the United States and Germany; it has a hierarchy side by side with the Church of England and the Kirk of Scotland, and communicants all over the world. So great an organization is both a strength and a weakness. A social organ adapted to peoples so different in ideas and in habits cannot be in the van of civilization. Like a popular government, the Roman Church must conform to the mean of ideas. It moves slowly; it looks back over 2,000 years, and sees so many new teachings, and the excitement over



POPE LEO XIII. BEING CARRIED FROM THE SIXTINE CHAPEL

The *carbonari* were members of a secret society, who, plotting to give political effect to their liberal doctrines, were forced by the oppressive tyranny of the time to adopt lawless methods. At Benevento, Pecci's conservative education was rounded out by the association of the two ideas, liberalism and

lawlessness. He remained there three years and was then promoted to be Governor of Perugia, where he increased his reputation for ability and executive capacity. Before long he was promoted again and sent as papal nuncio to Belgium. This office at that time required dexterity and tact, because the liberal

party was making great efforts to take the whole system of public education out of the hands of the Church; Pecci filled it with distinction, and made a very favorable impression on the royal family. To be sure, he held to the tenet, probably the first rule taught at the Academy of Noble Ecclesiasts, that in all matters which affect the Church it is for the Pope alone to determine the course of policy, and for all others to follow without taking a step to right hand or left. In 1846 he was appointed Archbishop of Perugia; to

been converted; it looked to Catholic eyes as if a large part of the English nation would return to the fold. Personal impressions are lasting, and one cannot but think that Pecci's attitude toward England was always affected by the High Church color of those pre-Darwinian days. At this time Gregory XVI. died and Pius IX. succeeded him. Archbishop Pecci returned to Rome, paid his homage to the new Pope, and then began his long and difficult service in Perugia. He devoted his talents and great administra-



A PROCESSION IN THE SALA REGIA

From a painting made for Pope Pius IX.

please the Pope he accepted this new office and abandoned a diplomatic career. Times were beginning to try ecclesiastical souls in Italy, and the Pope wished to have his capable officers near at hand ready to defend his prerogatives against the lawlessness of liberalism. Pecci made a short tour in England and France before returning to Italy. In England, at that time, the Oxford Movement was at its height; Newman had

tive capacity to strengthening the Church. He busied himself with schools, seminaries, monasteries, churches and pastoral letters; he lived with great frugality and austerity. His conception of education is best shown by a plan for testing scholarship which he intended to adopt in a proposed academy in honor of St. Thomas Aquinas. Every month there was to be a dissertation and discussion on some point in the "Summa



THE VATICAN

ST. PETER'S IN ROME



POPE LEO XIII. GIVING HIS BLESSING

Theologia"; the dissertation was to be divided into three parts: the first should define and develop some point in the Saint's teaching; the second should show the strength of the teaching and refute objections to it; the third should apply the teaching to modern systems and errors. It was a strange warfare, to fight the very new with the very old, but one in which generalship and courage were needed, and the Archbishop showed both in a marked degree. He engaged with fervor in one long struggle with liberalism and with men whom he deemed robbers of the Church of God.

Soon after he was established at Perugia the year 1848 came thundering in. The Pope fled from Rome, and the Republicans under Mazzini and Garibaldi proclaimed a republic. The revolutionary wave passed, but trouble was ahead. In 1859 the Austrians were beaten at Magenta and Solferino, and soon Victor Emmanuel's soldiers marched down into Tuscany and Umbria and the States of the Church, despoiling petty princes and the Pope. Then all Italy except Venice and Rome was united under a king. Venice came after Germany had defeated Austria; and on the 20th of September, 1870, after the French garrison had been called home to defend Paris, the Italian army battered the walls down by the Porta Pia and marched into Rome. This great revolution seemed to the Church like chaos come again. The Italian Government suppressed monastic orders, banished the Jesuits, compelled theological students to undergo conscription, forbade the catechism in primary schools and confiscated church property or forced its conversion into government securities. These events inevitably made papa partizans bitterly hostile toward liberal thought, progress, and modern conception of political life. No man, despoiled of rights and possessions which he and his fathers have enjoyed for hundreds of years, can accept his fallen estate as a public good, as a gain to civilization. Pius IX., at his election, had been full of sympathy for the liberal movement; men had hoped that he would take the lead in freeing Italy; but the headlong zeal of the nationalists turned him and his advisers into bitter enemies. In fact, the attitude of the whole Church has been profoundly affected by the movement of Italian unity; the Church has been soldered in conservatism,

and turned against all sympathy with the democratic movement of the last half-century. Leo XIII. looked on socialists as Pius IX. looked on the followers of Garibaldi.

Pius IX. died on February 7, 1878. The election of his successor was held in the Sistine Chapel on February 19th, by the College of Cardinals. Sixty-one were present; each wrote the name of his candidate on his ballot; at the end of the count twenty-three votes were given to Cardinal Pecci, conspicuous by his talents and by his zeal in defense of the old order. On the second ballot he received thirty-eight; on the third ballot, which was taken the next day, he received forty-four, more than the requisite two-thirds vote. He was then sixty-eight years old—too late for a man, so bred and trained, to make a change in his views and opinions; but the world soon knew that the Church had a leader. He believed that he was engaged in a holy war; he blew the trumpet of defiance against the enemies of the Church, and ranged the great hierarchy with united front. With great ardor he set himself to maintain and strengthen ecclesiastical discipline and to put new courage into his followers. He made the Church feel that he took a personal interest in the welfare of all its parts, and also that he meant to be obeyed. It was a fine sight to see this old man draw himself to his full height and smite the point of his spear full in the shield of his most dangerous foes.

THE CHURCH IN DIFFERENT COUNTRIES

Within the ranks he proved himself the father of his people, the shepherd of his flock, never forgetting his conviction that their first duty is to be faithful to Rome, as the cause of God. He did what he could for persecuted Catholics in China, Turkey and Russia, and in all the ends of the earth; but the most important acts of his long reign were in relation to Germany, France and the United States. At his ascension he found the papal relations with the German Government much strained. The *Kulturkampf* had been raging for years. Bismarck, after he had crushed Austria at Königgrätz and had crowned William Emperor at Versailles, determined to round out the imperial rule by breaking the power of the Church in Germany. He tried to take advantage of the intense national feeling, of the prejudice against the papacy for aiding, as was thought, the French

cause, and also of the disunion among the Catholics caused by disagreement over the doctrine of papal infallibility which had been decreed by the Vatican council not long before. Severe laws had been enacted with the design of transferring the control of the Church from Pope to Emperor. Leo stood firm beside the German bishops and clergy. After years of contention, concessions were made on both sides. The German Government perceived that the papacy was a bulwark of established order, and an ally against its enemies, the Socialists. Bismarck declared that the laws had been war measures, enacted with a view to peace; they were modified; the Pope, too, was ready for compromise, and peace was made.

In France Leo did his most liberal and unexpected act, in recognizing the republic; but he did not obtain what he hoped. The French Government has shown itself determined to put down clericalism, and it has enacted law after law to that end; and no durable friendliness between it and the papacy, as long as the latter seeks to hold political power, seems possible.

In the United States Leo gave a hard blow to the liberal doctrines entertained by leaders in the Church. In his letter to Cardinal Gibbons "concerning new opinions," dated January 22, 1899, he said:

"The underlying principle of these new opinions is that, in order more easily to attract those who differ from her, the Church should shape her teachings more in accord with the spirit of the age and relax some of her ancient severity and make some concessions to new opinions. Many think that these concessions should be made, not only in regard to ways of living, but even in regard to doctrines which belong to the deposit of the faith. They contend that it would be opportune, in order to gain those who differ from us, to omit certain points of her teaching which are of lesser importance, and to tone down the meaning which the Church has always attached to them. It does not need many words, beloved son, to prove the falsity of these ideas if the nature and origin of the doctrine which the Church puts forward are called to mind. The Vatican Council says concerning this point: 'For the doctrine of faith which God has revealed has not been proposed like a philosophical invention to be perfected by human ingenuity, but has been delivered as a divine deposit to the Spouse of Christ, to be faithfully kept and infallibly declared.'"

Strange as these words ring in liberal ears, we cannot but admire the bold clear-

ness of the statement; most leaders in State and Church are timid in announcing their beliefs; they trim and come about ready to set their sails to tomorrow's wind; but the Catholic Church does not palter with its faith. She leaves no room for misunderstanding, misinterpretation, or doubt. The spirit and letter of her creed are one. There has been no more conspicuous instance of political courage than her affront to science in the famous case of St. George Mivart, almost the only eminent man of science in England true to the Catholic Church. She bade him believe the tales of the Old Testament in the very words in which they were written, without a shadow of penumbra in which his intelligence might take refuge. He could not; and the Church denied her rites.

THE CHURCH AND THE AMERICAN REPUBLIC

Interesting as the Roman Church is in sociology and in history, its main interest for us is its power and position in the United States. Statistics show its growth: it has more than 9,000,000 members; it has churches in every State; it has a cardinal, archbishops, bishops, many orders and societies; it has a university, colleges, and a great system of parochial schools. Practically all Americans of Irish blood are Catholic, besides many Germans, Italians, Poles and others, and the Irish leaders in the Church show the same skill in ecclesiastical matters that they do in politics. The Roman Church in America is a mighty power which might be, and perhaps is, used for the great good of the country; it concerns itself with the less educated, and has hold over few of the educated classes. Such a church may well be stronger than one to which the educated belong, because the many influences that in these generations attack old creeds and systems act on the educated and leave the ignorant untouched. The day laborer is unscathed by study and reflection; in him familiarity begets loyalty; but the educated man acts on probabilities and policy.

Those who deem the Church not a divine institution, but a social organ to help men lead better lives, are apt to get impatient with its apparent apathy, the fixing of its face on the past, its renunciation of the teachings of science. They would cut it down, hack out the roots, and sweep the rubbish away.

Men cannot sit indifferent before such an organization; they are either for it or against. But if it should suddenly pass away, would the vast space which it covers be found properly tilled to receive the delicate seeds of individual religion? What harvests does history show from such sowing? Here and there a single man is able and willing to think religious thoughts by himself, but the multitude always follows a leader, or custom, the practice of dead leaders. The leader of the Catholic Church, in name at least, is Christ; but who would the new leader be? Protestant churches do not flourish on Latin or Celtic soil; they could not take the place of their mighty mother. The temptations engendered by the struggle for life, by the desire for property and pleasure, are so tremendous that our social structure, erected on the family, needs all the support it can get. As long as notions of right are so closely intertwined with the ecclesiastical system we cannot afford to let the latter go.

The problem for the Catholic clergy in the United States is very difficult; undoubtedly many of them, sensitive to their democratic modern education, desire a change in the government and order of the Church perhaps not wholly unlike that which an outsider lightly proposes. The Church is controlled by a band of Italians; it should be governed by an international senate. Powers of appointment and promotion are lodged in the Pope; they should lie in the local churches. Each congregation should elect its own priests, the priests of the diocese should elect the bishop, the bishops should choose their cardinal, and the cardinals or the House of Bishops should elect the Pope. The will of the prince should no longer be law. Power should rise from the people: this is the principle of democracy, and the Church, in theory, is democratic. The laity should be a coordinate body with the priesthood. There should be room, some breathing space at least, for new faith to grow side by side with the old; faith in an ever-increasing revelation of God should walk hand-in-hand with that revelation in Christ which alone the Church acknowledges. This would be a great revolution; but great revolutions have been accomplished within a social body, and that body has lived in greater health than before. The French nation survived the revolution of 1789, the Southern States have

outlived the abolition of slavery, Japan has changed like a butterfly from its grub. It is not necessary that such dreams should prevail; but freedom to entertain them is necessary. If such changes come, they will begin in a loosening of the Roman domination.

It would be a loss if the American church should break loose from the main body; she might gain thereby, temporarily, but at the price of loss to the whole Church; and a Christian church in America cannot wish to gain at the expense of its brethren. A universal church is a great spiritual conception which the world cannot afford to lose. Protestant churches are so strongly affected by local interests, by notions of the town, ideas of the village, that they fail to supply that generous blood which circulates through the veins of an international church. Moreover, the Catholic Church has the immense advantage of clinging to mystery, however crudely that mystery may be expressed in the concrete. Transubstantiation, grace, the sacraments, the motherhood of the Virgin, all keep the mind on the domain of religious hope, the unknown and seemingly unknowable region, behind the veils of life and death, and beyond the bounds of reason.

What are the American priesthood to do? Older men can remember the time when Father Hecker, in the strong zeal of youth, thought that he could bring all America into the Roman Catholic Church. His enthusiasm spread among younger men, since then distinguished prelates. Then came the controversy over Americanism, and the Pope's rebuke. But the best hopes of the Roman Catholic Church lie in America, and the strength of her American church consists in the right of priest and layman to entertain and to press opinions which are foisted upon them by American notions of freedom and manhood. The new Pope, exempt from the hard education which held Leo XIII. so tight in its old Roman clutches, will have the power to confer that right, and his giving or withholding is momentous, for it may win or alienate the respect of the American people. But perhaps these wise old Roman priests know best, and the straight and narrow path of custom and precedent may be the right road for Catholic feet. We lightly put new wine into old bottles; the old bottles break, the wine runneth out, and the bottles perish.

A NEW DEFINITION OF THE CULTIVATED MAN

BY

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TO produce the cultivated man, or at least the man capable of becoming cultivated in after life, has long been supposed to be one of the fundamental objects of systematic and thorough education. The ideal of general cultivation has been one of the standards in education. It is often asked: Will the education which a given institution is supplying produce the cultivated man? Or—can cultivation be the result of a given course of study? In such questions there is an implication that the education which does not produce the cultivated man is a failure, or has been misconceived or misdirected. Now if cultivation were an unchanging ideal, the steady use of the conception as a permanent test of educational processes might be justified; but if the cultivated man of today is, or ought to be, a distinctly different creature from the cultivated man of a century ago, the ideal of cultivation cannot be appealed to as a standard without preliminary explanations and interpretations. It is the object of this paper to show that the idea of cultivation in the highly trained human being has undergone substantial changes during the nineteenth century.

I ought to say at once that I propose to use the term cultivated man in only its good sense—in Emerson's sense. In this paper he is not to be a well-to-do, critical, fastidious creature, vain of a little exclusive information or of an uncommon knack in Latin verse or mathematical logic; he is to be a man of quick perceptions, broad sympathies and wide affinities, responsive but independent, self-reliant but deferential, loving truth and candor but also moderation and proportion, courageous but gentle, not finished but perfecting. All authorities agree that true culture is not exclusive, sectarian or partizan, but the very opposite; that it

is not to be attained in solitude, but in society; and that the best atmosphere for culture is that of a school, university, academy or church, where many pursue together the ideals of truth, righteousness and love.

Here some one may think this process of cultivation is evidently a long, slow, artificial process. I prefer the genius, the man of native power or skill, the man whose judgment is sound and influence strong, though he cannot read or write—the born inventor, orator or poet. So do we all. Men have always revered prodigious inborn gifts, and always will. Indeed, barbarous men always say of the possessors of such gifts—these are not men; they are gods. But we teachers, who carry on a system of popular education, which is by far the most complex and valuable invention of the nineteenth century, know that we have to do, not with the highly gifted units, but with the millions who are more or less capable of being cultivated by the long, patient, artificial training called education. For us and our system the genius is no standard, but the cultivated man is. To his stature we and many of our pupils may in time attain.

There are two principal differences between the present ideal and that which prevailed at the beginning of the nineteenth century. All thinkers agree that the horizon of the human intellect has widened wonderfully during the past hundred years, and that the scientific method of inquiry, which was known to but very few when the nineteenth century began, has been the means of that widening. This method has become indispensable in all fields of inquiry, including psychology, philanthropy and religion, and, therefore, intimate acquaintance with it has become an indispensable element in culture. As Matthew Arnold pointed out more than a generation ago, educated mankind is governed

by two passions—one the passion for pure knowledge, the other the passion for being of service or doing good. Now, the passion for pure knowledge is only to be gratified through the scientific method of inquiry. In Arnold's phrases, the first step for every aspirant to culture is to endeavor to see things as they are, or "to learn, in short, the Will of God." The second step is to make that Will prevail, each in his own sphere of action and influence. This recognition of science as pure knowledge, and of the scientific method as the universal method of inquiry, is the great addition made by the nineteenth century to the idea of culture. I need not say that within that century what we call science, pure and applied, has transformed the world as the scene of the human drama; and that it is this transformation which has compelled the recognition of natural science as a fundamental necessity in liberal education. The most convinced exponents and advocates of humanism now recognize that science is the "paramount force of the modern as distinguished from the antique and the medieval spirit" (John Addington Symonds—"Culture") and that "an interpretation of humanism with science and of science with humanism is the condition of the highest culture."

A second modification of the earlier idea of cultivation was advocated by Ralph Waldo Emerson more than two generations ago. He taught that the acquisition of some form of manual skill and the practice of some form of manual labor were essential elements of culture. This idea has more and more become accepted in the systematic education of youth; and if we include athletic sports among the desirable forms of manual skill and labor we may say that during the last thirty years this element of excellence of body in the ideal of education has had a rapid, even an exaggerated development. The idea of some sort of bodily excellence was, to be sure, not absent in the old conception of the cultivated man. The gentleman could ride well, dance gracefully and fence with skill; but the modern conception of bodily skill as an element in cultivation is more comprehensive, and includes that habitual contact with the external world which Emerson deemed essential to real culture. We have lately become convinced that accurate work with carpenters' tools, or

lathe, or hammer and anvil, or violin, or piano, or pencil, or crayon, or camel's-hair brush trains well the same nerves and ganglia with which we do what is ordinarily called thinking. We have also become convinced that some intimate, sympathetic acquaintance with the natural objects of the earth and sky adds greatly to the happiness of life, and that this acquaintance should be begun in childhood and be developed all through adolescence and maturity. A brook, a hedgerow or a garden is an inexhaustible teacher of wonder, reverence and love. The scientists insist today on nature-study for children; but we teachers ought long ago to have learned from the poets the value of this element in education. They are the best advocates of nature-study. If any here are not convinced of its worth, let them go to Theocritus, Virgil, Wordsworth, Tennyson or Lowell for the needed demonstration. Let them observe, too, that a great need of modern industrial society is intellectual pleasures, or pleasures which, like music, combine delightful sensations with the gratifications of observation, association, memory and sympathy. The idea of culture has always included a quick and wide sympathy with men; it should hereafter include sympathy with Nature, and particularly with its living forms—a sympathy based on some accurate observation of Nature. The bookworm, the monk, the isolated student, has never been the type of the cultivated man. Society has seemed the natural setting for the cultivated person, man or woman; but the present conception of real culture contains not only a large development of this social element, but also an extension of interest and reverence to the animate creation and to those immense forces that set the earthly stage for man and all related beings.

Let us now proceed to examine some of the changes in the idea of culture, or in the available means of culture, which the last hundred years have brought about.

1. The moral sense of the modern world makes character a more important element than it used to be in the ideal of a cultivated man. Now character is formed, as Goethe said, in the "stream of the world"—not in stillness or isolation, but in the quick-flowing tides of the busy world, the world of nature and the world of mankind. At the end of the nineteenth century the world was wonder-

fully different from the world at the beginning of that eventful period; and, moreover, men's means of making acquaintance with the world were vastly more ample than they were a hundred years earlier. To the old idea of culture some knowledge of history was indispensable. Now history is a representation of the stream of the world, or of some little portion of that stream, one hundred, five hundred, two thousand years ago. Acquaintance with some part of the present stream ought to be more formative of character, and more instructive as regards external nature and the nature of man, than any partial survey of the stream that was flowing centuries ago. We have, then, through the present means of reporting the stream of the world from day to day, material for culture such as no preceding generation of men has possessed. The cultivated man or woman must use the means which steam and electricity have provided for reporting the play of physical forces and of human volitions which make the world of today; for the world of today supplies in its immense variety a picture of all stages of human progress, from the Stone Age, through savagery, barbarism and medievalism, to what we now call civilization. The rising generation should think hard and feel keenly, just where the men and women who constitute the actual human world are thinking and feeling most today. The panorama of today's events is not an accurate or complete picture, for history will supply posterity with much evidence which is hidden from the eyes of contemporaries; but it is nevertheless an invaluable and a new means of developing good judgment, good feeling and the passion for social service, or in other words of securing cultivation. But some one will say—the stream of the world is foul. True in part. The stream is, what it has been, a mixture of foulness and purity, of meanness and majesty; but it has nourished individual virtue and race civilization. Literature and history are a similar mixture, and yet are the traditional means of culture. Are not the Greek tragedies means of culture? Yet they are full of incest, murder and human sacrifices to lustful and revengeful gods.

2. A cultivated man should express himself by tongue or pen with some accuracy and elegance; therefore linguistic training has had great importance in the idea of cultivation.

The conditions of the educated world have, however, changed so profoundly since the revival of learning in Italy that our inherited ideas concerning training in language and literature have required large modifications. In the year 1400 it might have been said with truth that there was but one language of scholars, the Latin, and but two great literatures, the Hebrew and the Greek. Since that time, however, other great literatures have arisen, the Italian, Spanish, French, German, and above all the English, which has become incomparably the most extensive and various and the noblest of literatures. Under these circumstances it is impossible to maintain that a knowledge of any particular literature is indispensable to culture. Yet we cannot but feel that the cultivated man ought to possess a considerable acquaintance with the literature of some great language, and the power to use the native language in a pure and interesting way. Thus, we are not sure that Robert Burns could be properly described as a cultivated man, moving poet though he was. We do not think of Abraham Lincoln as a cultivated man, master of English speech and writing though he was. These men do not correspond to the type represented by the word cultivated, but belong in the class of geniuses. When we ask ourselves why a knowledge of literature seems indispensable to the ordinary idea of cultivation, we find no answer except this—that in literature are portrayed all human passions, desires and aspirations, and that acquaintance with these human feelings, and with the means of portraying them, seems to us essential to culture. These human qualities and powers are also the commonest ground of interesting human intercourse, and therefore literary knowledge exalts the quality and enhances the enjoyment of human intercourse. It is in conversation that cultivation tells as much as anywhere, and this rapid exchange of thoughts is by far the commonest manifestation of its power. Combine the knowledge of literature with knowledge of the "stream of the world" and you have united two large sources of the influence of the cultivated person. The linguistic and literary element in cultivation therefore abides, but has become vastly broader than formerly—so broad, indeed, that selection among its various fields is forced upon every educated youth.

3. The next great element in cultivation to which I ask your attention is acquaintance with some parts of the store of knowledge which humanity in its progress from barbarism has acquired and laid up. This is the prodigious store of recorded, rationalized and systematized discoveries, experiences and ideas. This is the store which we teachers try to pass on to the rising generation. The capacity to assimilate this store and improve it in each successive generation is the distinction of the human race over other animals. It is too vast for any man to master, though he had a hundred lives instead of one; and its growth in the nineteenth century was greater than in all the thirty preceding centuries put together. In the eighteenth century a diligent student with strong memory and quick powers of apprehension need not have despaired of mastering a large fraction of this store of knowledge. Long before the end of the nineteenth century such a task had become impossible. Culture, therefore, can no longer imply a knowledge of everything—not even a little knowledge of everything. It must be content with general knowledge of some things, and a real mastery of some small portion of the human store. Here is a profound modification of the idea of cultivation, which the nineteenth century has brought about. What portion or portions of the infinite human store are most proper to the cultivated man? The answer must be—those which enable him, with his individual personal qualities, to deal best and sympathize most with Nature and with other human beings. It is here that the passion for service must fuse with the passion for knowledge. It is natural to imagine that the young man who has acquainted himself with economics, the science of government, sociology and the history of civilization in its motives, objects and methods has a better chance of fusing the passion for knowledge with the passion for doing good than the man whose passion for pure knowledge leads him to the study of chemical or physical phenomena, or of the habits and climatic distribution of plants or animals. Yet, so intricate are the relations of human beings to the animate and inanimate creation that it is impossible to foresee with what realms of nature intense human interests may prove to be identified. Thus the generation now on the stage has suddenly

learned that some of the most sensitive and exquisite human interests, such as health or disease and life or death for those we love, are bound up with the life histories of parasites on the blood-corpuscles or of certain varieties of mosquitoes and ticks. When the spectra of the sun, stars and other lights began to be studied, there was not the slightest anticipation that a cure for one of the most horrible diseases to which mankind is liable might be found in the X-rays. While, then, we can still see that certain subjects afford more obvious or frequent access to means of doing good and to fortunate intercourse with our fellows than other subjects, we have learned from nineteenth-century experience that there is no field of real knowledge which may not suddenly prove contributory in a high degree to human happiness and the progress of civilization, and therefore acceptable as a worthy element in the truest culture.

4. The only other element in cultivation which time will permit me to treat is the training of the constructive imagination. The imagination is the greatest of human powers, no matter in what field it works—in art or literature, in mechanical invention, in science, government, commerce or religion; and the training of the imagination is, therefore, far the most important part of education. I use the term constructive imagination because that implies the creation or building of a new thing. The sculptor, for example, imagines or conceives the perfect form of a child ten years of age; he has never seen such a thing, for a child perfect in form is never produced; he has only seen in different children the elements of perfection, here one element and there another. In his imagination he combines these elements of the perfect form, which he has only seen separated, and from this picture in his mind he carves the stone, and in the execution invariably loses his ideal—that is, falls short of it or fails to express it. Sir Joshua Reynolds points out that the painter can picture only what he has somewhere seen; but that the more he has seen and noted the surer he is to be original in his painting, because his imaginary combinations will be original. Constructive imagination is the great power of the poet as well as of the artist; and the nineteenth century has convinced us that

it is also the great power of the man of science, the investigator and the natural philosopher. What gives every great naturalist or physicist his epoch-making results is precisely the imaginative power by which he deduces from the masses of fact the guiding hypothesis or principle.

The educated world needs to recognize the new varieties of constructive imagination. Dante gave painful years to picturing on many pages of his immortal Comedy of Hell, Purgatory and Paradise the most horrible monsters and tortures and the most loathsome and noisome abominations that his fervid imagination could concoct out of his own bitter experiences and the manners and customs of his cruel times. Sir Charles Lyell spent many laborious years in searching for and putting together the scattered evidences that the geologic processes by which the crust of the earth has been made ready for the use of man have been, in the main, not catastrophic, but gradual and gentle, and that the forces which have been in action through past ages are, for the most part, similar to those we may see today eroding hills, cutting cañons, making placers, marshes and meadows, and forming prairies and ocean floors. He first imagined, and then demonstrated, that the geologic agencies are not explosive and cataclysmal, but steady and patient. These two kinds of imagination—Dante's and Lyell's—are not comparable, but both are manifestations of great human power. Zola, in *La Bete Humaine*, contrives that ten persons, all connected with the railroad from Paris to Havre, shall be either murderers or murdered, or both, within eighteen months; and he adds two railroad slaughters criminally procured. The conditions of time and place are ingeniously imagined, and no detail is omitted which can heighten the effect of this homicidal fiction. Contrast this kind of constructive imagination with the kind which conceived the great wells sunk in the solid rock below Niagara that contain the turbines that drive the dynamos that generate the electric force that turns thousands of wheels and lights thousands of lamps over hundreds of square miles of adjoining territory; or with the kind which conceives the sending of human thoughts across three thousand miles of stormy sea instantaneously on nothing more substantial than ethereal

waves. There is no crime, cruelty or lust about these last two sorts of imagining. No lurid fire of hell or human passion illumines their scenes. They are calm, accurate, just and responsible, and nothing but beneficence and increased human well-being results from them. There is going to be room in the hearts of twentieth-century men for a high admiration of these kinds of imagination, as well as for that of the poet, artist, or dramatist.

Another kind of imagination deserves a moment's consideration—the receptive imagination which entertains and holds fast the visions which genius creates or the analogies of nature suggest. A young woman is absorbed for hours in conning the squalid scenes and situations through which Thackeray portrays the malign motives and unclean soul of Becky Sharp. Another young woman watches for days the pairing, nesting, brooding and foraging of two robins that have established home and family in the notch of a maple near her window. She notes the unselfish labors of the father and mother for each other and for their little ones, and weaves into the simple drama all sorts of protective instincts and human affections. Here are two employments for the receptive imagination. Shall systematic education compel the first but make no room for the second? The increasing attention to nature-study suggests the hope that the imaginative study of human ills and woes is not to be allowed to exclude the imaginative study of Nature, and that both studies may count toward culture.

It is one lesson of the nineteenth century, then, that in every field of human knowledge the constructive imagination finds play—in literature, in history, in theology, in anthropology, and in the whole field of physical and biological research. That great century has taught us that, on the whole, the scientific imagination is quite as productive for human service as the literary or poetic imagination. The imagination of Darwin or Pasteur, for example, is as high and productive a form of imagination as that of Dante, or Goethe, or even Shakespeare, if we regard the human uses which result from the exercise of imaginative powers, and mean by human uses not merely meat and drink, clothes and shelter, but also the satisfaction of mental and

spiritual needs. We must, therefore, allow in our contemplation of the cultivated man a large expansion of the fields in which the cultivated imagination may be exercised. We must extend our training of the imagination beyond literature and the fine arts, to history, philosophy, science, government and sociology. We must recognize the prodigious variety of fruits of the imagination that the nineteenth century has given to our race.

It results from this brief survey that the elements and means of cultivation are much more numerous than they used to be; so that it is not wise to say of any one acquisition or faculty—with it cultivation becomes possible, without it impossible. The one acquisition or faculty may be immense, and yet cultivation may not have been attained. Thus it is obvious that a man may have a wide acquaintance with music, and possess great musical skill and that wonderful imaginative power which conceives delicious melodies and harmonies for the delight of mankind through centuries, and yet not be a cultivated man in the ordinary acceptation of the words. We have met artists who were rude and uncouth, yet possessed a high degree of technical skill and strong powers of imagination. We have seen philanthropists and statesmen whose minds have played on great causes and great affairs, and yet who lacked a correct use of their native language, and had no historical perspective or background of historical knowledge.

On the other hand, is there any single acquisition or faculty which is essential to culture, except indeed a reasonably accurate and refined use of the mother tongue?

Again, though we can discern in different

individuals different elements of the perfect type of cultivated man, we seldom find combined in any human being all the elements of the type. Here, as in painting or sculpture, we make up our ideal from traits picked out from many imperfect individuals and put together. We must not, therefore, expect systematic education to produce multitudes of highly cultivated and symmetrically developed persons; the multitudinous product will always be imperfect, just as there are no perfect trees, animals, flowers or crystals.

It has been my object to point out that our conception of the type of cultivated man has been greatly enlarged, and on the whole exalted, by observation of the experiences of mankind during the last hundred years. Let us as teachers accept no single element or kind of culture as the one essential; let us remember that the best fruits of real culture are an open mind, broad sympathies and respect for all the diverse achievements of the human intellect at whatever stage of development they may actually be—the stage of fresh discovery or bold exploration, or complete conquest. Let us remember that the moral elements of the new education are individual choice of studies and career among a great, new variety of studies and careers, early responsibility accompanying this freedom of choice, love of truth now that truth may be directly sought through rational inquiry, and an omnipresent sense of social obligation. These moral elements are so strong that the new forms of culture are likely to prove themselves quite as productive of morality, high-mindedness and idealism as the old.

THE RIGHT PHYSICAL START IN EDUCATION

MOST DELINQUENCIES OF BACKWARD CHILDREN DUE TO DEFECTIVE
SIGHT OR HEARING—EXPERT MEDICAL EXAMINATION AND TREATMENT
THE REMEDY—A PRACTICAL EDUCATIONAL WORK FOR EVERY LAYMAN

BY

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THERE is a kind of practical educational work which is in greater need now of being done than anything else, and which the teacher cannot do without the assistance of the layman. I refer to the investigation of the physical conditions of school-children and the hygienic character of school appliances. In the most progressive countries of the Old World—Germany, France, Switzerland and England, for instance—there is a school officer in each large city who has never been heard of in most of our own communities—the Medical Examiner. It is his business to examine regularly the senses of school-children, and to make a report upon the state of their health and upon their fitness to do the work of the school. He is charged also with the responsibility of attending to the hygienic conditions of school buildings. In London the school board provides for this work, and Doctor Francis Warner has been at the head of it for many years. In Edinburgh there are both male and female medical examiners. In the United States a number of cities, as Boston, New York, Chicago, Philadelphia and Lowell, have made provisions for medical inspection, although the examination in most of these cities relates only to contagious diseases. Outside of these few places the physical condition of school-children has received no official attention whatever.

I suppose every one in our day subscribes to Locke's statement that nothing can enter the mind except through the senses. But the majority of us do not yet seem to appreciate that if an individual has defective

senses he can gain only defective knowledge of the world about him. When we find a person who is stupid, who is inaccurate in his perceptions or his reasoning, we explain it to ourselves in general terms by saying that he has no sense, or that his will is lethargic or perverted so that he makes no effort to think straight. Perhaps most of my readers can remember the time when children were cudged if they made mistakes in spelling. The teacher—and parent, too—proceeded on the principle that mistakes are due to carelessness, and carelessness is a disease of the will, and can be cured only by dermal stimulations. But investigations made in these last few years in various parts of the world have shown that bad spelling is in a large percentage of cases due to a defect of vision, which prevents a clear imaging of the parts of a word in the exact sequence in which they occur.

Children are still whipped for "careless" writing, but there are, again, defects of vision that distort the copy which the child is expected to imitate. Superintendent Whitcomb, of Lowell, in the examination of one such case, has reproduced samples of the child's writing before her eyes were examined, and immediately after she put on glasses, showing a most extraordinary improvement in a moment's time. These instances are but illustrations of causes of "carelessness" and "stupidity" that are being revealed in many parts of the world by an investigation of children's senses and nervous condition.

In 1865 Doctor Hermann Cohn examined 10,000 children in the schools of Breslau, and he discovered that while but few defects were

found in pupils just entering school, more than sixty per cent. of those who had passed through all the grades were defective. Seggel, in Munich; Risley, in Philadelphia; Howe, in Buffalo; Agnew, in New York; Allport, in Minneapolis; Browne, in London; Smedley, in Chicago; and others, have shown conclusively that, taken as a whole, fully one-third of the children in the schools have eye defects that interfere with the best development of mind, and body as well.

Another serious defect, whether regarded from a mental or a physical standpoint, is astigmatism. Thirty-seven per cent. of 1,900 school-children in our community were found to be afflicted with astigmatism. Doctor Gould, of Philadelphia, has recently published a book in which he seeks to show that the ill-health of certain great men, as Darwin, Spencer, Browning, Huxley and others, was due to this defect, which results in a ceaseless drain upon the nervous system.

Most people are familiar with myopia, or short-sightedness. Children afflicted with this defect are likely to make mistakes in copying words or problems from the board. They never see things clear-cut. They cannot discern keenly the changing expression upon the teacher's face, for instance, and they do not get the stimulus which normal children constantly receive. Their minds are in a measure shut away from the world without, and they live within themselves. As a consequence they are handicapped in practically all that they do. On the playground they cannot handle themselves effectively; they cannot see a ball approaching from a distance, for instance, nor catch it or knock it with as much skill as their more fortunate playmates, and so they are often ruled off the playground.

Pupils are sometimes thought to be unusually studious because at play periods they remain indoors poring over their books, but often they stay in because they are at a disadvantage on the playground, where keen senses are at a premium. Such children are apt to become gloomy and morose; and they do not themselves know why. As Doctor Risley says:

"Many a boy who gets on indifferently at school, gaining a reputation for dullness or indolence, is prevented from going forward by his imperfect vision—a condition of which he may himself be

ignorant. How is the child to know but that the blurring page, the watery eyes, the aching head, which follow any protracted use of the eyes, are not the common lot of mankind? This has always been his experience; why should it not be of his fellows also?"

The investigations of hearing in New York, Glasgow, Bordeaux, Chicago, Copenhagen and elsewhere have shown that at least twenty per cent. of school-children have some defect which handicaps them in all their work. So, speaking generally, it must be expected that in every school there will be from thirty per cent. to fifty per cent. of the pupils who have visual defects, and from eighteen per cent. to thirty per cent. who have auditory defects that are serious enough to be taken account of in teaching. In schools where no examinations have been made there must be a considerable number who are not profiting fully by the work offered; and what the community in such a case is expending for the education of the young is not producing what it should. This ought to appeal in a very forceful way to persons interested in the well-being of society, if not directly in the work of education.

A great many shortcomings in school-children have been shown by recent investigation to be due to other defects than those mentioned, but almost no attention has been paid to them because they have not been regarded as of any consequence. Eighteen per cent. of our Madison school-children were found to be "mouth-breathers." In the majority of cases, adenoid tissue, or a sort of third tonsil, was found obstructing the respiratory passages; and it is the opinion of physicians that this exerts a very baneful influence upon both bodily and mental development. I have been able to follow very carefully for some time the careers of two children who were afflicted with this difficulty. They would go to school in the morning in a condition of indifference and lethargy, and it was impossible to interest them in anything that was done. They were behind their grade, and had acquired the reputation of being hopelessly stupid. Both teacher and parents were severe in their treatment of the children, thinking thus to arouse them to action. I found that in their sleeping they had great difficulty in breathing, and were tossing about throughout the whole night. They gained little sound, restful sleep, and

as a consequence were in a fatigued condition all the time.

Some months ago the adenoid tissue was removed by a very simple operation, and those children are today equal to any others in the school. The change in their intellect and temperament has been extraordinary. They sleep restfully now, and have energy for the work they have to do, which they never had before. It is within reason to say that from ten per cent. to twenty per cent. of school-children are afflicted with this difficulty, which, if it were only known and people were interested in it, could be easily remedied. Parents cannot be relied upon to detect it; they are the last ones to observe any errancies in their children. It can be done only by expert examination.

Finally, the condition of the teeth is of great importance, from the standpoint of mental activity. A child whose teeth are in a bad condition of decay will suffer from malnutrition, and there is apt to be also a great deal of nervous irritation which dissipates the child's forces, distracts his attention, and makes it impossible for him to do the best work. Pedley, in England, has made an examination of 3,800 school-children from three to sixteen years of age, and he has found that seventy-five per cent. of the children have diseased teeth. Twelve per cent. of the cases were bad enough to require filling or extraction. The association of dentists in the province of Schleswig-Holstein, in Prussia, recently examined 19,725 children from six to fifteen years of age and found that ninety-five per cent. of them were afflicted with caries, and only 218 of the entire number had ever paid a visit to the dentist. In 1880 Doctor Sexton, of New York, examined in a thorough manner the teeth of eighty children, and scarcely any of them were "free from dental irritation."

The influence of these defects upon the mental activity of pupils in Madison has been worked out in great detail. The school record of pupils as a whole was taken for one basis of comparison; and then special mental abilities, as memory, reasoning, etc., were taken separately. The statistics relating to this matter are so elaborate that it is impossible to reproduce them. But in general it is shown that the afflicted pupils, compared with those who were comparatively free from defects, are uniformly backward.

Take one hundred pupils most defective and one hundred least defective in any school and the difference between them is striking. And the suggestive fact is that by a little attention many of these defects can be greatly improved. We have kept a record of a number of cases that have been treated, and I may, for purpose of illustration, reproduce an extract or two from our reports:

"First case, a girl of 16 when examined. Vision poor, hypermetropia and astigmatism. Hearing defective. She read with great difficulty, and when first examined had no power to get knowledge from books; could retain reasonably well when facts were once in her possession. No account had been taken of the fact that she could not hear well and consequently she became inattentive. When the eyes were fitted with glasses there was immediate improvement in the preparation of lessons; and with care on the part of the teacher in the preparation of work to suit her power of hearing, attention and confidence have improved.

"Second case, boy, aged 17 when examined. Afflicted with hypermetropia and astigmatism. The improvement in reading and the ability to get knowledge from books were quite marked here in a few months when this boy was fitted with glasses. The school life was no longer a burden to him, and he gradually overcame much of the nervousness which had taken possession of him. His pulse was always greatly increased when any mental effort was made, although the body might be perfectly quiet. With the increase of power to meet the requirements of the school, he grew much less self-conscious. As he now engaged the mind with intricate matters in which the successful result was doubtful, he showed patience and composure. His power of analysis was doubled."

What I wish to urge, then, is that organizations of laymen in most communities can accomplish much for education just now by providing for this medical examination of school-children for the purpose of discovering and relieving defects that blight the lives of many individuals, and that defeat in considerable measure the efforts of educational agencies. It is not a question of money principally, but of interest on the part of citizens. Teachers unaided cannot accomplish much; and then they are too busy with books to give heed to physical conditions. This is a kind of work that every woman's club ought to undertake; it is definite and practical, and will yield much better results than cursory discussion of abstract educational questions.



A REVOLUTION IN SCIENCE

DURING the past twenty years' research chemistry has advanced by leaps and bounds. Today even the principle of the conservation of energy is threatened with dethronement. For the quality of giving off continuous energy seems to be possessed by the rare elements, radium, polonium, actinium, and the commoner uranium and thorium, the latter a small but important constituent of the Welsbach gas mantles.

The principle gained its importance from the failure of perpetual-motion machines, yet all the radio-active elements have the power of energizing air. On account of their rarity and expense, our knowledge of these elements is limited to the researches of M. and Mme. Curie, MM. Laborde and Demarcy, Sir W. Crookes and Lord Kelvin, with a few commentaries by others. Some American experimenters are credited with the discovery of radio-activity in spring, lake and even sea-water, and also in the atmosphere in their vicinity. It is also authoritatively stated that the titanium iron ores so plentiful in the United States contain slightly more than traces of radium and actinium, which might offer a new source of the metals, for uranium ores or pitch-blende are comparatively rare.

Radium has for nearly fifteen months produced a temperature outside its glass receptacle amounting to 2.2° F., apparently without loss in weight appreciable to other than scientists, which, in comparison with our present sources of power, amounts in effect to perpetual energy or motion. Thirty thousand miles per second is the calculated speed of the positive electrons or atoms projected continuously from radium, and the theoretical dictum of the gradual disintegration of these radio-active elements into entirely new elements is rapidly gaining supporters.

Few of the hosts of dead inventors attacked the perpetual-motion problem in mechanical directions; their greater success may be doubted had they approached the task in

the direction of radio-activity previous to 1880-1890. Twenty years ago the announcement of the properties of radium would have been received either with open incredulity or a bewildered wonder and helplessness. Today the possibility of a break in the foundations of chemistry and physics has been so largely discounted by our advanced chemists and physicists that the law of conservation has been tottering for at least five years. The answer of radium or radio-activity may put an end to the puzzle of a large number of inexplicable scientific phenomena of the past, among them being electricity and its variety of manifestations.

TRAINING GIRLS FOR OCCUPATIONS

DOWN on West Fourteenth Street in New York some philanthropic people started last November a unique sort of school. They took about a hundred girls, fourteen or fifteen years old, who, when they left the public school, had to help support their families as cash-girls or bundle-tiers in department stores, with no chance of ever learning a profitable trade, and are now training them to become competent dressmakers or milliners, skilled sewing-machine workers or makers of dry-goods sample-books. The course in most cases will last for one year, but girls who show ability for a higher grade of work will be given an extra year, while the exceptionally dull will study another year in order to become expert enough to take up their trade. Each girl is given a \$100 scholarship, which is paid in small weekly instalments.

The spirit of the whole school is business; five minutes late in the morning means five cents fine, and so on, just as in a store. The hours are from nine to five, six days in the week, winter and summer, each girl working at her trade four full hours a day. The girls also study drawing, business methods, industrial history, English, and physical culture.

At the head of each department is a college-trained supervisor, who visits stores and

factories every week to keep thoroughly informed. In direct charge of the work under each of the supervisors is a trained trade-worker taken from actual business life. Under the watchful guidance of these teachers—who are often given aid by the heads of business establishments—each student has to serve a month's apprenticeship during her course at some good shop, the forewomen of which report the deficiencies of the girls to the supervisors. Then the girls, when they return to the school at the end of the month, try to overcome these faults. Since November the work turned out by the school has brought \$400.

The girls study the industrial history of their trade by means of charts and lectures. They also learn the fundamental facts about the city and national governments. The English work centres about the correct use of trade terms and the idealization of labor in literature. The students work simple problems in arithmetic, write cheques and receipts, and so on. Every girl learns to draw straight lines, to gage distances, and to copy flowers from nature. She also paints the flowers in water-colors, and then learns, by conventionalizing them, how to make designs that apply to her trade. When she has made a design in the drawing-room she next gives it a practical test in the workshop. Every minute during the day is turned to practical advantage. At the lunch hour these embryo wage-earners dip into the mysteries of housekeeping, as every week five different girls wait on table and wash and put away the dishes. In the summer odd moments are spent in the flower-beds in the back yard.

While the school has had but a brief existence, already it seems to have achieved definite results. One girl, who entered in November, was apprenticed in April to one of the best millinery firms in New York. She has now been engaged permanently at \$8 a week, while if she had been trained at a milliner's shop she would have worked for two seasons without pay. Another girl, who had been a bundle-tier in a department store, after spending three months at the school was offered a position at \$6 a week by an embroidery firm. Nearly all of the hundred or more girls at the school are likely to have good positions by Christmas time.

A YANKEE SHOWMAN

WHEN the first American circus to undertake a trip abroad pasted its bills about London the theatrical managers discussed the invasion and concluded that

they could not afford to suffer by this foreign competition. So, searching, they found a long-forgotten law which required a fire-proof curtain of asbestos and steel to hang between performers and spectators. They bided their time before mentioning it. Notice of the statute was not received by the proprietor of the circus until six weeks before the first performance was scheduled to take place in a building considerably larger than Madison Square Garden in New York, one end of which had been shut off for the performers. The prescribed curtain would have to stretch from roof to floor and from wall to wall across the entire width of the interior. The cost of the curtain was figured at \$30,000; but that was of minor importance. No factory on earth could construct such a stupendous fabric in less than six months, not to mention six weeks. Manifestly the obstacle was insuperable; the London theatrical men were content that the Yankee would never be able to fulfil his engagement.

This was five years ago, when American enterprise had not widely been exploited. But the night the showman learned of the law he summoned his assistants and set to work despatching messages to every firm in the two hemispheres that manufactured the article he needed, asking just how much of the curtain each could furnish and deliver within the required time, working day and night, regardless of expense. His telegraph tolls that night amounted to \$300. By morning all the orders had been given and work on the curtain had begun. As fast as the parts arrived in London an army of workmen riveted them together and the whole was ready for use just twelve hours before the first performance began. It cost the Yankee showman \$60,000—twice as much as he would have been obliged to pay had he had plenty of time, but the English managers were silenced. During the long and immensely successful run which the circus enjoyed the Englishmen never again interfered with a rival so well equipped with energy and money.

EDUCATIONAL SIGHTSEEING

THERE is an interesting story of the unexpected evolution of an idea in the case of a company now engaged in the business of "personally conducting" sight-seers through the principal cities of the country. The business, which has grown extensively during the past two years, is really the result of a Western promoter's efforts to entertain several of his friends and customers.

He is a Denver man, a foremost citizen of that bustling city, and it chanced one day

that he found himself in possession of a large quantity of real estate which was not "working off" very rapidly. His faith in the future of his home city was unbounded, and he felt that if he could show the beauties and the advantages of the place to outsiders they would not hesitate to buy. So he conceived the idea of a grand trolley-car tour over the lines of the city railway.

It was a simple matter to charter and decorate several open cars, and equally easy to secure the attendance of a number of prospective investors. The tour was a great success, and it was followed by several others. Then, one day, a friend asked the promoter why he did not provide a permanent sight-seeing company. The value of the suggestion was so patent that it received recognition at once, and today the original company and a sister organization operate trolley-cars or tallyho coaches in New York, Washington, Boston, Salt Lake City, Denver, Los Angeles and Milwaukee. In addition, the company owns and operates in New York City the largest automobile ever constructed, and also a yacht which circumnavigates the island of Manhattan daily.

One of the most interesting developments resulting from the original idea, however, is the educational feature. Shortly after the system was established in Washington, the management was approached by the proprietor of a private school who offered to charter two of the cars.

"I do not know of any better way in which I can instruct my pupils in the history of the city," he said. "I will take the cars for next Monday if you will send along two of your most proficient lecturers."

Within a week the company was advertising the educational feature, and today their bookings show the names of the most prominent schools in the country.

New York City, with its two hundred and fifty years of Dutch, British and American history, offers the most promising field. The city has been divided into an uptown and a downtown section. The latter section includes a trip through the Bowery, Chinatown, Wall Street, Broad Street, past Fraunce's Tavern, and in and about all the old landmarks of the early Dutch and British periods. The lecturer, who seems to be well versed in the city's history, describes at length the many interesting points.

It must be conceded that more can be learned in an hour's drive of this kind than in a month passed among dry histories. The educational phase of the sightseeing plan is only a modern adaptation of the former

Continental habit of including the "grand tour" in a youth's curriculum.

A FACTORY WITH BLIND WORKMEN

THERE is a factory in West Philadelphia in which all the workmen are blind. Thousands of dozens of brooms of all grades are produced every year by these men working at piece-work wages ten hours a day in a \$200,000 plant under State direction and control.

Mr. Herman L. Hall, the superintendent, has twice lost his sight—once in early youth and again later, when he "graduated into darkness," as he puts it.

"The last time I became blind," said he to a recent visitor, "I went to an institution for the blind. There were no books there. I asked why. The answer was 'No money.' So I formed an organization to provide books for the blind. We were incorporated as 'The National Printing Association for the Blind.' Later we united with the American Printing House for the Blind, with headquarters in Louisville, Kentucky.

"In going about I met many blind men playing hand-organs, peddling wares in the streets, canvassing, and so on. Every time I met a blind man I accosted him:

" 'Are you blind?'

" 'Yes.'

" 'Been in an institution?'

" 'Yes.'

" 'Learn a trade?'

" 'Yes.'

" 'Why don't you work at it?'

" 'Tried to, but failed.'

"It was to help these men that the institution was started."

Harness-making and cigar-making have been experimented with. Basket-making, which is a good employment for the blind in England and Canada, where baskets are more generally used, has been found a failure here. Rag-carpet weaving and the re-caning of wornout cane-seat chairs are both good, but not sufficient work of this type is afforded. Mattress-making is suited to the more skilful workman, but is very variable in its market conditions.

On the whole, broom-making has been found to be the best form of industry to meet all the requirements. Blind men can perform all processes except color-sorting. In the Philadelphia factory there are but a dozen workers required who can see.

"Our men earn from \$6 to \$9 a week, according to the grade of broom and the rapidity with which they learn to work," said Mr. Hall. "The pay for winding is from two

and a quarter cents to three cents a broom, according to size; one-quarter cent a band is paid for sewing. That means that a broom with five bands brings thirty cents a dozen. If a workman is very rapid he can sew seven dozen brooms a day by hand. We have not put in machines for sewing the brooms yet.

"We have five blind deaf mutes at work just now. One of them, a Russian Jew, is our most expert workman. We have paid him \$48 during the last four weeks. A number of blind workers are acting as our agents for the sale of the brooms. Some of them earn as high as \$20 a week on an average.

"We can turn out brooms in our factory at less than other factories and can command a good sale. Still we are unable to give employment to all the blind who apply. There are one hundred and twenty-eight now on our waiting list. We have two classes of workers—those who board in the home and those who live outside in families, the boarder paying \$2.25 a week."

During the past two years work has been regularly provided for an average of one hundred and twenty-one blind men. Fifty of these are married and support wives and children from their wages. An average of forty-seven boarded at the home. Forty-five of the men were from forty to fifty years of age; forty-seven were more than fifty, and forty-six under forty years. The total amount paid in wages to blind workmen was \$60,977.49. Nine hundred and sixty-three tons of broom corn were made into 92,175 brooms. A total of \$95,663.98 was realized from the sale of manufactured goods in the two years, and nearly \$6,000 were received from the boarding department. The deficit to the city and State in 1901 was \$21,000; in 1902, \$34,000.

RECENT ACHIEVEMENTS OF WOMEN

THE list of registered vessels published by the Canadian Government shows seventy women owners or managing owners of steam vessels and fifty-six of sailing vessels. Five women in the United States have passed the examination for a pilot's license, the last one a few days ago. They navigate the Mississippi, the Ohio, the rivers of Virginia and the waters of Chesapeake Bay.

The president and general manager of the Southern Independent Telephone Company, in El Paso, Texas, a woman, has recently built lines to adjacent towns, covering several hundred miles. The Cleveland, Painesville and Eastern Traction Company is being managed by the president's chief clerk, a woman, while he takes a trip around the

world. A woman has just been appointed assistant city ticket agent in New Orleans for the Louisville & Nashville Railroad. A few months ago a woman, by vote of the electors of Davenport, Iowa, was granted the franchise for an electric road between that city and Clinton.

One of the most prominent of oil magnates in Los Angeles is a woman, who is said to control about half of the whole product. A woman is considered one of the most valuable of the sugar inspectors for the Spreckles Company of Hawaii. A woman who has been for twenty years cashier of a bank in Huntington, Indiana, has just been offered the presidency of a large banking institution now being organized in New York. The Philadelphia woman who recently invented a scientific bread-making machine has taken several prizes and been offered a large price for her patent. A woman lately died in New York who was said to stand at the head of the diamond experts in this country, and to have left a fortune of \$1,000,000.

The master of the Minnesota State Grange is a woman. The president of the Elwood, Indiana, Trades and Labor Council of 3,000 members is a woman, who is also State Organizer. The general organizer of the Retail Clerks' Protective Association for the past three years has been a woman, and membership of more than 40,000 is largely due to her efforts.

In the professions, in the world of letters and in the colleges, women are constantly growing more prominent. The Iowa Society of Medical Women, which met in April, announced that in sixty-six counties the number of women physicians had increased from ninety-eight in 1899 to one hundred and fifty-five in 1903. A young woman studying naval architecture at the Boston Institute of Technology is said to have received an offer of a position from the Cramp shipbuilders. A woman sculptor of Cambridge, Massachusetts, has just had an important commission from the Brooklyn Institute of Fine Arts for a large collection of figures of elephants, lions and other big animals. A young woman of Harrisburg has just been given the contract for the mural decorations of a room in the new capitol of Pennsylvania. The rooms of the Cosmos Club, of Washington City, have recently been handsomely redecorated by a woman. Congress has awarded to a woman a \$3,000 commission for a bust of President McKinley. Much important sculpture for the St. Louis Exposition is being executed by women. The Colorado Academy of Science has elected a woman president.



PIUS X.

GIUSEPPE SARTO, CARDINAL-PRIEST AND PATRIARCH OF VENICE, ELECTED SUPREME PONTIFF ON AUGUST 4TH

THE WORLD'S WORK

SEPTEMBER 1903



VOLUME VI

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The March of Events

WE have harvested good crops; we have had a summer of productive industry in spite of strikes; our iron and steel mills are busy; our railroads never had so much to haul; all the army of industry has work and wages; most of the people have had an outing; all sorts of summer meetings have been held to advance education and trade and good-fellowship and every other cause under heaven (we hold national meetings now under every pretense for the pleasure of going to San Francisco or to Boston or to Niagara Falls); every man who earns his living and does not gamble for it has got his wage, or fees, or profits to show that the summer was a normal one; and we go into another autumn of good-feeling and high promise of solid prosperity. Sojourners by the coast and in the mountains are coming home, and all goes so well throughout the length and breadth of the land that we may surely count ourselves a fortunate and happy people. Presently the schools and colleges will have a larger number of students than ever—a fact that is a measure both of the popular prosperity and of the popular ambition.

True, we have the home problems of lynchings and labor-unions; but we are at peace with the world, and the two strongest European rulers have lately done us the

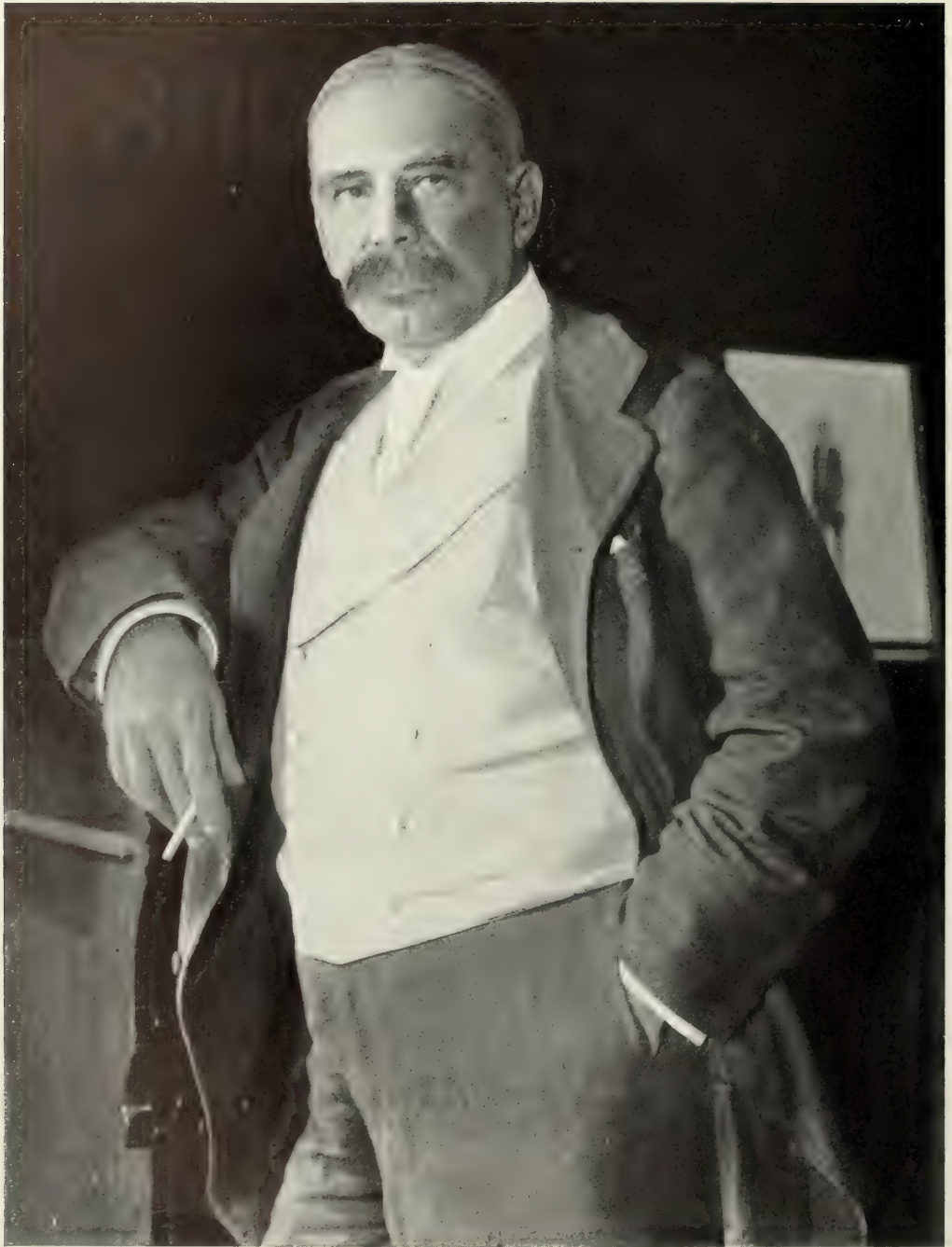
courtesy to dine our visiting naval officers and to pledge their friendship. Newcomers from almost every quarter of the world seek our shores—it must be confessed, in somewhat embarrassing numbers. Between the compliments thus paid us by the rulers of some countries and by the oppressed masses of other countries, we may keep our balance; for our foreign trade grows, and this growth is better than compliments.

If in the face of as prosperous and fortunate a national life as these things denote, gamblers in stocks suffer the loss of fortunes that existed chiefly on paper, it matters little; for the productive people live a long way from Wall Street, and work in quieter places than the Stock Exchange.

THE TEMPER OF THE BUSINESS WORLD

MEN of affairs in every part of the country say that the condition of business is sound. Hardly a word of fear can be found in the interviews with merchants, manufacturers, bankers, and railroad men that have been published during the last few weeks in the commercial journals and the daily papers. They discuss three subjects in a spirit of warning, but they do not seem to feel permanent discouragement.

The labor problem is mentioned by most of them as a menace to prosperity. Yet so light-hearted is the American way, and so



Photographed by Frances Benjamin Johnston

COUNT CASSINI

THE RUSSIAN AMBASSADOR TO THE UNITED STATES

(See "The March of Events")



MR. KOGORO TAKAHIRA
THE JAPANESE MINISTER TO THE UNITED STATES

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(See "The March of Events")

confident our mood, that few men regard this as a permanent danger. Even the men whose enterprises have suffered most from strikes have the feeling that the American working-man is going to show himself too wise to put a lasting burden on industry. Some men, however, take a more serious view of the temper shown by the unions, especially the unions of the building trades. Mr. Marshall Field, the great merchant of Chicago, for instance, said a little while ago:

"If this labor agitation continues, labor will be out of employment, for the reason that the employer is now paying as much as it is possible for him to pay and live. . . . The prosperity we are now enjoying will not continue unless labor is willing to continue earnestly at work at the present very high prices; and these prices must certainly go down as soon as there is any material let-up in business. . . . I know of my own knowledge that we should have had a much greater increase in manufacturing in Chicago during the last five years had it not been for the labor difficulties."

Perhaps an increasing number of business men have a definite fear that labor troubles will end our prosperity; but the general confidence that every American citizen has in the final good sense and fair play of American working-men prevents the expression of despondency. The least cheerful feeling is expressed by those who know the socialistic tendency of a part of the labor world; the most hopeful feeling by those who have to do with the better class of working-men, such as railroad employees.

Another subject that is, of course, universally discussed in business interviews, is the fall of prices in stocks. But everybody is agreed that there had been an unnatural inflation; that a fall was certain sooner or later; and that, so long as the productive industries of the country are doing well, no substantial harm will come to business conditions.

The third subject discussed is the relation of the Government to business—on one side, the Government's efforts to restrain trusts, and on the other side the need of financial legislation that shall make the currency more elastic. But the rank and file of business men—and this is a fault of our men of affairs—think little about such subjects as these. The scientific study of the great commercial forces appeals to all too few practical men.

In so far as the mind of the business world finds public expression, therefore, the opinion is yet general that our prosperity has a substantial basis and is likely to continue. There is a note of caution running through what is said and written, but hardly a note of serious apprehension. In fact, in several parts of the country the feeling is one of buoyant expectation, such as a manufacturer in St. Paul, Minnesota, expressed thus:

"Twenty-five years from now the Northwest will have grown so that in looking back the comparison will be as surprising as the comparisons now made with conditions twenty-five years ago. Three great questions confront us here, first, the possibility of overdoing the speculation in lands; second, the problem of obtaining and maintaining equitable rates on our manufactured products moving east; third, reciprocity with Canada. These are the live questions in the Northwest today."

Especially hopeful, too, are most of the railroad men. The enormous traffic that they do seems to preclude the thought of early business stagnation. Theirs is, of course, a secondary and not a primary industry; for produce and wares must be grown and made and sold before the railroads haul them. Railroad traffic is an index rather of present than of future conditions.

If timid men think that the general confidence of the business world is not warranted, it is worth while to remember that this confidence is itself a very important factor in keeping prosperity with us. One of the pillars of our success is the confident American temperament.

THE CONCENTRATED CONTROL OF BANKING CAPITAL

"The Morgan and the Standard Oil alliances control not less than \$205,000,000 of the \$451,000,000 of banking capital invested in the city of New York; and, in all probability, secure a similar proportion of the business transacted."

THIS is the calculation made by Professor Charles J. Bullock of Williams College, Massachusetts, in an article which is published in the *Atlantic Monthly*. Such a concentration of banking capital is a part of the general tendency toward the aggregation of all forms of financial and industrial power. The drift of corporate business to New York has made an enlargement of banking capital necessary. Deposits and loans are now



P. M. ARTHUR

THE LATE CHIEF OF THE BROTHERHOOD OF LOCOMOTIVE ENGINEERS

(See "The March of Events")



Photographed by Marceau

LIEUTENANT GENERAL NELSON A. MILES

THE RANKING OFFICER IN THE UNITED STATES ARMY, WHO WAS
RETIRED ON AUGUST 8TH. HAVING REACHED THE AGE OF RETIREMENT

made there by trusts, a part of which were formerly made in other cities by the smaller companies that compose the trusts; and the New York banks have sought and hold ever-increasing deposits from country banks. Thus during the last five years the banking capital of the city (capital, surplus and undivided profits) has been practically doubled. These banks, besides, hold between \$400,000,000 and \$500,000,000 deposits of other banks. Yet there are now only forty-five national banks in New York as against fifty in 1895. Even this summary of the increase of banking capital and power does not tell the whole story, for the growth of private banks and other institutions not reckoned in Professor Bullock's summary swells the volume even more.

The main point is not the concentration of bank capital, but the control of it by a few men. Two strong groups dominate (though they do not, perhaps, control) practically half the banking interests in New York, and by "community of interest" a great deal more capital besides, such as the funds of some of the great life insurance companies.

Some of the advantages of such aggregations are obvious. Banking can be done more economically on a large scale than on a small scale. The operating expense of a bank with a capital of \$100,000 is 2.34 per cent. of the loans and discounts, but the operating expenses are only 1.33 per cent. if the bank have a capital of \$1,000,000 or more. Another advantage of concentration, as it has been more than once proved, is a greater stability of financial conditions. The coöperation of these great institutions can greatly lessen the damage done by industrial crises.

Among the obvious possible dangers is too close an identification of these great banking groups with more or less hazardous industrial schemes. To what extent this danger exists time alone can reveal. Another conceivable danger is that the men who dominate these combinations might balk any great industrial or financial undertaking of which they did not approve. It would be difficult for anybody to carry out a large plan, which required the aid of much money, without their consent and coöperation.

There is not yet and there never can be such a thing as a monopoly of capital. The one large and important question that these facts

suggest is, whether this concentrated banking power is likely to be used for legitimate and conservative banking uses (as the power of the Bank of England or of the Bank of France is), or whether it will be used too much in speculative industrial undertakings. Up to this time at least it has been used rather for greater stability of financial conditions than as a disturber of the country's business. The continuity of it will probably depend, as the continuity of other great aggregations of power depends, on the personalities of those who hold it. There are yet very few successful large aggregations of any sort that have passed from the management of the men who formed them. One of the interesting questions that time will answer is this—are the trust-builders training capable successors?

OUR PLACE AMONG THE TRADING NATIONS

HOWEVER few be the men that control our banking and our railroads—whoever be our owners—and whatever disasters befall speculators in Wall Street, our trade with other nations goes on mighty well. We still lead all other countries in the value of our exports.

The relative importance of the foreign trade of the principal countries ought to be a part of every man's knowledge. The following table presents the facts briefly. It shows the exports in millions of dollars at four different periods.

EXPORTS IN MILLIONS OF DOLLARS

Countries	1902-3	1890	1880	1870
United States.....*	1,392	845	824	377
United Kingdom...	1,379	1,282	1,085	971
Germany.....	1,113	792	687	†552
France.....	818	724	669	541
Netherlands.....	†696	435	251	154
India.....	408	347	272	255
Austria-Hungary..	388	309	275	192
Belgium.....	358	277	235	133
Russia.....	†369	388	248	216
Italy.....	284	173	213	146
Brazil.....	†107	141	97	89
Switzerland.....	169	139	\$129	—
Argentina.....	173	97	56	29
Spain.....	142	181	125	77
China.....	135	111	106	87
Japan.....	127	49	25	15
Sweden.....	†95	82	63	41
Chile.....	†63	51	52	27
Norway.....	46	35	29	22
Mexico.....	42	18	26	†28
*1903.	†1872.	†1901.	\$1885.	†1877.

It is an interesting review sent out by the Bureau of Statistics of the Department of

Commerce and Labor, bringing the figures down to the end of the fiscal year, June 30th.

In 1870, we stood fourth among the exporting nations, for the United Kingdom, Germany and France exceeded us by much. In 1880 we had got the lead on Germany and France, but the United Kingdom was still first, and it remained first till 1893. But since then the value of our exports has exceeded the value of the exports of any other country; and in the last fiscal year they were greater than in any preceding year, except 1900.

ROOM FOR GREATER EXPANSION OF OUR FOREIGN TRADE

BUT the greater part of our exports are yet food products. The farmer sends abroad much more than the manufacturer. For the place that we have taken among the trading nations we yet owe more to the bounty of nature than to the skill of man. In 1880, agricultural products were 85 per cent. of our total exports, and in 1900 they were 61 per cent. While, therefore, our manufacturers have very rapidly gained on our farmers in the relative value of the things that each class sells abroad, the farmers are yet very much ahead.

We sent abroad last year \$400,000,000 worth of manufactures, half of which went to Europe. The higher the industrial civilization of a country the better market it is for our wares. We sold one-fourth of all our exported manufactures to the United Kingdom and another fourth to the British colonies. The English-speaking countries buy half the things that we make and sell abroad. Common language and similar customs have much to do with this direction of our trade. But our trade takes this direction also because we know better what our kinsmen want than we know what people of different habits want.

The weakness of our foreign trade, in fact, is yet our inability or unwillingness to make things as other nations want them. They may want shoes or hats made after their own fashions, but we yet show a strong tendency to try to sell them shoes or hats made after our fashions. We haven't studied foreign trade as carefully as the English and the Germans have studied it. The foreign trade that we have built up has been in those things that must come from us—things that we

make peculiarly well for our own market—such as locomotives, electrical machinery, sewing machines, typewriters; and we have thus far regarded foreign trade as a sort of overflow of our home trade—a way to dispose of our surplus. How little we have done in a scientific way to cultivate some of our natural foreign markets is shown by these facts: Only about six per cent. of our manufactured exports went to South America last year; and only about three per cent. to Africa; and only about eleven per cent. to all Asia. That we sold only about \$43,000,000 worth of manufactures to Asia and about \$24,000,000 to South America shows how little pains we have yet put ourselves to to get the trade of these countries and to adapt our wares to the peculiar needs of these peoples.

But, in spite of the small trade in manufactures that we have in these markets that need special cultivation, our whole foreign trade in manufactured articles has nevertheless grown at a great rate. Europe bought only seventy-six millions of our manufactures ten years ago. It now buys two hundred millions. The rest of North America bought only thirty-three millions ten years ago. It now buys one hundred millions. South America bought seventeen millions ten years ago; it now buys about twenty-four millions—an increase even in that field.

And, the question of foreign trade apart—we now manufacture more things and things of greater value than any other country. In 1860, Germany was ahead of us, and France; and the United Kingdom made twice the value of things that we made. We were at the bottom of the list. But by 1888 we had come to the top of the list, and were making nearly twice as great a manufactured product as the United Kingdom. That was fifteen years ago. We are now still further in the lead. Mulhall's estimate of the total value of the manufactures of the four great manufacturing nations in 1894 gave the value of our manufactured products at about \$9,500,000,000—practically as much as the total value of the manufactures of the United Kingdom, Germany and France all put together.

There is, therefore, not only good reason why our foreign trade in manufactures should have grown so fast, but there is good reason why it ought to have grown faster

with South America, Asia, and such countries. Our salesmen in foreign lands and our selling facilities are not as good as our ability to make things.

IS THE GOVERNMENT YET "SYNDICATED"?

GOVERNOR LA FOLLETTE of Wisconsin has done a great public service as the champion in his State of a direct primary law and of a law to tax corporate property by the same scale of valuation as private property, and he has won the confidence of his State. These are the two practical methods that he has chosen to break the control of corporations over the government.

In this long and hard struggle for a real democracy instead of rule for commercial purposes, Governor La Follette has directly encountered the opposition of the commercial interests and of self-seeking promoters, and he knows his enemy and his ways. Like every other vigorous man, he has stated his case with emphasis. Consider, for examples, such phrases as these quoted from a recent address made by him at Chautauqua, New York.

The great commercial interests "buy immunity from taxation in our legislatures"; sometimes they secure advantages by "straight, simple bribery," sometimes by "alluring deals and promises of political preferment," sometimes by "threats of ruin." They "defeat legislation for the general good, and pass laws to promote private interests." The people "are losing control of their own government. Its foundations are being sapped and its integrity destroyed." He quoted from a letter written by a United States Senator who declared that the railroad companies controlled the Senate.

Now Governor La Follette is not a "calamity howler." Every observant man who knows anything about public life knows that there are cases, more or less common, of bribed legislatures, of desirable legislation balked for private gain, and of bad legislation enacted for the same reason. Everybody knows that there are public officers in the United States Senate and out of it whose action is controlled by great corporate interests. It would be surprising if in these days this were not true.

The question of importance is not, Are there cases of these kinds? but, Are they so numerous as to warrant the sweeping conclusion that "the people are losing control of

their own government," and that its "integrity is being destroyed"? This is an impossible question to answer with exactness. The Governor of Wisconsin is a man whose opinions—even his sweeping opinions—are entitled to respect. Yet there are other men—men of public spirit and of careful thought—who see a corrective power in public opinion which is capable of asserting itself so surely and emphatically when a real test comes as to relegate the corrupting influence of commercialism in our public life to the class of temporary and sporadic evils. Burglars have always plied their trade, but society manages fairly well to defend itself against them. Murderers are always active. Yet life in the United States is fairly safe. Commercial control of public men is more frequent than burglaries or murders. But, on the whole, has it got the better of the public? or is it getting the better of it? Are the people not still stronger than the bribed and the bribers, the blackmailers and the beneficiaries of special laws and special privileges?

He is a foolish man who shuts his eyes to dangers that are obvious. Yet it is worth recalling that Governor La Follette has himself won his fight against these very influences by appeals to public opinion; and it is hard to find any case in our whole history where public opinion was not aroused in time to save the "integrity" of the government. The vast, immeasurable force of democracy lies dormant sometimes for long periods, but in every real crisis it has arisen and made short work of whatever influence has threatened its foundations. If the people really share Governor La Follette's sweeping fear—or whenever they share it—they will rise to the danger. At any rate, they have always hitherto so risen. Wretched as our case is, the Government is not yet "syndicated." At this very moment, in fact, many of the "great aggregations" are having pretty serious troubles of their own.

THE ONE REMEDY FOR MOBS

PROFESSOR WILLIAM JAMES, the eminent psychologist and philosopher of Harvard University, has pointed out the deep-lying cause of lynchings in a letter to the Springfield (Massachusetts) *Republican* that makes one shudder. He calls it a "profound social disease," a sort of licensed blood-sport

which is fast regaining a hold on American life, South and North. The restraint that civilization has gradually imposed on us, he goes on to show, is artificial and not organic. The organic thing is human blood thirstiness.

"The average church-going civilizee realizes, one may say, absolutely nothing of the deeper currents of human nature, or of the aboriginal capacity for murderous excitement which lies sleeping even in his own bosom. Religion, custom, law and education have been piling their pressure upon him for centuries mainly with the one intent that his homicidal potentialities should be kept under. . . . Negro lynching is already a permitted exception in the midst of our civilization. . . . Impunity is agreed upon, and an anonymous mob is the power to which the license is accorded."

The horror of such a conclusion causes "the average civilizee" to shrink from it and to speak of "rude justice" and the like. "Yet I find it hard to comprehend," says Professor James, "the ignorance of history and of human nature which allows people still to think of Negro lynching as of a transient contagion." Religious wars and dueling and Jew-baiting came of the same deep-lying love of murderous excitement. Each of these is, of course, explained in gentler phrases; but they are of the same origin. The essentially murderous man everywhere is coming to regard a prisoner, especially a Negro, as a permitted victim. If vigorous and definite action be not taken and many "leading citizens' hung," Professor James thinks that the epidemic will spread and "we shall have Negro-burning in a very few years on Cambridge Common and the Boston Public Gardens."

Professor James's analysis of the cause is psychologically accurate, but his remedy does not go far enough. As for special legislation directed against lynching and lynchings, most States have severe laws already. Hanging "prominent citizens" or others who take part in the work of mobs—that depends upon the grand juries, the prosecuting attorneys, and other public officers in each community; and the practical difficulty of convicting members of mobs or (more often) the complacent temper of the community usually prevents the hanging of anybody. If any considerable part of a community really approves of lynching, or falls short of very vigorous action against it,

there is no way to punish men for it in that community.

The difficulty of dealing with this "profound social disease" lies in the very fact that it is not an individual but a community disease.

You can't punish a mob unless you punish it while it is a mob. A man is not the same man while he is in a mob as he is while he is an individual; and this is one reason why it is so difficult ever to punish any individual for what he did as a part of a mob. This distinction is not fanciful—it is a real difference; and public sentiment and prosecuting officers and juries recognize it, whether they know it or not. For this reason it is generally useless to hope for the punishment of men after a mob has dispersed; and Professor James's remedy of hanging prominent citizens has the generally fatal defect of impracticability.

As soon as a mob that has killed a prisoner has dispersed, the real murderer is gone. The men who made up the mob exist, but in most cases not one of them would have done the murder singly; and there is a sense in which not one of them is the murderer. For this reason Justice Brewer's remark that every man who takes part in a mob ought to be regarded as a murderer, true as it is, fails to have a practical application in fact. The remedy is to make sure that sheriffs and other officers of the law punish mobs while they are yet mobs. This is a dangerous business to be engaged in; but in no other way will this "profound social disease" be checked. The gradual pressure of civilization has made the duelist and the bully obsolete. But only the sudden pressure of hot lead will stop a mob. For a mob is essentially war against organized society; and it can be met only by war.

THE NEW HEAD OF TAMMANY

TAMMANY, which in spite of the various kinds of criminals that by various methods have at various times risen to power in our municipal life, as in St. Louis, in Philadelphia, in Minneapolis, and in other cities, remains the type of the most successful and powerful criminal organization in our political life—Tammany again has a master of a kind that fits it. He is a man who has risen from the ranks of barkeepers by his personal power as a silent leader of men. He "knows the game," and he thoroughly believes in it

and enjoys it. He is an East Side patriot in his way.

There is no more instructive reading in the literature of contemporaneous affairs than the story of Boss Murphy's career told in this magazine, with the supplementary chapters that appear now and then in the criminal court columns of the New York newspapers. If he win the municipal election this fall, this boss will become a national character and a power in the management of the great political party that was founded by Thomas Jefferson. For that matter, he will become a power also in the opposing political party, for boss answereth unto boss, swapping favors and pooling issues.

WHAT WE ARE LEARNING ABOUT TRUSTS

THE decline of trust stocks in the market has again raised in many men's minds the question whether, after all, the great aggregations of industry have come to stay. Of course, the organization of more of them is checked for a time; but there are reasons to believe that the methods of organization which have prevailed for several years will never be popular or possible again.

Properties that were of little value have, as everybody knows, been put into some combinations at high values. In some cases properties (mills, for example) have been absorbed at the value of the damage that they were supposed to do as competitors to the absorbing properties—in other words, at what the trust organizers could afford to give, or were forced to give, to close them. Thus some trusts have capitalized a negative thing—a loss. In the juggling with thought that underlies much of the promoter's vocabulary, the capitalization of such a loss has often been called an "economy." Thus—two factions are in competition. Neither makes money. Each is held at \$1,000,000. They are combined. Their combined value is called \$2,000,000. But, if one of them is shut, the real value of the two is only \$1,000,000. Yet they are capitalized at \$2,000,000, and must pay dividends on \$2,000,000. Something like this has been done time and again.

Time and again, too, the underwriting syndicates have taken what seems to the public an exorbitant price for their services; and to pay this price the stock was watered. A case in point is the United States Steel

Corporation. It is this fact among others that has caused the four-per-cent. common stock of the corporation to sell at a price which will yield seventeen or eighteen per cent., at a time, too, when the corporation has a large surplus and advance orders for enormous business.

The public has found out, too, that the manager of a great combination is a determining factor in its success. The management of such organizations as the Standard Oil Company, the great tobacco company, and others, which have been conducted from the beginning by the same group of men, has proved the exceptional ability of these men; and the failure of many another organization by reason of incapable management has shown that men who can conduct great aggregations are few. They are fewer than the business world believed even a few years ago.

Some trusts have failed, too, because men whose capital was released when they were organized have later gone back into the same business in competitive enterprises. It is not only capital that is required successfully to conduct a great combined business, but the sort of experience in its conduct that has been gained by a lifetime of training, plus extraordinary executive ability.

In a word, those combinations will succeed that are made up of the kinds of business that naturally lend themselves to combination (and many kinds of business do not so lend themselves); that are capitalized with some approximation, at least, to real values; that do those kinds of business which supply a continuous want of the community, such as oil, sugar, and tobacco; that have men in control whose training and executive quality fit them for the successful management of very large enterprises, and such men are rare.

While, then, we may be sure that some trusts have come to stay, we have gone far enough to see also that many others are sure to collapse or to disintegrate; and not every sort of business can be organized into great "combines." To make a successful trust, something more is required than energetic promoters, underwriting syndicates, and a confiding public with money to invest. We are discovering that there is one better regulator of trusts than all the laws that were ever enacted. A little while ago any-

thing that was in process of organization was more or less favorably regarded. Now almost everything that is organized is under suspicion. This is another proof of the old adage that the public at any given time is likely to be wrong, but that over a long period it is sure to be right. Trusts and mergers can come and thrive no faster than the public will permit. So long as the public actively encourages them they will come in spite of laws. But as soon as the public becomes suspicious they are put on the defensive without laws. Economic forces are stronger than statutes, and Time is the best regulator.

SOME LESSONS OF THE STEEL TRUST

THE great decline in the price of the shares of the United States Steel Corporation is instructive in many ways. This gigantic aggregation of many of our most prosperous industries was brought about in the first place partly, at least, because of competition between the mills, but especially because of competition which did not yet exist—a threatened competition. The “value” of this threatened competition was capitalized. The mills in existence must pay a profit on the value of mills that never came into existence—mere threats of mills. Then the organizers, taking a great responsibility, and perhaps also a great risk, demanded and received an unprecedented share of the new stock for their services. The mills in existence must pay a profit on this also.

Then the man who was naturally chosen for the presidency, with every reason to suppose that he was equal to the great task, broke down. His continued disability to do the actual duties of the president, and his final retirement, gave a shock to the public confidence in the corporation. This shock came in spite of the two most important favorable facts that any corporation can have—that its business is the most profitable kind of manufacture that we do, and that the strongest financial men in the country were its organizers and sponsors. That the shares of such a company should sell as low as twenty-one cents on the dollar, when it has a good surplus and enormous orders ahead, shows that the public has reached the state of mind that compels a scrutiny of the facts which underlie a trust.

IS WEALTH CAUSING SOCIAL DEMORALIZATION?

A WRITER in this number of THE WORLD'S WORK has gathered such evidences as he could find of social demoralization caused by the unprecedented growth of wealth in the United States; and, as Mr. Paine's well-balanced inquiry shows, he would be an easily discouraged social philosopher who should despair of American life and character for this reason.

That demoralization of certain social “sets” has followed the idleness that wealth has brought—this is a common result in our country as in all countries; but it must be remembered that these pitiable persons have a degree of publicity through the demoralized newspapers that no idle class ever before had. We may, therefore, exaggerate both their number and their influence.

Expensive houses, rich furnishings, costly sports, extravagant entertainments, criminally expensive hotels and the like, everybody sees and knows about; and there are Americans who have a scale of living that would put the rich men of most other countries to shame. But the real question is not whether the amount of unnecessary or even vulgar expenditure be large, but whether such expenditure vitiates taste, induces to idleness, and encourages vice. The only fair answer is that there is surely yet as large a proportion of idle and vicious among the poor or the well-to-do as among the rich. Most American men have occupations, and most of them have engrossing occupations.

But there is probably a larger proportion of American women who suffer from idleness than there was a generation ago, and the chief social danger from great wealth is the danger to women. Yet there comes up from the humbler social levels into the ranks of well-to-do life so many robust and well-balanced young women of every generation that those who are spoiled by fortune are, in comparison, inconsiderable.

Our democracy reinforces itself with a safe and vigorous womanhood even more surely than with energetic manhood. If all the women in the United States between the ages of eighteen and forty could be appraised by the best standard of womanhood, they would show such an advance over their mothers as could perhaps not be shown by any preceding generation of men or women since civilization began. They owe much of

it not to excessive wealth, but to the well-diffused prosperity that they have enjoyed. And excessive wealth and all its evils are, after all, only unfortunate incidents of this diffused prosperity.

RICH MEN AND THE PUBLIC SERVICE

DURING the midsummer dulness newspaper correspondents entertained their readers by enumerating the men of fortune who (outside the legislative branch of the government) hold office in Washington. Their salaries are all small—small for rich men. For examples, Mr. Hay, Mr. Root, Mr. Knox and Mr. Hitchcock of the Cabinet, Mr. Pinchot of the Bureau of Forestry, and several of the assistant secretaries receive salaries that fall far short of paying their house rent or a fair income on the cost of their homes.

There is nothing surprising in this fact, but it is a good sign of civic health nevertheless. It is doubtless true that hundreds of millionaires who have discovered the limitations of wealth would give large fortunes for the station that public office brings. The mere social prominence of a dignified public post would be cheaply bought by many a man in exchange for a fortune. But luckily it is not this class of rich men who now hold positions in the government service—still not counting Senators. As a rule, they are men who have a high pride in doing a public service. Mr. Hay and Mr. Pinchot are admirable examples of this class, and there are more like them. They are men whose enthusiasm for their work and whose wish to serve the country are their dominant motives.

There have always been such men, from Washington's day to our own. We have many examples of this class, perhaps as many as they have in England, where the public service has always attracted men who do not need to work for their living and where public station has always been regarded as the noblest work. We are of the same stock and we have the same way of looking at the subject—in spite of our thrifty vulgar bosses. The only mistake that we should make would be to give undue credit to a rich man for the same civic virtue that many a poor man also shows. The same civil service that is justly proud of men like Mr. Hay and Mr. Pinchot is equally proud of men

whose civic ideals are as high as theirs but whose only income is their salaries. It is they who keep the service up to the level of its honorable distinction. Consider how long it has been since a rich man was elected President of the United States. To find one, you must go further back than any man now living can remember. From Lincoln to Roosevelt, every one, when he was elected, was, by the measure of his time, distinctly a poor man.

A SEASON OF INTERNATIONAL COURTESIES

IT has been a great summer for international courtesies, and we have come in for our share. Our naval officers (Rear-Admiral Cotton and the captains of his fleet) visited Kiel by the invitation of the German Emperor, who showed them extraordinary attention. Their visit to English waters was made the occasion of unusual courtesies by King Edward and the British Navy; and later (for no country is so small but its friendship is valued) similar honors were shown to our fleet by the King of Portugal. These royalties, one, or two, or all, exchanged telegrams with the President; and our navy and our diplomacy and our country have been subjects of congratulation. A statue of Emerson was put up in London; and there has been serious talk of a statue there of—Washington. The English of Mr. Chamberlain's time have been reminded that Washington did the kingdom some service in showing it how not to treat colonies, which (after the lapse of a hundred years) may be construed as a positive and no longer a negative service.

Even more significant than this interchange of compliments with us is the interchange that some of the governments of the Old World have made with one another. King Edward's visit in the spring to the Kings of Portugal and Italy and to the President of France reminded all Europe that an English monarch may have very definite political functions. The return visit of the French President was an event of perhaps really serious consequence. His reception was so cordial by the King and by the people that for the season, at least, the press and the public men of both countries are encouraging a mutual understanding. This coming together of the English and the French is emphasized by the efforts of a

French commission to England to discuss a proposed treaty of arbitration.

While it is easy to exaggerate the permanent effects of an effusive interchange of international compliments, it would be easy also to undervalue these ceremonious expressions of good will; for the newspapers of all the countries concerned take occasion to make the people of the other countries better known to their readers.

JAPAN AND RUSSIA, AND THE CONTROL OF THE ORIENT

HOW active and definite the preparations for war are between Japan and Russia the public does not fully know. But it is obvious that Japan means at some time to fight. She was cheated out of the fruits of her victory over China, to the advantage of Russia. The masses of her people believe that they are invincible. Her ambition is to be the dominant power in the Asiatic Pacific. She means ultimately to control China. But the Russian encroachment goes steadily on. The Russians have the ice-free Manchurian ports. Russian influence in China increases. Steadily Russian control has crept up to and even over the area that Japan has regarded as of ultimate necessity for her overflow population. The Japanese chance ever to get a firm footing on the mainland becomes less; and Japanese influence is minimized or threatened at every point.

On Russia's side there is the necessity to make sure of ice-free ports. The great empire must have the Pacific free to her commerce all the year. The development of Siberia is the great task that she has in hand, and the development of Siberia means the commercial if not the political control of the northern provinces of China. But, if the Japanese secure a firm footing on the mainland, Russian control of China will be difficult, if not impossible. It is, therefore, a clash of what these nations regard as their natural expansion and destiny.

While Russia does not want war, and while the financial condition of both nations is unsatisfactory, they are both at a stage of civilization to which war appeals. The great Powers of the West know what war means. In addition to its cost and to all its horrors, it would mean a grave disturbance of their commerce. Not so with either Russia or Japan. In Asia, conditions are yet unfix-

ed. Japan has, comparatively, little foreign trade. She regards the chance of great gain in the future as more important than the immediate loss. Her progress toward a high place among the nations—so her people feel—will be helped and must be won, as other nations won high places—by fighting. Japan's eagerness and anger and Russia's stolidity—these are the threatening qualities.

Japan has an alliance with England, and Russia with France; and England and France are more friendly than they have been for many a year. All the Powers have a stake in China. The international complications, therefore, may thicken. The task of holding Russia to her agreement to vacate Manchuria and to keep open ports there has been left chiefly to American diplomacy; and Russia's promises are fair enough, but no chancellery in the world believes them. One way in which Russia may seek to solve the difficulty that she is in—being under promise to do what she never means to do—may be to provoke Japan to open hostilities. After a war there would have to be a new "deal."

Russia is sending troops eastward. She may have a strong land force—nobody knows; and she is strongly fortifying her Asiatic ports. In the Pacific, the Japanese fleet is the stronger of the two. The exact results of a conflict nobody can foresee. But that a war would have very serious world-wide consequences is certain. It would not be another Japanese-Chinese operabouffe contest: it would probably change the relative influence of all nations on the future of Asia.

We shall not be actively entangled in any conflict that may arise between these countries, but our State Department will in any event continue to play an important part in the Far East. The distinguished Russian Ambassador to the United States, Count Cassini, and the Japanese Minister become increasingly interesting personalities as the danger of war becomes greater.

PIUS X. AND THE ROMAN CHURCH

THE choice of Cardinal Sarto as Pope instead of either of the more conspicuous candidates, Cardinal Vannutelli or Cardinal Rampolla, gave satisfaction in all countries where the church yet plays an important part in public affairs, and was at the same time especially satisfactory to the

Catholic Church itself in all countries. The new Pope, who took the name of Pius X., is not identified with any faction; he is of humble origin; his piety and his devotion to the poor have made him loved by all; his career as Patriarch of Venice has shown good executive ability; and for an Italian priest he has displayed what may fairly be called liberality in his attitude toward the Government. He was not a candidate for the Pontificate, and he accepted the high office with humility and modesty.

Even to the American Catholic, to say nothing of the American Protestant, the accession of a new Pope is a far less important event than it is to the people of the Catholic countries of the Old World. But even to the American Protestants it is a definite gratification that this most ancient and wonderful of all organizations has still at its head a man who is entitled to universal respect, and whose simple life is in keeping with the spirit of every branch of Christianity. Whether Pius X. will fill as large a place in the political world as Leo XIII. filled is doubtful; but in the religious world he will keep true to the best traditions of his great office.

The church in the United States has expressed sincere satisfaction because Pius X. is said to understand our social and religious institutions. Just after his election he sent the following message to the American people: "I love the Americans, who are the blooming youth of Catholicism. Convey to all of them how gladly I impart my Apostolic blessing to the whole country." A very wonderful thing it is—the existence, to say nothing of the growth and strength, of the Catholic Church in the republic that was founded and molded not only mainly by Protestants, but by a sort of Protestants against Protestantism. It is a singular tribute both to the democratic institutions and to the Roman Church that they thrive together; and religious toleration is perhaps the best gift of the latest centuries.

CONTRASTING TYPES OF LABOR LEADERS

THE flagrant cases of blackmail by officers of labor-unions in the building trades in New York reveal the fundamental weakness of a large number of unions—the weakness of their leaders. A contractor in Brooklyn who was on the witness stand

during one of these trials gave the following testimony:

"Will you please tell this jury just what happened?"

"Well, Call" [a walking delegate] "said that he and his friends were a committee from the stone-cutters and that they wanted \$50,000. We asked them what they wanted \$50,000 for. They said it would have to be paid before our men could go back to work. We offered \$5,000, and they went off and conferred. Then they came back and demanded \$21,000. We raised our offer to \$7,500. They conferred some more, and then came back and said they must have \$13,000. Then we came up to \$10,000, and they conferred again and said that would do."

"After the cheque was paid, did the men return to work?"

"Yes, the very next morning they were back again."

The prevalence of such blackmail in the building trades is doubtless greater than has been supposed, for many contractors work under a forfeit if the job is not finished within a given time, and they prefer to pay blackmail rather than to lose a larger sum by delay.

But the main matter is this—the kind of leadership that unions have. It varies, as leadership of other organizations varies—including good men and bad men. But the system of giving too much power to a single man or to a small committee is a dangerous system, especially for organizations whose members as a rule have not been trained to leadership.

Perhaps the most successful labor leader over a long period that any union has developed in the United States was the late Mr. P. M. Arthur, Chief of the Brotherhood of Locomotive Engineers. He had nothing of the quality of an adventurer. He was a devoted leader. He regarded his authority as a trust; and, having proved his quality of leadership, he was kept at the head of the Brotherhood from the time of its organization till his death.

There are three characteristics of this union that explain its extraordinary success. First, it makes membership in it a badge of worth. It admits only those whom it regards as fit. It does not scour the earth for members, but membership in it is sought.

Secondly, it does not order strikes on small provocation. Its method for ordering a strike is difficult, so that a small group of men who are smarting under a grievance

cannot precipitate trouble. By this method the truth is brought home to every man that a strike is a very serious thing. It is war; and, whatever may be gained by war, much is sure to be lost.

Then, the Brotherhood has refrained, as a rule, from sympathetic strikes, and has attended to its own business and its own troubles, and not the business and the troubles of other unions. This is an advantage that it would be impossible to exaggerate. Every lawyer and every diplomatist and every man of practical affairs who has had the task of winning other men—whether they be won by persuasion or by fear—knows that a single, definite, clear case is easily won in comparison with a case of confused issues and many personalities.

Such a policy gave a chance for the development of real leadership. It gave Mr. Arthur an opportunity to use his uncommon talent as a negotiator to great advantage; and the real victories won by the Brotherhood, measured by increased wages, fair hours of work, and considerate treatment, outweigh the substantial victories of any other union in the country. And the Brotherhood has made it an increasing distinction in the labor world to be a locomotive engineer.

The locomotive engineers are unusually intelligent men, for they are all picked men, but this fact only emphasizes the value of their methods. Unions of unintelligent men are not likely to have successful methods or wise leaders.

ANOTHER DIRECT PROFIT-SHARING EXPERIMENT

THE anticipations of permanent good results from profit-sharing have not often been realized by industrial companies. While there are many employers who continue to share their profits with their employees in one form or another, there are more who have tried it and abandoned it. If profits remain large over a considerable period, wages rise; and what might have been called profit-sharing at one time takes the form a little later of an increase in wages; or, in some trades, piece-work or a sliding scale of wages gives the employee the equivalent of a share of the profits—in addition to what his wages would have been as a fixed sum per week. But profit-sharing by a direct division has been hard to adjust and to maintain.

Yet there are two strong reasons for continual experiments with it—a sense of fairness and the conviction that it will cause the workmen to do better work. Men are always hoping that the direct method will become more and more popular, and interesting new experiments are constantly made. The frank and direct plan now to be tried by a telephone company in Cleveland will be watched with interest. The plan is to give during the latter half of 1903 one-fifth of the surplus profits, after paying expenses, taxes and interest, to the employees in proportion to their salaries. The president of the company will do a public benefit if he will give the same publicity to the result of the experiment that he has given to the plan.

A GREAT REDUCTION IN DEATHS FROM CONSUMPTION

IT is as instructive a fact as it is gratifying that within the twelve years that the Department of Health in New York City has carried on a definite campaign to prevent tuberculosis, the deaths from this disease have been reduced forty per cent. In 1886, before the Board of Health began its present preventive measures, there were 38 deaths from consumption per 10,000 living persons; and there were last year only 22 per 10,000 persons living. There has during these years been a very considerable reduction of the death-rate from consumption throughout the whole country—from 23 per 10,000 living persons in 1890 to 17 in 1900. If the death-rate from this disease is a good deal greater in New York City than in the whole country, the reduction of the death-rate from this cause has also been greater in the city.

The reduction would have been very much greater than it was but for two or three excessively densely peopled spots where it has been almost impossible yet to enforce preventive measures—as in Chinatown and the quarter inhabited by Syrians. In these quarters there are infected houses which have been veritable houses of death—a fact which proves (though no proof is now needed) the communicability of the disease. The investigations made by the Department of Health show also the particular employments which yield the largest number of consumptives. The highest death-rate of all from consumption is among the stonecutters—540 per 10,000; next come cigar-

makers, 477; next, plasterers, 453; next, printers, 435; next, house-servants, 430. The cause in each of these cases is obvious. The races that succumb most easily in New York, partly because of a certain race weakness, but more because of an unsanitary life, are the Negroes, the Chinese, and the Irish. Doctor Biggs, the bacteriologist of the Department of Health, predicts a time when New York City will be relatively freer from consumption than the rest of the country, if the same sort of preventive work be continued; for "consumption is a disease that may be controlled absolutely, . . . and there is no more reason for it than there is for smallpox."

The French Government has recently taken preventive measures in the schools which will at some time practically stamp out the disease in France if they are persisted in. The pupils are examined every three months, and their physical condition with reference to the danger of consumption is entered on their reports; no carpets are allowed in school-rooms, and no dry sweeping is permitted; the furniture is regularly washed; books are regularly disinfected; promiscuous use of penholders and pencils is forbidden—every pupil must have his own, and they are advised to keep them out of their mouths. In boarding-schools a severer routine is prescribed; and consumptive pupils are to be kept from school. Such a system, if it be carried out, would in a generation or two make consumption as rare as smallpox.

THE RETIREMENT OF GENERAL MILES

LIEUTENANT-GENERAL MILES, now retired from the command of the army, has won an enduring place among our foremost soldiers of the second rank; for he has had a brave and honorable career. As a young volunteer (for he entered the army in 1861 as captain of a Massachusetts volunteer company) he won honors fast by brave and substantial work in the war of 1861-65. Within a year he had gained the rank of colonel, and when the war ended he was a major-general of volunteers. He had received the especial commendation of General Hancock. He continued his military service as a colonel of regulars; and he rose successively to the rank of brigadier-general (1880), of major-general (1890), and of lieutenant-general (1900). Distinguished as his service was in the war, it will be as an Indian fighter that he will chiefly be remembered. His fights with Sitting Bull and Geronimo are the picturesque events in his career.

As head of the army General Miles was an imposing figure; but he was not made for rest, and he added nothing to his permanent renown during his period of general command. Many a notable soldier has filled his place in peace less well than in war; and of this number General Miles is one. But his claim on the gratitude of the country is strong, and all who know our military history hold him in high honor and esteem.

THE EFFECT OF THE FALLING STOCK MARKET ON BUSINESS

[THE WORLD'S WORK publishes every month an article in which some timely and vital subject of the financial world is taken up]

THIS is a new era, and statistics of the past don't count."

J. Pierpont Morgan is quoted as having said this in London a few months ago. If he used this language—and he probably did—it is certainly in keeping with the character of a man who has broken many precedents in finance and accomplished many things which required the courage to depart from former standards and measurements. The thought which underlies this utterance

is a large one, and especially pertinent at this time, when business men everywhere are asking whether the severe decline in the prices of securities is the forerunner of one of our periodical depressions.

What has taken place in Wall Street in the past few months is well known. The average prices of twenty leading railroad stocks have declined in a year's time more than \$34 a share, and most of this decline has taken place in the past six months. All

formerly did such injury to trade and produced such weakness in the security market. The United States Steel Corporation, whatever else may be said of it, has given stability to prices and created a power over production that is only imperfectly appreciated at home, but is feared abroad. The concentration in banking, in powerful chains of banks and trust companies, has produced such an aggregation of credit that it is able quickly to mobilize the forces of capital, either for aggressive enterprise or for defense against panic. Labor has demanded and is receiving its share in prosperity. All over the country labor has obtained an increase. Even should there be overproduction, it is argued that we can dump our surplus upon the foreign markets, at any sacrifice of price, so long as we secure our domestic consumption against foreign competition.

Here we have, then, the two views of the situation, one that a trade reaction is regularly due, and has been, as usual, ushered in by a depression in the security market; and the other, the high protective tariff view, that we have established a business system in

this country so strong that it can continue to make progress in legitimate prosperity regardless of the speculative relapse.

Perhaps the truth lies between the two views—that while the law of the cycles of advance and retrogression in business is still at work, and that reaction in trade may reasonably be expected next year as a result both of the speculative collapse and of the presidential election, yet it is also reasonable to believe that, as the country has matured in every department of its life, and as it continues to increase in strength and wealth, the periods of depression will return less frequently and with diminishing force. No one can examine the records of our magnificent prosperity without faith in the continued progress of the country in all that makes for the increase of its wealth, its business activity, and its civilization. But we need time for the productive forces to overtake and absorb the overproduction of securities. We have been somewhat too strenuous in the past seven years, and have tried to accomplish in that period what should have been the achievement of two decades.

TEACHING THE DEAF

RECITATIONS IN GESTURE—THE SIMPLICITY OF THE MANUAL ALPHABET—HELEN KELLER'S INSISTENCE ON BEING TAUGHT TO SPEAK—WHAT PARENTS OF DEAF CHILDREN MAY DO

BY

JOHN ALBERT MACY

CURIOSLY the education of the blind presents no more complex problems than the education of those who see. The blind themselves insist that they can meet the seeing on equal terms. What they need is not so much book education as industrial training to make them self-supporting. The education of the deaf, on the other hand, presents great difficulties.

The first school for the deaf in the United States was a boarding-school opened in 1817. Today there are fifty-seven boarding-schools. The first permanent day-school for the deaf was the Horace Mann School in Boston. The present head of this school is Miss Sarah

Fuller, who gave Helen Keller her first lessons in articulation, in speech uttered with the lips. Today there are at least forty-four public day-schools. Most of these are supported by the State or by endowment or by denominational societies. Beside these, there are many private schools attended by pupils who can afford to pay for more individual instruction than is possible in a public school. A good example is the Wright Oral School in New York. According to the report of the Volta Bureau in Washington, which was founded by Doctor Alexander Graham Bell for the increase and diffusion of knowledge relating to the deaf, there were in 1900 more

than a hundred and twenty schools in America with an attendance of nearly eleven thousand pupils.

The methods of teaching the deaf are various combinations of three ways of communication. There is much contention among teachers as to what method is best by itself or best in combination with the others. The three methods are: by signs, by the manual alphabet, and by oral language, which the deaf child learns by reading the lips.

The sign language is a system of gestures, a pantomime capable of great beauty and of some development in the expression of ideas. Every deaf child naturally gesticulates, trying to express his rudimentary thoughts by movements of his hands and his head. In the belief that he was allying himself with nature, the "good Abbé De l'Épée," one of the greatest teachers of the deaf in the eighteenth century, codified and extended the gestural signs of the deaf into a systematic language. To see a beautiful deaf woman "recite" the Lord's Prayer in signs is to see such poetry of action as the greatest actor can hardly rival. Yet, however beautiful it may be, the sign language is an artificial medium of communication, limited in its power to discriminate between ideas. So far as it has structure it resembles French, and even in the simplest sentences the sign language translated into English becomes a dislocated patois, naïve and barbarous, and quite lacking in those racial and idiomatic elements which are the blood and bone of a living language. Most advanced teachers of the deaf discountenance its use. It keeps the deaf from learning English or any other national tongue; it is intelligible only to the deaf, and so tends to keep them by themselves, separated from the stimulating society of the hearing; and it is above all inadequate for a civilized human being.

The second method of teaching the deaf is by means of the manual alphabet. This is the simple, single-handed alphabet which any one may learn in a few minutes and use rapidly after a few days of practice. The effect of spelling with the manual alphabet is precisely that of substituting for the written or printed letter a large letter as plain as the capitals on a bill-board, not hard for the deaf-blind person to feel with the fingers, and easy to make and unmake rapidly. Hold up your clenched fist, and you are saying

"S"; the open palm with the thumb across it is "B"; cross your fingers as children do when they are playing tag and you have "R." The other letters are equally simple, and some of them resemble the shape of the printed letter. It was by the manual alphabet alone that Miss Sullivan educated Helen Keller, though in the first few weeks she made use of every natural gesture that Helen had found for herself.

In the oral method, the movements of the mouth and throat in uttering words are in large part visible to the eye. With training, a deaf child or a person who has become deaf late in life may, by watching the lips of the speaker, learn to distinguish nearly all the shades of difference between spoken words. The deaf child who has never heard language is first taught to observe the position of his teacher's mouth while the teacher utters elementary sounds. Then, with the aid of a looking-glass and diagrams, and by the sense of touch, the pupil arranges his organs of speech in imitation of those of his teacher. So he progresses until he learns to say whole sentences, to read new words directly from another's lips, and to pronounce words that he reads in books. For, of course, reading and writing form a large part of the training of a deaf child, whatever method is used to teach him.

The pure oral method is advocated by many distinguished teachers, among them Doctor Alexander Graham Bell, and the method is growing in favor. Miss Sullivan, who must be regarded as one of the greatest authorities, not only because of her unique success with Helen Keller but also because of her experience with other teachers and pupils in the Wright Oral School and elsewhere, does not believe in any one method to the exclusion of all others. She urges the teacher of the deaf child to avail himself of every means possible to get at the child's intelligence. When she approached her difficult task sixteen years ago she made effective use of Helen Keller's natural gestures. But as she poured into her pupil's hand a day-long stream of words, English words in English sentences, and so furnished an equivalent of what the hearing child gets through his ears from the talk of his nurse, his mother, and his playmates, Helen Keller abandoned gestures of her own accord. Certainly Miss Sullivan never tried to teach her more gestures.

To the pure oral system Miss Sullivan and other teachers of the deaf make this objection: reading the lips is a great strain on the attention, and the little child who knows not what he is doing or for what end he is doing it is put to needless suffering as he stands straining his eyes in mute wonder at the lip pantomime of his teacher. If the child is given the manual alphabet first, and through its large, easy code gets started on his way, then he will know what language is, and when he begins to learn speech he will have the inspiration of a goal worth attaining to hold him to his labors and to pay for his suffering. Helen Keller was known all over the world as an unusually well-educated child long before she learned to speak. When she took her first lessons in articulation, she knew already what speech was for; indeed, she had herself insisted on taking the lessons. Speech came to her as an added accomplishment—a new equipment after the manual alphabet had taken her miles along the road.

What methods are best and how they may be modified and most skilfully pursued it is not the chief purpose of this paper to discuss. It is enough to emphasize what so few people know and what Helen Keller's recent book is proclaiming to readers who might otherwise never hear of the education of the deaf, that in our century deaf no longer means deaf and dumb. How little this great fact is a matter of common knowledge is shown by the persistency with which newspapers speak of Miss Keller as "deaf, dumb and blind." She has not been dumb for thirteen years. Every deaf child who is taken young enough, before the unnourished mind has shriveled and hardened to inertness, even to imbecility, can be taught language, and he can be taught to speak aloud. It is poor speech, to be sure. The deaf have unvaried, often discordant, voices. Even Helen Keller, whose voice is sweet and delightful, does not always speak plainly, and some do not understand her at first. But in eleven lessons, which extended over about six weeks and occupied ten hours in all, she learned to say words involving all the elementary sounds, and she learned by touching the lips with her fingers. True, her case is not one by which to measure

the likelihood of success for all deaf children. She has the courage of ten. All the gifts of Heaven except sight and hearing seem to be hers—above all, the supreme gift of a teacher whose genius is not equaled in a decade. But if Helen Keller, with no sight to see the fine play of the lips and the throat, learned to speak, then every deaf child who has sound eyes in a sound body can learn to send forth from his lips words sufficiently like the words we speak, which carry half the joy and half the business of the world.

In every State in the Union deaf children who are not in school sit in silence and ignorance, because their parents do not know what to do for them and the State has not sought them out. A poor woman in North Carolina wrote to a lady in Boston who is engaged in various charitable enterprises. The letter is a loophole through which we may see a condition of things which an extension of popular knowledge about the deaf will change to the bottom. The woman has two deaf children. The older is a girl of ten at school, the mother writes, "a hundred and forty miles away" (probably the State school for the deaf at Raleigh or that at Morganton). The little boy of seven is at home, and has not been taught. When his sister returned for a holiday she tried to teach the little fellow the manual alphabet which she had learned at school. The mother is ignorant. She wants to know what to do and asks in a pitiful way for books.

The obvious thing is to advise this woman to write at once to the superintendent of one of the State schools. He may help her or he may not be able to do anything. His power to assist depends on how liberally the Legislature has provided him with means and equipment to look after the deaf children of his State. There is, however, another thing to write to this woman: Learn the manual alphabet and let every member of the family learn it, and as many of the child's playmates as can be induced to try this interesting play of the fingers. Talk with it at table, and that little boy is almost sure to pick up a word or two at a time and make them on his fingers, just as the hearing child begins to babble.



THE AMERICAN INFLUENCE IN MEXICO

THE AWAKENING OF A NATION WITH MODERN LIFE BEYOND THE RIO GRANDE, AND THE INFLUX OF AMERICAN INVESTMENTS AND ENERGY INTO A COUNTRY OF LASSITUDE WHERE, UNDER FEUDAL CONDITIONS, PEONS EARN FIFTEEN CENTS A DAY—THE FUTURE OF THE COUNTRY

BY

EUGENE P. LYLE, JR.

IN Mexico there still exists a form of serfdom called peonage. And in Mexico also there are invested 500,000,000 American dollars. Now, between the serfdom and the dollars a connection exists that makes clear a most curious spectacle—the spectacle of a people leaping from the tenth century into the twentieth. To speak flatly, Mexico's 13,500,000 people are verily growing a thousand years in as many weeks. Here you find a system of feudalism, and here again you feel the throbbing of the present century, with certainly all of promise this century holds for any people on earth.

Mexico is a country of land barons. Seven thousand families own nearly all the territory. The Spanish conquerors began the system when, under their hideous scheme, they divided everything among themselves, even

to the natives. Till recent surveys, the baron did not know his own boundaries. It was a mountain chain here, a valley



THE COMMON MEXICAN WATER SYSTEM



PRESIDENT PORFIRIO DIAZ

there, or other vague, lordly marking of Nature. Nature, however, scarcely meant that he should have the children of her mountains and valleys, and yet he has them, nevertheless.

As the peon receives wages, he is not a slave. But his fifteen cents a day he spends at the *hacienda* store, where quality and price are wholly at the mercy of the overseer. And as hunger does not time itself by pay days, the peon spends his fifteen cents in advance. Hence, he cannot buy elsewhere, and accordingly he is ever in debt to the lord of the manor a dollar or a dollar and a half. If he leaves the plantation, he is either brought back for debt, or the debt is transferred to his next employer.

Here, then, is Mexico's feudal system. Guizot, writing of tenth-century society, said that "the public body was lost in a thousand little sovereignties," and that is the description exactly for Mexico today. The sovereigns are the 7,000 feudal barons. Frequently they live in the cities, luxuriously, or drain their country's wealth for pleasure and display abroad. And though they may lose their domains, the peon merely changes masters, from an easy-going planter to an exacting Spanish money-lender. Thus Mexico, freed politically, still wears the yoke of the system left by the mother country. Kind-hearted rulers have tried to lift this social curse. Maximilian decreed the peons free, but then the people starved. Revolution will not do it. Evolution can, by building up a middle class—and for Mexico the evolution has already set in, impelled by the American dollar.

During the past five years, \$250,000,000 flowed in to join as much already there. The dollars build and operate railroads and smelters, and exploit mines, and play the farmer over vast acres. There suddenly arose so many new things to do that there was no labor to do them—that is, at fifteen cents a day. The Americans had to pay thirty-seven cents, seventy-five cents, and a dollar, and over. Then, indeed, the peons began leaving the *haciendas*. In a week they had paid a lifelong debt back to their old masters, and the next week began thinking of a strike against their new. The twentieth century was dawning. From serfs into day laborers, thence a few into skilled

workmen, into artizans—there you have the nucleus of a middle class and a body politic.

The country's gratitude is due to the foresight of a government—which is patriotic—that induced the dollar to come. This government is Mexico's latest liberator—her only real liberator. At last, and as by swift enchantment, our southern neighbor is becoming a modern nation.

According to the last census (1900), Mexico had a population of 13,570,545, or an increase of nearly a million in five years—the great mass



Photographed by Maurer

GROUP OF PEONS IN THE STREET

of human beings stifled in all but the animal impulses, with hope yet unborn, and with an aristocracy above them numbering only thousands. More than 8,000,000 of the 13,500,000 do not work. Counting out the children and aged, there remain 3,774,148 possible producers who produce nothing absolutely. Then—and here is an astounding figure—there are in domestic service 1,488,024, as against 116,000 of dignified salary earners. Out of 13,500,000, but 1,782,822 know how to

read and write, though the first printing press in the New World was set up in Mexico. And yet a European civilization took charge of these poor Indians 380 years ago, after destroying the civilization they already had. Indeed, the Christian's accounting would look like this: average annual decrease of illiteracy, 4,428. That is to say, the steward at the end of each year could number just one more person on each 175 square miles who knew how to read and write. Since 1875 the annual increase of schoolhouses—public

material out of which Mexico must work her regeneration. And the regeneration began definitely only when turbulence ceased, in 1876, when the successful revolutionist, Diaz, began removing the conditions which had made revolutions possible.

We saw to it that railroads and telegraph lines were built, so that now any part of the army, 26,000 strong, besides the State reserves, can be speedily concentrated on any seditious point. We established a strong centralized government, of which, nominally, he is presi-



TRANSPORTATION BEFORE THE AMERICAN INVASION

Photographed by Maurre

schoolhouses of the republic—has been greater than that. But out of charity, to swell the ratio for the Spaniard, we have included the present generation. This, then, in figures, is the arraignment against the régime of Spain, the incalculable wrong done one race by the power of another. You may object that the Spaniards have not ruled in Mexico for eighty years, but their instruments for education (the priests) have never left.

Millions of poor, benighted Indians, but not stupid Indians by any means—such is the

dent. Really he is dictator. No monarch west of Constantinople exerts more personal authority than General Diaz. But his justification is ample. An absolute ruler, if also wise and good, was positively Mexico's only chance of salvation. As little by little she passes the need of an autocratic guide, she will emerge into the reality of a republic. Then her constitution will become in spirit as well as in letter the counterpart of its model, the Constitution of the United States. In form Mexico is a confederation of States,



ON A MEXICAN CANAL

Photographed by Maurer



HOW GOODS ARE CARRIED IN MEXICO

Photographed by Maurer

with two federal legislative bodies, a judiciary, and an executive, and in each State the same. It is true that *the* executive, President Diaz, is pretty much all three, federally and in the States, but the letter is there nevertheless, and there it remains as the star to which Mexico has hitched her wagon with its precious load of political aspirations.

A *sine qua non* of their attainment is, of course, education widely diffused. In any

city neighborhood, in the remotest mountain village, you find the sign, "*Escuela del Estado*" (school, either for boys or girls), over some former church building. Within are dusky little vagabonds making a din of studying out loud, as though wisdom were a matter of lung force. The peon child may now pass from his letters to the highest diploma entirely at Government expense, and the Government hopes shortly to make education compulsory.

In a recent article the *Journal des Débats* said that there were two tendencies in Mexican intellectual life—the French for science and the professions, the Anglo-Saxon for the industrial side. It is true that text-books are largely in French, but there are text-books in English also; and English authors, like Spencer and Mill, are familiar to the Mexican student. Besides, American systems of education are carefully studied, and since 1901 English has been taught in all preparatory schools. The Mexicans frankly admit their preference for Anglo-Saxon culture as to business development; but as to the sciences, they hold that the influence is not French, nor yet Latin, but cosmopolitan. And then they slyly mention France herself as a convert to the American influence. In the polite intercourse of life, that which is French

still finds high favor with a southern temperament like the Mexican, and the brilliant days of the French occupation are still remembered, and not ungratefully, politics aside. But for all that is vigorous, Mexico is abandoning her memories to fall under a newer occupation, which is American.

With her taste of peace Mexico has feasted on material prosperity. Consider the statistics of exports and imports for the last two fiscal years:

	Total Imports	From United States
1900-01	\$65,083,400	\$31,026,400
1901-02	64,656,000	37,450,600
	Total Exports	To United States
1900-01	\$70,860,400	\$57,440,900*
1901-02	78,070,000	63,290,000

The slight falling off of imports was due, doubtless, to the fall of silver, when Mexico

* Unless indicated otherwise, the dollar mark throughout this article means the American dollar, and not the Mexican peso.



THE MEXICAN MILKMAN

Photographed by Maurer

cut down her expenses abroad. Yet the imports from the United States show an increase of more than \$6,000,000. Also, Mexico's exports to us have increased in greater proportion than the total increase. In fact, we have absorbed nearly all the increase. This means that Mexico's trade with the United States is growing faster than with any other country. With us alone she almost effects the balance of her trade. Our greatest competitor, England, sold to her but \$8,000,000. So the bulk is American—58 per cent. of imports, 80 per cent. of exports.

It would seem from the above that Mexico has a balance of trade in her favor of \$13,414,000. But in reality the money balance

The salaried man cannot predict within a tenth of what his income will be worth next pay day. Buying a gold draft is a speculation. A hundred dollars may cost several dollars (Mexican) less today than tomorrow, or \$25 more than next week. Worth sixty-eight cents ten years ago, the peso fell below thirty-five cents last fall. Then all prices soared. Even the bootblack, who paid more for blacking, added as much on each shine. But wages did not go up—never a bit; employers were losing too much. And in April, when this capricious money began climbing, prices yet held where they were. The merchant had bought his stock at a three-to-one rate of exchange, and could not



ON THE VIGA CANAL IN MEXICO CITY

Photographed by Maurer

is against her, for to the cost of her imports must be added interest on foreign debt and dividends to foreign stockholders in Mexican enterprises. The American capital alone, at 6 per cent., would take \$30,000,000 annually out of the country. The peculiar hardship of it is, that for each dollar Mexico owes abroad she must pay about \$2.50 of her silver money. And here lies the greatest drawback to her future progress. Any student may catalogue the effects of a silver standard, but he must be on the ground to appreciate how wearingly and eternally it enters into every smallest detail of domestic or business life.

sell for less. He remembered his stock-taking on the first of last January, when he found his profits of the year swept away because of the lower value of his cash on hand, though he had added to prices a "margin of prudence." Capital will not come into the country when it must figure on such a margin, say of 30 per cent. a year, for capital does not care to gamble. That it comes at all is due to its faith in early relief by monetary legislation. Till then the toll exacted of all enterprise is stifling beyond endurance.

Take a typical and actual instance. A merchant bought goods on six months' time



A GLIMPSE OF THE CATHEDRAL, MEXICO CITY

Photographed by Maurer



PLOWING IN THE INTERIOR

when exchange was 232. His price was rated in silver at 250, and to this was added a prudential margin of eighteen points more. Thus he paid \$2.68 (Mexican) for what should have cost \$2.32. And yet the importer from

whom he had bought lost money, because exchange had gone from 232 to 276, which meant a loss of eight points to the importer.

Silver money does afford a sort of protection, but it is a suicidal kind for it neither



RAILROAD 25. BULLOCK CART

increases wages nor home consumption, and its benefits are outweighed in a debtor nation that must pay in gold. To have a fixed income for meeting these obligations, Mexico had adopted a tariff scale which slides up or down with exchange. But the poor consumer pays not only higher prices, but higher duties also. The wonder is that Mexico has kept on so steadily. Though smothered in a winding-sheet of white metal, still she prospers. When exchange jumps up, they cut off orders abroad to relieve any strain on their credit. They save themselves from bankruptcy, but at what cost to trade?

There are indeed remarkably few failures in Mexico. Among banks, only three have

nearly every city of the republic. They are new in this field, but already their methods are working a revolution in the old unbusinesslike way of doing business.

If Diaz gives his country sound money, the service will rank with that of giving her tranquillity. Last December, Finance Minister Limantour took the first steps. With the coöperation of China, he proposed that the United States help in some plan for the establishment of a stable exchange between silver- and gold-using countries. It is a far-reaching and a grand movement for the trade of the world. It would bring into commercial uniformity 466,000,000 inhabitants of silver countries whose annual imports touch



A MODERN SMELTER AT AGUASCALIENTES

ever happened, and these were not important. With a rigorous inspection as in the United States, Mexico's banking system would be as safe as any in the world. It now has the safeguards of a reserve for bill issues and other conservative restrictions. Of the thirty banks (bill circulation, \$89,500,000 Mexican; capital, more than \$90,000,000 Mexican), the Government financial agency is the National Bank, with a capital of \$20,000,000 Mexican, and deposits of about \$57,000,000 Mexican. Americans are now considerably interested in the three principal banks, and are starting banks and trust companies of their own in

\$600,000,000. There is no purpose to foist bimetallism, nor to lift or control the price of silver. Instead, it is a frank confession that the white metal standard is a failure. The plan would doubtless mean a limiting of silver coinage, and a gold reserve. Our Government readily gave Mexico every encouragement, and now Europe will probably do the same. At least, Congress has made provision to coöperate with other nations for measures to maintain a fixed relationship between gold and silver moneys.

Mexico's next step concerns her own needs

more especially. She has formed a Monetary Commission to study the local situation with a view to permanent legislation. All theories, all interests are represented—silver advocates and gold advocates, bankers, miners, *hacendados*, importers, exporters, statesmen, economists. Resident Americans are on the board. Three experts from the United States, invited by the Mexican Government, came down to assist the Commission. The work laid out is definite, practical. Subcommittees are now taking a monetary census of coin in circulation, of credit, etc., etc. Until



Photograph by Moore

A GLIMPSE OF OLD MEXICAN ARCHITECTURE

these data are collected, the members of the Commission decline to express to the writer any opinion for publication as to what recommendations will be made. However, the opinion prevails that the Government will decide on a new peso, or dollar, the same size as the old, which will have a fixed value in gold of fifty cents, backed by a gold reserve.

With sound money there will be an influx

of capital into the country such as was never known before, and most of it will be American. In comparison, the American invasion up to date is only a foretaste. Yet it is remarkable enough, even fairly sensational, as shown in the late census taken by Consul-General Barlow. Capitalization is carefully distinguished from capital actually invested, and then the report finds \$500,000,000 of American money laid down in Mexico by 1,117 different American firms and individuals. No account is here taken of American capital in Mexican or European companies. Half of the \$500,000,000 came within the last five years. One city alone, Kansas City, accounts for \$50,000,000.

Of the above total, 70 per cent. has gone into that line which means most for industrial development, and which, in the case of Mexico, means that guarantee against revolution without which no development is possible, namely, the railroads. The Central alone, the largest system, represents \$159,000,000, and the next largest, the National, \$107,500,000. Of all of Mexico's railroad capital, 80 per cent. is American. In his message last April, President Diaz reported the total mileage at 11,097½, with rate of construction increasing. New systems are to connect the two seaboard, notably the Isthmus of Tehuantepec line, which is intended to compete with our own canal. Then, there is the Kansas City, Mexico & Orient, to the new western port of Topolobampo.

Then there are the new harbors and the new steamship lines, which mean that Mexico will trade more and more with the distant world on either side, as well as with the New World to the north and south. Conspicuous in it all is the American. He owns all the important systems but three, and in these he is a heavy stockholder. Lately he bought the National from the British, and is making it broad gage, and he took in hand the Belgian Gulf line, which never paid before. But what is most significant, he *runs* the railroads. He is president, superintendent, conductor, engineer, often fireman, sometimes brakeman. Do not look out the car window, and you can cross the republic without knowing that you have left the United States. The Mexicans are learning railroad-ing from Americans, and they are learning other modern tricks from the same teachers,



A STREET SCENE IN GUADALUPE

Photographed by Maurer



FETCHING WATER

Photographed by Maurer



COMMON TYPE OF FIELD LABORER

so here you have the profoundest Americanizing of all. It is the industrial American naturalization of an entire people.

Humboldt called Mexico the treasure-house of the world. Her great natural resource is,

of course, mining. Even the old tailings and low-grade ores left over by the Spaniards are now sources of wealth with the new processes and machinery of the Americans. Another factor is the Mexican mining-code,



GETTING PULQUE FROM THE Maguey Plant

the fairest and simplest of almost all. Since its adoption in 1892 thousands of titles have been issued. During the first half of the current fiscal year there were granted 2,247 deeds covering 30,320 hectares of land, besides concessions for four new metallurgical works. One big American mining group, to mention a not unusual case, has just bought an entire rich district for \$10,000,000 (Mexican), while another, in need of lead to smelt with refractory ores, thought nothing of paying \$1,500,000 (Mexican) for a lead mine and then building a railroad to haul the product. The Consul's report estimates at about \$102,000,000 the American capital in Mexico's mines and smelters.

The import of the finished product from England falls off year by year, while that of the raw material from the United States increases.

"The idea of one of the Latin republics," says President Diaz, "seriously entering the manufacturing field is unusual, and may be considered ridiculous by some, but it is really a matter for grave consideration." And the proof is that a Government commercial commission is now making a long tour of South America, because Mexico "expects to enter the field against European concerns which have been masters of the situation so long." It is true that it is an infant industry as yet, but supported by American dollars.



BURNING AN EFFIGY OF JUDAS BEFORE A PULQUE SHOP

Now a country with but one resource may find herself in a bad way some day. It was left largely to Americans to show Mexico how many resources she has. There is first that of primitive peoples, agriculture; then that other which is modern, manufacturing. Mexico has achieved the span between these two. She herself supplies the natural food and the natural dress of her people—the corn and bean, the white manta cloth. Of maize, she is the world's third largest producer. More lately she has come into the ancient Aztec heritage, for once again she makes cotton, even faster than she can grow it.

Liberal concessions and relief of machinery from duty encourage the activity. Accordingly, there are American iron and steel works, sugar refineries, packing houses, tanneries, flour mills, sawmills, all manner of plants, for light, for water, for telephoning, for street-car lines, all manner of construction enterprises for municipal improvements, the American machinery used by native companies, the gigantic engineering feats, such as jetties and irrigation dams, and from these down to the modest producer, the shoemaker, the tailor, the baker—and there is the American again. And as to the progress

of agriculture, the consular census finds an investment of \$28,000,000 of the invading gold. Every one hears of the opportunities in coffee, in rubber, and so on, but the Consul sounds a warning against certain "monthly investment" companies that tempt the savings of the clerk or minister or school-teacher back in the States.

Be sure that the company is not a fraud. And if honest, be sure of its judgment. Or, if you come down to grow cigars or rubber shoes all by yourself, have a round-trip ticket. It is true that fortunes are lying around, but for their very weight giants are needed to lift them. Take care, then, that you are a giant, first in purse, then in ability.

Consul Barlow points out that Mexican rubber is as yet in the experimental stage. Mexican coffee, however, no doubt often

passes for the Brazilian, for it is very good coffee indeed. The tobacco crop touches nearly \$30,000,000, most of which goes to the United States. Then there are vanilla, and dye woods, and rich woods for furniture, and sugar cane, and fruits, and there is the wonderful *henequen*, or sisal hemp, newly discovered as precious. Within a few years *henequen* growers in Yucatan have become princes of wealth. During one year 584,786 bales—96 per cent. of which went to the United States—brought \$15,000,000 gold.

Large American companies and colonists with small holdings are influencing Mexican agriculture every year. They bring new methods, a new science of culture, with the means and the machinery, and they attract labor by paying higher wages than the land baron ever dreamed of, and the land baron



STATUE OF CHARLES IV. OF SPAIN, MEXICO CITY

Photographed by Maurer

just stands and gasps. He must either learn the new ways, which in many cases he is doing, or else be left out in the weather, because his old protecting scales of feudalism are sloughing off forever.

Such, briefly, is a review of the invasion of 500,000,000 American dollars. Figures, though, are merely a finger-post. One must go to where the index points to gather a full idea. Then one would see how Mexico is growing American, and more and more so, steadily. It is really a species of annexation—of annexation by uniformity. To explain: Last December, Secretary of the Treasury Shaw addressed the Pan-American Customs Congress with the statement that the United States imported \$1,000,000 a day of tropical and semitropical products, and that in exchange we exported \$500,000,000 a year of foodstuffs and manufactures. Then he struck the keynote of the significance of these figures, for he predicted between the United States and the Latin republics a uniformity—of language, of measures, of money. It is coming true in Mexico already, not through American trade, nor American dollars, but through the actual presence of the Americans themselves.

In a thousand ways Mexico naïvely tries to be American. Twenty-three years ago she adopted an American circus, and since then she has had no greater pet than a certain American clown. She has the wireless telegraph across the Gulf of California. She uses typewriters far more generally than Paris. And altogether she is quicker than Europe to seize on a new comfort or convenience. She even indulges in the soaring dreams of progress, as her American airship company, which announces a bee-line service between Mexico City and Washington. There are cities almost American cities, such as Monterey and the capital. There are mining camps entirely American. "English spoken" is a superfluity. There are American signs at every turn, American names, American goods, American customs, American language, and the Americans.

These are surface indications. But there is a deeper phase to the invasion. It is different from our overflowing of Europe. Take the last volume of Consular Reports and you will find these words: "Europe is fully awake to our industrial superiority, and is equipping herself to meet us at every

point." Out of self-defense she learns what we teach her, but the invasion engenders bitterness, for it encounters and overcomes home competition. In Mexico, however, even the hateful European term of Xenophobia does not exist. Instead, the foreigner meets with a hearty welcome. And why? Because there is no home competition that he can injure. He is invited to come that he may inspire such a competition in the native. With a gradual raising of wages there come into being new demands. The peon never wanted shoes before, but he is beginning to want them now. With the wages received from Americans he would buy them from Americans, except that the Mexican shoemaker can sell the Mexican shoe cheaper. Here, then, is a new market opened up to the Mexican, and here is competition begun.

The American, of course, encounters the tradesman from Europe, and often this antagonist has the best of it, too. The German, especially, somehow has the faculty of adapting himself to the ways of his customer. He gives a Mexican six months' time, while the American wants quick settlements, which the Mexican takes as a reflection on his ability to pay. However, the quicker delivery of the goods, often the superiority of the goods, and certainly the sheer Americanism in it, seem to have left the victory definitely with us. Only, this little hint as to consideration for a customer's feelings is not to be despised.

The profoundest cause for gratification on our part is that the American influence in Mexico does not stop with the industrial. We have already noted how their political aspirations are bound up in a constitution modeled after our own. The same holds true of most that pertains to civic life. The day may not be distant when liberty of speech and of the press will be an assured thing, and that two candidates can run for the same office. And with education, there may be genuine voting, even by the Indito. It was left to the honor of Mexico and the United States to save the Hague Tribunal from an empty though very pretty sentiment. They became its first clients, and thereby inaugurated the new jurisprudence. Mexico is with us on the Monroe Doctrine—she is the one to profit by it most signally, except ourselves—and, I believe, she trusts us, too. This is of the least importance, for she predominates in Latin America.

The big question in Mexico at present is: What will happen when Diaz dies or retires? Will the work so bravely begun be set back by the old favorite pastime of revolution? Indications point to a negative. There are too many interests involved for any serious or continued upheaval. Capital wields an almost autocratic influence, especially if in the right, and capital will hardly submit to destruction by the turmoil of ambitious men. It alone will find an effective negative to the revolution question. The presidential term ends next year, and as usual no candidate is mentioned except Diaz. He may accept; there is no telling. He was modest last time, but gave way to urging in the end. However, some of his most loyal friends now wish him to retire. Seemingly a paradox, this

is the greatest compliment they could pay him. They believe that he can do more good by inducting his successor peacefully into office than by holding on, for should he die in office the country would pass through a critical moment before the next man could get it well in hand again. To name this next man is difficult, though just now there is but one serious probability, namely, Secretary of Finance Limantour. He seems to be the only safe, available man, as well as the ablest. He has a record for public service such as no other living Mexican possesses after Diaz. Because of his French parentage, he is far from acceptable, yet when it is remembered that he helped create the nation's credit, no doubt Mexico could get along pretty well with him for President.

THIRTY YEARS OF ITALIAN PROGRESS

BY

THE AUTHOR OF "THE DAWN OF ITALIAN INDEPENDENCE,"
"THRONE-MAKERS," ETC.

[The recent death of Leo XIII. has called attention to the relations between the Vatican and the Kingdom of Italy. The following description of Italy is timely, and may correct many false notions as to her industrial, political, and social conditions.]

I FIRST saw Rome in the spring of 1877, after I had already spent the larger part of two years in Tuscany and Naples. Returning to the Eternal City in the spring of 1903—with many intervening visits behind me—I am struck by a new spirit in the air, a more hopeful tone, a feeling that an era of true prosperity lies just ahead. About no other country have foreigners written so much; yet of none have foreigners in general so little intimate knowledge. Month after month and year after year they draw up their indictments against a whole people; they rail against the corruption, the poverty, the incompetence, the incapacity; they prophesy glibly enough the destruction of the kingdom; they restore the Pope, or split up the peninsula into half a dozen feeble confederate States, with the ease with which

children blow soap-bubbles. Italy is the paradise of foreign pessimists, the Cockayne of political prophets.

Her defects are so open, her sins so salient, that everybody can diagnose them; they may be the same defects, the same sins, which abound in the foreigner's own country, but he is so used to seeing them there that he would never think of asserting that they must hurry his country to destruction. At home he knows that other forces are at work to stem the evil, if not to extirpate it; but in Italy he sees only the evil, and consequently consigns that beloved land to perdition. What Italy has achieved since she became a kingdom is so commonly overlooked that it will be novel, at least, to state it briefly here, for it is this positive achievement overlooked by the pessimists, among whom are to be reckoned many Italians themselves, which explains why Italy has not collapsed at any one of the score of crises when her collapse was predicted as inevitable by the gloomy foreboders.

To all the nations of the West the nine-

teenth century set two tasks—the establishment of political liberty through the adoption of some form of representative government, and the creation of an economic system based upon modern methods of production and transportation. These the common tasks; but as Italy down to 1860 was not a nation at all, she had to secure independence and union before she could take her place as a nation and join in the competition of modern civilization.

Her political regeneration began in Piedmont about 1850. Piedmont had the advantage over the other Italian States of being independent, and as she had never shared in the glories of the Renaissance, so she had escaped the enervation which followed upon them. Her people were thrifty, matter-of-fact, bluff, backward in many things, but backward from slowness of growth, not from exhaustion. In ten years the little country was wonderfully transformed. It proved its ability for parliamentary government; it leaped forward in industry, in commerce, in improved methods of agriculture; it organized a well-disciplined army and a small navy; it introduced a modern judiciary, abolished ecclesiastical and class privileges, constructed railways and telegraphs, proclaimed freedom of speech and of press, and provided for popular education. Probably nowhere else in the world has a community emerged so rapidly from medieval to modern conditions: and the transformation was not only swift but solid.

When, however, Lombardy and the Marches, Tuscany and Naples, suddenly freed from their tyrants, joined Piedmont to form the Kingdom of Italy, the task was greatly complicated. Not one of them had had any experience in self-government: they had lived under different systems of law, of trade, of agriculture, of education. While Tuscany had enjoyed a mild despotism, Naples had been brutalized by seventy years of the worst of all Bourbon governments. In Lombardy the Austrians had protected the tradesman or farmer by fairly just laws so long as he did not meddle with politics; in the States of the Church, where there were not idleness and beggary, there was economic chaos. In the South, the feudal régime still survived, although it had been officially abolished by the French. To these clashing conditions must be added the subtler but

not less vital antagonisms rooted in local or family jealousies and the plotting of the ousted despots, of Austrian, Pope, and Bourbon—to recover their ground by intrigue if they could, and, failing therein, to stir up dissensions to paralyze the high purposes of the new kingdom.

Until unity and independence were won, the force of these difficulties could not be computed; and, indeed, during the struggle itself a great wave of patriotism swept everything before it. Borne along by that wave, men of the North, of the Centre, and of the South felt themselves all to be Italians and brothers, and were justified in believing that everything was possible to a cause of which Cavour was the head and Garibaldi the heart. But after the enthusiasm of war came the sober demands of peace; after the swift, brilliant years of heroism came the slow, toilsome, economic decades. Twenty-one millions of Italians had suddenly, by a magnificent exertion, raised themselves out of political servitude, but that feat could not of itself qualify them to live successfully their new political life of freedom, any more than it could fit them to run without apprenticeship the locomotives, telegraphs, and thousand other machines of the new economic era.

The immediate duty of Victor Emanuel's government, therefore, was to put into operation uniform laws; to secure a uniform fiscal and political administration; to open schools of uniform grades, leading up to universities; to make the Sicilian and the Venetian, the Piedmontese and the Romagnole, who had for centuries been swayed by an intensely local patriotism, feel that Italy, and not their town or province, was henceforth their true country. In other words, having achieved unity from outside, there must now be built up the deeper, essential unity from within. How hard this is in the face of conflicting material or class interests we Americans learned when our own Union was in jeopardy; yet the difference of conditions between our North and South was scarcely greater than that between Lombardy and Calabria forty years ago.

Nevertheless, Italian unity is unquestionably stronger today than it was ten years ago. The internal blending has gone on toward the point of fusion, although new causes of local antipathy have sprung up. The North, with its better educated people,

under the stimulus of capital and favorable conditions of production and distribution, has become overwhelmingly industrial; the South, still checked by poverty, ignorance, and inveterate economic abuses, which it can slough off only too slowly, remains almost exclusively agricultural. As a result, one section regards the other too much as an enemy. The Southerner grumbles that he is taxed proportionately more heavily than the Northerner, and given less in return; and this is true, for, just as in the United States, the protected manufacturer at the North enjoys Government bounties in the form of tariffs which do not benefit his agricultural brother in the South. In Italy, however, it is less easy than in the United States to persuade the victim of protection that he is being enriched by it.

This clash of interests, with the fiscal inequalities springing from it, naturally causes sectional resentments; but were Italy assailed from abroad, or were she threatened from the inside, the Northerner and the Southerner would leap to her defense. Foreigners make a huge mistake when they infer that sectional bickerings, or even sharp criticism and mutual recriminations, imply national weakness in Italy. There are kindred the strength of whose family spirit is best measured by the vigor with which each member expresses his individual opinions.

Whatever sectional or class antagonism may have been created by the spread of industrialism is not peculiar to Italy. The rapid manufacturing expansion of the North proves that the Italians can avail themselves not less successfully than other nations of the modern industrial agents; and they have done this against a tremendous handicap, for Italy lacks the two indispensable elements, iron and coal, which she has to purchase abroad. If we turn to the latest volume of statistics, we find that in Italy—including Sicily and Sardinia—there are nearly 18,000 kilometres of railways, besides 3,500 kilometres of mechanical tramways; about 50,000 kilometres of telegraphs; more than 400 steamships and 5,700 sailing vessels, of a total net tonnage of nearly 1,000,000 tons; that she spends every year about \$38,600,000 on coal; that her native industrial companies have \$289,500,000 of paid-up capital, while foreign companies have about half that amount; that her progress in applied

electricity has been very rapid—in three years, from 1896 to 1899, her production of electrical horse-power increased from 50,000 to 100,000; that in 1900 the cotton industry product was valued at \$58,000,000; that her chemical products doubled between 1893 and 1899, when it reached \$10,000,000; that the output of her paper mills has doubled in fifteen years. These are figures which stand for facts—they cannot be gainsaid; they invariably escape the notice of the foreign and native writers of jeremiads on Italy. In forty years the population, after deducting a large number of immigrants (probably 4,000,000 now live outside of Italy), has risen from 25,000,000 to 33,000,000 souls, or about one-third; meanwhile, the value of her annual products has quadrupled, if they have not quintupled—exactness is impossible, owing to the imperfect records kept in the bureaux of the old régime.

If this comparison does not betoken prosperity, at least it indicates that the Italians have readily adapted themselves to our industrial era. They started nearly 100 years behind England and sixty years behind France; they lacked capital; they lacked something more important—enterprise; the inertia of tradition weighed on their industries as it still weighs on their agriculture; and over all spread a political palsy. A single generation of Free Italy has wrought these immense changes.

And yet the stranger, blind to these evidences of progress, sees only the poverty, which he thinks is universal, helpless, incurable. But if you know Italy, you know that the areas of poverty vary greatly in extent. At Turin, for instance, you rarely see a beggar, whereas some quarters of Naples seem to have no other inhabitants. Wages of farm laborers and of mill-hands are often desperately low, and employment, especially for the agriculturists, is not steady. In certain regions and seasons a farm laborer can earn barely fifteen cents a day, and regards twice that sum as large pay anywhere; but we must remember that he can buy the necessities of life very cheaply. Actual starvation overtakes those districts which rely on a single crop, if that crop fails. Misery is endemic in more than one ill-favored locality. To escape these evils, the peasants emigrate in myriads, while other myriads flock to the cities to swell the ranks of the submerged.

Again, these phenomena are not peculiar to Italy: they are the grim facts which confront modern civilization. The capital social achievement of the nineteenth century was the discovery of the slum. Before that, the slum had been taken for granted—accepted as a necessary evil—from the earliest times. Charitable institutions had, of course, existed, and paupers had had their dole of soup and bread, with an occasional penny, but it no more occurred to even the benevolent to stamp out pauperism than it shocked them to keep slaves. In Italy, under the old régime the slum itself was almost a privileged institution. The *Statés* of the Church swarmed with beggars, to whom Pius IX. showed special indulgence; how, indeed, could a Church which encouraged the Mendicant Orders, sodden in idleness and carnality, effectively reprove untensured mendicants? The Neapolitan Bourbons actually based their throne on the slums: the league between Ferdinand I. or his grandson, Bomba, and the *lazzaroni* of Naples was so close that, thanks to it, the King more than once stifled the efforts of the decent minority; and when Victor Emanuel entered Naples in 1860 he found 90,000 professed *lazzaroni*—criminals of every grade, from the most brutal assassin to the sneak thief, idler, drunkard, low debauchee—who avowedly had no honest employment.

How stands the matter today? Italy has declared war on the slum. The worst parts of Naples have been demolished; new broad streets bring light and pure air into what were lately the most unhealthful wards of Rome; that reeking sty, the Florentine Mercato Vecchio and its neighborhood, is an open *piazza*; the blocks of squalid buildings which crowded the Duomo at Milan have been swept away to make room for one of the finest squares in Europe. At each of these improvements the voice of the sickly esthete has been raised—"Vandalism!" they murmur. "The Roman Ghetto was so picturesque!" "The Old Market at Florence had such delightful medieval associations!" To these sentimentalists the life, health and morals of the living citizens of Rome or Naples or Florence are nothing. What, indeed, could improved drainage or lowered death-rate mean to foreigners in pursuit of Walter Paterine emotions?

In every city and in almost every town of

Italy this beneficent "vandalism" has been carried forward. Naples has now one of the finest water-supplies in the world; Rome, which was so unhealthful that during the last year of the Papal Government the Ecumenical Council dreaded to sit there on the approach of warm weather, is now a healthful city. Sanitation has been pushed not only in the cities, but in the country also, where immense tracts of malarious or unproductive land have been reclaimed.

This war against poverty has been waged on the material side by substituting healthful for disease-breeding conditions; on the intellectual and moral side it has been waged by education. The old régime and the Church hated schools, and very naturally, since their grip on the masses depended on keeping them in ignorance. Fifty years ago Italian peasants and servants were almost wholly illiterate. The new régime has reduced illiteracy until now less than a third of the adult males and one-half of the adult females are illiterate. The proportion varies from five per cent. in Turin to ninety per cent. in Calabria. Piedmont makes a better showing than Pennsylvania in education, for in 1900, out of 1,330,000 Pennsylvanians of voting age, 140,000 were illiterate. Unfortunately, compulsion cannot be carried everywhere into practice, for poverty prevents many children from attending even the public schools.

Thus is Italy using education, the master weapon, against error, ignorance, and crime. She has placed in every commune, in every hamlet, a school, and although the number of her illiterate is large, she has already made immense progress. To cite only two symptoms: first, the number of homicides fell from 5,418 in 1880 to 3,749 in 1898, a figure which will compare favorably with the estimated 10,000 violent deaths a year in the United States; secondly, the percentage of illegitimate births has fallen from 7.35 in 1881 to 6.14 in 1889. Illegitimacy is still most common in Romagna, Latium, and Umbria (reaching 142 per 1,000 births in Umbria), the former States of the Church: a significant fact.

The kingdom is well provided with savings institutions, public and private, which have deposits to the value of 2,500,000,000 lire, or \$500,000,000, an amount which, considering the resources of the country, ought to cheer

even the pessimists. As we come to know better the social and economic conditions of our own country, we get over the pleasant assumption that Americans and British are all prosperous—a fallacy perhaps due to the fact that until lately the acquaintance of social philosophers was limited to the well-to-do. In the United States, for instance, there are now millions of persons whose outlook can hardly be brighter than that of the least prosperous Italians. The “poor white trash” of our South can be matched against the most backward South Italians; the derelict medievales of Kentucky and Tennessee are the counterpart of the brigands of the Abruzzi and of the Sardinian mountaineers. Nor are the British Isles an exception. Less than sixty years ago 1,000,000 Irish died of famine while luxury went on unabated in England; and only last year an economic census of York showed that 23,000 out of the 70,000 inhabitants of that typical fairly prosperous English town live habitually below the starvation line.

Instead of holding up our hands in horror at the poverty and illiteracy of Italy, we should inquire whether the poverty is greater, the illiteracy more widespread than in 1860: and to these questions there can be but one answer. Moreover, to the Kingdom of Italy belongs the credit for this stupendous progress: had the Bourbons ruled in Naples, the Pope in Rome, the Grand Duke in Tuscany, during the past forty years, there would have been no such modernizing. So far as concerns economic and educational requirements, we must conclude that United Italy has proved herself fit for the new era.

Look now at her political growth. We see many blunders, much incapacity, much positive corruption. Recent historians almost unanimously agree in unfolding crisis after crisis, each of which seemed certain to wreck the newly launched monarchy. Just recall a few of these crises: Garibaldi's crazy expedition, connived at by Rattazzi, and ending in the distressing conflict at Aspromonte in 1862; the September Convention in 1864; the publication, also in 1864, of the “Syllabus,” by which Pius IX. hoped to inflame the Catholic world against Italy; Garibaldi's second imprudence, ending at Mentana, in 1867; the adoption by the Pope of an irreconcilable attitude after the liberation of Rome in 1870; hard

times and prospective bankruptcy, 1873-75; the death of Victor Emanuel, testing the dynastic principle, January, 1878; the death of Pius IX., which the Papalists hoped would render acute the question of the temporal power, February, 1878; the Irredentist riots in 1878; popular indignation over the French occupation of Tunis in 1881; the disaster at Dogali—the first retribution for the Abyssinian folly, in 1886; the commercial rupture with France, leading to great distress throughout Italy, 1888; the recrudescence of Papal hostility, 1887-89; the Roman Bank scandals, revealing speculation on an immense scale, and involving many prominent public men, 1893; distress, riots and martial law in Sicily, 1893-95; the rout of the Italian army at Adowa, and collapse of Italy's Abyssinian folly, 1896; the bread riots, culminating in bloodshed at Milan in 1898; the assassination of King Humbert, again testing the strength of the monarchy, July 29, 1900.

Here are a few items—the list might be greatly lengthened—which enemies of Italy, and doubtless many among her friends, have cited to prove that the kingdom could not endure. And even in addition to these specific symptoms, there were to be overcome the sleepless intrigues of the Vatican, the incompetence of legislators, the propaganda of Republican or Socialist partisans, the tenacious Past, the limited financial resources. Nevertheless, in 1903, the nation is stronger than she was in 1893, or in 1883, or in 1873. The voyage has always been stormy, sometimes desperate, but Italy has weathered every gale, and she forges ahead today better manned and equipped than ever. Is it not a queer sort of logic which concludes that a ship which has outlived so many perils was unseaworthy from the start?

Many of the evident mistakes of the past thirty years can fairly be charged to lack of parliamentary experience. The masses were uneducated, and generations of Papal and Absolutist misrule had corrupted the general character of the people. Under the old régime there could be no citizens: the relations between the oppressed subject and the despotic ruler, far from fostering those civic qualities which we look for in freemen, trained instead the baser instincts—cringing, hypocrisy, cowardice toward those above, greed and cruelty and arrogance toward those below,

It is not surprising, therefore, that the Italian Parliament has often failed to solve the great problems set for it; nor that the type of public man who has come to the front has often been the astute politician, the intriguer, the demagogue, the boss. Since Cavour died, Italy has had no statesman of transcendent power; but in Ricasoli, Minghetti, Sella, Lanza, and other survivors of the heroic epoch, she had leaders of stainless integrity, who were true patriots. That the new generation should breed politicians and not statesmen seems inevitable. Italy was made—the day for heroic sacrifices was past; the day of immense spending had come—of honest spending, to lift the new kingdom up to the modern plane; of injudicious spending, on public works before they were needed; of dishonest spending, to enrich corrupt politicians and their gang. Our Whisky Ring, Credit Mobilier Ring, Star Route Robbers, Sugar Ring Senators, and other rascals have had their counterparts in Italy, and in Italy, as in the United States, they have generally gone unpunished. This grave blot cannot therefore be charged to the Italians alone, nor used as evidence of their unfitness for self-government. It is the curse of the age: it has blackened modern France; it has stained England.

It will not do, therefore, to single Italy out as a failure in parliamentary government because her public men have been corrupt or incompetent. The effects of their corruption or incompetence have been more apparent because she is weaker than France, or England, or the United States, countries which, like strong men, can stand dissipation which would kill a weakling. But her comparative weakness has been also a safeguard: for it registered almost immediately a warning after each excess. Her worst folly—the chase for a colonial empire in Eritrea and Abyssinia—began at once to plague her; in 1886 Nemesis smote her at Dogali; in 1896, after Adowa, she heeded the warning. "The Abyssinian campaign gave us our colonial anti-toxin treatment," said a keen Italian financier to me the other day; "it was costly and made us very sick, but it cured us."

The over-taxation of Italy is so common a theme that I need not enlarge upon it. Her public debt averages about \$80 per capita—nearly as much as the French, although in

paying capacity France far outranks her. Even so, Italy for this sum has provided herself in three decades with the outfit—if I may use the term—of modern civilization. Her neighbors, richer to start with, have had from fifty to one hundred years in which to get theirs. This represents, further, the debts of the old governments, which she swallowed up, and the cost of her wars of liberation in 1859, 1860, and 1866. Free government, even when most economically administered, costs more than despotic, and thus far it has nowhere been economical. Conceding all that pessimists urge against the financial errors of Italy, I cannot, on that account, despair of her future. If financial errors alone could ruin a nation, the United States would have long since perished.

Political education has not kept pace with the needs of the country, and centralization, which tends everywhere to preserve the form but vitiate the essence of representative government, has been partly responsible for this backwardness. But centralization could not be dispensed with in the early years, when the planting and nurture of uniform national ideals transcended all other needs. In like manner, the army has been less harmful in Italy than elsewhere. It has served to unite the various provinces not only by making their conscripts recognize the Italian flag as supreme, but also by mixing the various elements. It has taught millions to read and write. It has given the Italians, who had been mercenaries or the defenseless subjects of unspeakable tyrants, a requisite sense of personal and national honor, and of devotion to duty. Finally, it has bred discipline in a race which had grown slack and shiftless.

We have thus far considered some of the obstacles—social, economical, and educational—against which the Kingdom of Italy has had to contend in its struggle toward a sound national existence; we must now, before concluding, glance at her active political enemies. She has never had anything to fear from the dispossessed Bourbon pretenders, whose following in Naples and the Duchies is as dead as that of the Stuarts in England, but until a few years ago her peace was endangered by Republican agitators. They did not wish to shatter her unity, but they thought that by establishing a republic they could cure the ills which they

charged to the monarchy, and so hasten the coming of the Mazzinian Utopia. Their propaganda, vigorous in the seventies and at times threatening in the eighties, has petered out—partly for lack of leaders; partly because the horse sense of the vast majority of the Italians shows them that the monarchy is the principle on which they can best agree now, whatever their preferences for the future may be; and partly because the Socialists have come forward to preach that through Socialism and not through the republic the desired reforms must be sought.

The Socialists, who number many of the best educated as well as the most earnest Italians, hold almost the balance of power, and they have by no means reached their full strength. Some of their demands have already been granted in other countries; only their extremists hint at abolishing the monarchy. With proper guidance, they must do a great good in urging on social and economic improvements. They are dangerous in so far as they kindle class hatred or teach the discontented that the causes of their discontent can be removed by summarily sweeping away the army, or the monarchy, or individual ownership of land, or industrial competition.

Their true mission in Italy is education, not revolution: for no revolution that they might achieve would last, unless the people were educated to live up (or down) to it. They have perforce resorted to political methods; they have made unholy alliances—witness their tacit league with the Clericals in 1898—which will come back to plague them; and they have not always seemed to work disinterestedly; but among them few believe in violent means, and still fewer plot against Italian unity. The rise of Socialism means that our modern world is seeking to readjust itself on economic instead of on political lines. This readjustment will certainly not be similar in all countries. In despotic Germany, for instance, Socialism is the great protest against militarism and autocratic megalomania, while in the United States it antagonizes trusts; in Italy, it has a broader fulcrum of poverty for its lever, but less intelligence and a greater diversity of conditions, and therefore of needs, to work with.

Evidently, in all these respects, Italy has

not been the exception which she is usually painted. She has had economic and agrarian problems—offset Sicily, for instance, against Ireland; she has tackled the slum; she has spent wastefully; she has bred dishonest politicians, and she has now to reckon with Socialism—just as her neighbors have.

But in addition to the common burden of the age, Italy has had to bear her special cross—the sleepless, unscrupulous, far-reaching enmity of the Vatican. She has had to hear French and American Catholics threaten to deprive her of her capital, although they would be quick to resent the agitation of Germans or British to hand over Paris or Washington to a foreign hierarch. The strongest proof of the stability of United Italy is the fact that for thirty years she has permitted her arch-enemy to occupy Rome. I venture to think that no other nation would have done this. How long would Prussia tolerate in Berlin a foreign court of similar nature, working day and night to overthrow the Prussian Kingdom? Can one suppose that the English, who used to go into hysterics whenever the late Doctor Pusey added half an inch to the width of his hat brim, would have suffered the Pope himself to dwell in London and to carry on with France and the other Catholic powers intrigues for the restoration of Popery and the Stuarts in Great Britain? Or should we Americans hold hands off from conspirators, lay or clerical, who avowedly plotted at Washington to destroy the republic? Yet Italy has forborne so admirably, as if it were a matter of course, that the world has hardly given her credit for it. She has suffered vicariously for the rest of Christendom. The French Catholics, who would not tolerate the Pope for *their* secular prince, insist that the Romans and Italians, who repudiate his kingship, shall submit to it. The Irish Catholics paid little heed when Leo, to propitiate the English Government, bade them abandon their patriotic campaign; yet they would inflict his rule on Rome. That home rule should be worth dying for in Ireland, but must be taboo in Rome, is a true Irish bull. Every Papalist speaks proudly of the achievements of Leo; but in so doing he gives the lie to the Papal contention that without the temporal power the Pope cannot perform his functions. Equally specious is the claim that, unless the Pope is King at Rome, foreign Catholics may sus-

pect that his policy is adopted under pressure from the Italian Government—as if France, Spain, and Austria had not for centuries exercised in the Conclave the right of vetoing any cardinal they disliked, who appeared as a candidate for the tiara; and as if, out of the seventy members of the Cardinals' College, a safe majority were not always Italian, to make certain the election of an Italian Pope.

Simply by non-interference Italy has demonstrated the speciousness of all the Papal claims. She has been able to do this because she has no illusions about the Church-Papacy. She never confounds the religious with the secular. She has no fanaticism, no rancor. She knows, moreover, that the Papalists are playing a great game of bluff; she is rather amused than otherwise that foreigners should be taken in by it. If some Papal organ laments the good old times when everybody was happy and prosperous under the Pope's rule, the Italian smiles much as Mr. Low or Mr. Jerome may smile when a Tammany organ tearfully regrets the Golden Age of virtue and prosperity when Richard Croker was chief. The countrymen of Machiavelli are too old in worldly wisdom to grow hot over perfectly obvious political tricks. So long as the Pope, by playing prisoner, can reap millions of dollars a year, they are generous enough to admit that he would be a fool not to do so. In France, the Clericals actually sell to the superstitious peasants blades of straw "which the Holy Father has to sleep on in his dungeon." "*Che vuole?*" the Italian asks with a shrug. "How can you expect them to tell the truth when lying is so lucrative?"

How desperate the Vatican has become appeared in the league of Clericals with the Socialists, and, more recently, in the Pope's *rapprochement* with Prussia—Protestant Prussia—to compensate for the loss of prestige in France. As we live in a period of reaction, it is but natural that the Vatican and Prussia, the two strongholds of medievalism, should at last clasp hands. So, in the reaction after Waterloo, the Vatican clung to Austria. Furthermore, it is a great mistake to suppose that all Italian ecclesiastics are anti-national; many of them are intensely patriotic, liberal even, and they would never consent to see the nation broken up. The pretense that a great body of Catholics does not vote

deceives nobody; because it is known that nearly the same number of votes are cast in municipal elections, in which the Catholics are allowed by the Pope to take part, and in the parliamentary elections, from which the Pope tries to exclude them. Therefore, either the Catholic voters number less than five per cent., or they vote against the Pope's order: whichever alternative we take, the claim of the Papalists, that if they all went to the polls they would control the country, is absurd.

As a menace to Italian unity, the question of the restoration of the Pope's temporal power has dwindled almost to nothing. No foreign governments are likely to engage in an enterprise which would impugn their own legitimacy; for Leo XIII. has repeatedly condemned the modern heresy that governments derive their authority from the consent of the governed instead of from Papal sanction. This bigotry, of course, outlaws every government in Christendom—for even the King of Spain does not acknowledge the Pope as his political over-lord.

I have touched on the material and political progress of the kingdom: it would be pleasant to record Italy's attainments in science, literature, and the arts; to speak of Carducci, the only original poet in Europe since Victor Hugo died; of Fogazzaro, and Verga, and De Amicis, conspicuous in fiction; of Lombroso, Morselli, and Ferri, in psychology; of Villari, in history; of Comparetti and D'Ancona, in scholarship; of Ferrari, in sculpture; of Morelli, in the criticism of art; of Marconi, in invention. The generation has been "practical" in Italy, just as it has been here; and yet these names attest that she has not lagged behind her neighbors in the higher pursuits.

Thus the nation, in spite of its local discords and failures, and of the disillusionment as to the speedy regeneration of society which has spread over Europe and America in the last twenty years, has become really united. In Rome, monuments to Cavour and Garibaldi have already been raised, and those to Victor Emanuel and Mazzini are well advanced. A statue to Giordano Bruno rises on the very spot where he was burned by the Jesuits 300 years ago. "The only tradition we have had since 1870," said to me a person who could speak with authority, "is toleration. The King is at the Quirinal, the Pope at the

Vatican; the Minister of War is a Jew; members of every church can worship undisturbed in Rome." Nothing can illustrate better than this toleration the spirit of the new Italy. And her new King—a man of sound education, firm will, clear judgment and high

sense of duty—must be an important factor in her future progress. Judged by the difficulties she has overcome, the transformation of Italy has been relatively greater than that of any other modern nation. On this fact her well-wishers base their hopes.

THE DAY'S WORK OF A CITY MINISTER

WHAT THE MODERN CLERGYMAN IS LIKE—THE DAILY MAIL HIS SECRETARY HANDLES—HIS MANY STRANGE CALLERS—ON DUTY EVEN AT NIGHT

BY

A CLERGYMAN

AT half-past eight o'clock the Reverend Doctor Blank left his breakfast table to begin his day's work. The man himself is typical of the city's clergy who are "up" in their profession: a man of forty, neither young nor old; a man of ability, neither quite a genius nor yet a dullard; college bred, genteelly nourished, of sound health, of pleasing manners and good morals; a man of presence, tact, and versatility, and, incidentally, of fifteen years' experience in his profession. He could not be less and remain pastor of a modern city church.

He is a man of simple tastes and economical habits, or he could not live on his salary as his position compels him to live—in the fashion that accords with residence in the vicinity of his church. He must dress as well as his people; he must keep his home well furnished, and he must send his two children to a private school. He must belong to at least one club, and he must spend his vacation in the country. All this he must do on a salary of \$6,000 a year.

He is really a "mighty good fellow"—as, indeed, must any man be who would achieve success in the ministry today. "The color of life is red," and he who would touch and influence life must have this color. I know this man. Many a prank we played together in our barefoot boyhood, many a "scrape" we got into in college days, and many a life experience has he gone through since. He has done much hard work, and he has had many a hard knock from the world—and given it.

These are the qualities needed in a modern clergyman. If, instead of being what he is, he were an employer, he would drive men with the same relentless energy he drives himself; if a doctor, he would find more satisfaction in defeating death than in his fee; if a lawyer, he would take more interest in justice than in a retainer.

Passing through the hallway from his residence to the church, he entered his office, where he found his secretary waiting—both "office" and "secretary" wholly modern adjuncts in church work. His office is in his church, his study in his home; the one a public place, the other private; the one for work, the other for study. The secretary does professionally upon salary what were once supposed to be the special duties of a pastor's wife—does things also which the minister can no more afford the time to do than can a lawyer or an editor, a railroad president or a bank president.

For an hour and a half until ten o'clock they work over the day's mail. There are a dozen letters, counting only those that must be answered. The whole number in one year is never less than five hundred, and each one brings a burden.

The first letter is one of fifty similar ones received throughout the year. It is from the rector of a struggling little parish in a town a thousand miles away, who has heard of him as the rector of a "wealthy city parish." The letter is a begging one pure and simple, and is pathetic in its very importunity. It tells of the efforts of a

little congregation to erect a church or pay a debt or lift a mortgage, and solicits a subscription. What can he do? In his own large field the pastor has as hard work obtaining the large sums of money that he must each year solicit as the other has obtaining lesser sums in a smaller field.

The next envelope opened is a square one bearing a dainty, scented missive, written in most beautiful chirography, and composed in terms of feminine irrelevancy, commenting, though four days late, upon last Sunday's sermon. It is complimentary, but absurd in its totally inadequate conception of the worth of what it praises. It is well meant, however, and must be answered, and that, too, at corresponding length.

Next is one whose only merit is brevity. It is an anonymous note, written by some one with more leisure than kindness, calling attention to a false quotation in that same sermon. This needs no answer. Early in his ministry such a note would have made him feel badly for a week. Now he has learned that life has many other troubles much more real: so this note, as all others like it, goes the way of the waste-basket, and is straightway forgotten.

The next is from a woman, a total stranger, who begins with three pages of introduction in practically undecipherable handwriting, telling of herself in such detail as to include her age, her social status, and the very color of her hair and eyes. It then plunges into the body of a request with "Briefly, then"—and continues through five pages more. It is the old, old story of a woman of refinement coming suddenly to penury and turning to the church to find some work for her. In her incompetence to do anything she professes her willingness to do everything. Her chief idea finds its duplicate once on an average in every week's mail—that is, a position as "traveling companion," or "long-hand secretary," or some helper whose duties are equally ill-defined, to be employed by wealthy women in his parish. He must reply, though he will not be believed, that but few women he knows employ such persons, and that even these would be as little likely to apply to him for such a servant as for a coachman or a furnace-man.

A young woman in a country town "up the State," who thinks of coming to the city to study music, art, or whatnot, writes to

ask for some position doing "church work" to earn a livelihood. She encloses a touching "recommendation" from her own home pastor, which discusses in detail her faultless "moral character," but has no word about "experience." She was never in the city, knows nothing about city churches and still less about city conditions, and would be of no more use here than a canary bird in a machine shop. This he must answer, giving advice—which will be disregarded—for her to stay where she is.

Following these comes the usual lot of assorted printed matter: advertisements, petty bills, new publications thrust upon him for "approval," and others his subscriptions to which have already been taken for granted, bills for which will come in due time unless he countermands the mythical subscription.

Last of all is a note from some editor asking an article which must be written in the form of a "letter," and for which, therefore, no cheque will be forthcoming. But he realizes that he owes it to this special cause to give to it the light which his study of it happens to make possible. The rest of his hour and a half he dictates such an article, and then leaves his secretary to write those dozen letters, typewrite the article, compile figures for a report due from him tomorrow as treasurer at a convention, and to catalogue and arrange new addresses.

It is ten o'clock when he returns from his office to his study to spend the hours from ten to one in his own privacy. Three hours a day for study were his hope and expectation long ago; in actual experience, these hours are cut down by interruption until they are insignificant. Yesterday, for instance, he had to attend a funeral at ten o'clock, and afterward make the long journey to a cemetery far away from town. It took the whole three hours. The people were not his own parishioners, and had no claim upon his time, but as grief is always selfish it never occurred to them that they were trespassing upon his time nor yet imposing on a stranger's kindness. The day before it was a call upon a sick man in a hospital, a half-hour's ride away. Tomorrow will bring something else.

These morning calls are made on him by persons who come in season and out of season, refusing to rank themselves with those who must come at an "office hour" and whom

he may not refuse to see. One, for example, is the church's treasurer. He is a busy (!) man, who cannot come at any other time. Others are his regular helpers, members of the church's "staff," of which every modern city church has a larger number than people outside imagine.

Of these last there are, for example, first his own assistant, a clergyman; then the church's organist and in this case his assistant also; there are a sexton and his helper; there are two paid "parish visitors," who in this, as in most churches nowadays, are persons especially trained, who belong to the Order of Deaconesses. Then there are all the voluntary servants of the church: a vestry or a committee, as the case may be, of perhaps a dozen men, a Sunday-school superintendent, and any number of teachers, chairmen of various committees and "workers" in clubs and societies whose number is limited only by the amount of institutional work a church may do.

But do so many persons never clash? That is just the point: that is the reason why they so often come here. These are the things no young man on entering the ministry ever thinks about; yet it is their very frequency that turns his hair too soon to match the color of a tombstone.

But even these interruptions are not the most annoying. Those come rather from his telephone. It rings four times this morning. The first person is an officer at the city prison, who tells him that a young man arrested for forgery claims intimate identity with the church and begs an interview in person with his (!) "minister" before his trial. The pastor never heard of the young chap. Perhaps once or twice in his life, maybe as a member of some lodge or regiment, the boy has attended church at some "special service," and now, when he gets into trouble, he bethinks him that he is a "regular attendant!" To visit him necessitates a two-hour trip downtown.

The second is a life insurance agent, who, having been unable to secure an interview in person, tries by this impersonal method to take him at a disadvantage. The third is an official of the city's Department of Buildings, who tells him that the chimney of the church must be repaired; this will necessitate the spending of \$500, and, incidentally, the raising of it. The last, to cap

the climax, is a newspaper reporter, who flashes at him a query his answer to which will form a paragraph in a Sunday's supplement symposium on the theme, "Is the world growing better or worse?"

One o'clock has come, and it is time for lunch. But again the telephone! This time a fellow clergyman in charge of a parish in a country town, who is in the city for the day, asks an opportunity to talk with him, soliciting his influence and advice to secure promotion to a city church now vacant. They can do this better at the club, so he must invite his interviewer there. It may be noted, merely in passing, that luncheons at the club cost the host's money.

This, or something like it, happens five days in the week. Even when he is at home his wife is probably out shopping, his children are at school, and he improves the time throughout his lonely meal reading a book sent to him by the publishers, to be reviewed, but not paid for.

Luncheon over and his guest dismissed, he comes back to keep his "office hour." This hour he has learned from experience it pays to keep, and he does so on five afternoons a week from two to three o'clock. Thus people whom he would otherwise have to go to see come to see him. Moreover, there are certain persons—"strange women" in more senses than one—whom he would run the risk of being blackmailed by if they were granted interviews in his study. Furthermore, it pays because he thus avoids the reputation of being unapproachable by any one to whom an interview might mean favor. But the price he has to pay is that many persons whom he does not want to see flock to him and impose their sorrows and their woes, their stories and their schemes, upon him.

It is an anomalous sight, that "office." There sits a man in clerical garb; on the desk before him is a telephone; not far away, his secretary; and outside the door, in a waiting-room, in chairs arranged in line of precedence, sit a dozen people, the room thus filled presenting the composite appearance of an office, a confessional, a bank, a lobby, a dispensary, and a general clearing-house.

Of these callers he has had in one year more than a thousand. Who are they? Well, some of them, though relatively few, are his own people, members of his congregation, who have come to arrange for weddings,

baptisms, funerals, etc., or who have come on other errands as secret and as sacred. In any case, of these one may not speak. But there are others.

The first one today, for example, is a young fellow who, with downcast eyes and sneaking manner, ambles toward an interview. What he asks for is a loan of twenty dollars. He is a student attending college in the city—one of those young Lotharios who, having spent or lost or drunk or gambled an allowance from home, seek out some supposed custodian of public funds and ask for something with which to make a new start. Or he is the son of a well-known man this special pastor holds in high esteem; and in this respect and affection the young wretch traffics. Or, in like manner, he may be some young prodigal off on a spree from his home in a distant town. The thing he needs is to be scared within an inch of his life: he never was frightened nor ever scolded; but he is today before he escapes, and that soundly. He goes away a sadder and a wiser young man.

The next is an old man who has walked to the city all the way from a distant town, where he dwells an unintentional burden on his daughter and her husband, who have scant enough means to support themselves. He has come to the city to answer an advertisement for help. Failing, he has not even carfare home. The story and the author's attitude are enough to drain deep wells of sympathy. He is one who all his life has fought against fate and never got anywhere. It will soon be over, and his epitaph might read: "Meant well, tried a little, and failed much."

The next is a woman who tells of her husband's recent infatuation with a neighboring clergyman and of their approaching departure from membership in the church. The pastor remembers with some amusement the enthusiastic way in which the membership began. The man was about to take two pews, joined every possible society, and had to be restrained almost by force from joining the "Mothers' Meeting" and the "Dorcas Society." And though the pastor's face is sphinx-like while he listens seriously, you would see laughter in his eyes.

At last the time is up. The pastor must go without interviewing four other people whose errands he can guess from their

appearance: a "vagrant" to ask for a "little assistance"; a "regular" wanting rent paid; a "rounder" whose children are starving at home; a "panhandler" looking (?) for work. There have been literally hundreds of people in one year who have told the same stories verbatim. One does not like to grow hard-hearted; one likes as little to be gullible.

It is now three o'clock, and, as his daily custom is, he must devote the hours from now until six in making calls upon his people. The difficulties are manifold. The city is one of maddening distances, and half the time during those hours he must spend on street-cars. Another difficulty is the uncertainty of finding—or, perhaps better, the certainty of *not* finding—people at home: he has before now made as many as a dozen calls and has had to leave eight cards—which means that, on another day, it must be all done over.

But the hardest part of this task is the strain of these calls themselves, the terrible exhaustion of quick change of mood. In one case, for example, he must be sympathetic, in another sociable; in one home he must listen to the prattle of some "glacid" person; in another, talk theology; with one family he must rejoice at good fortune; with another, grieve in sympathy.

He is home at half-past six, but scarcely in the mood to dress for dinner and dine out with friends. It is the fourth night in one week that he has been out somewhere. And yet even this is not the pleasure that it seems, for even in this he is still at work. So long as and wherever he wears his clerical clothes, he is still on duty. He never has the feeling that men in other professions have of leaving their day's work behind them and of finding relaxation in the pleasures of the evening.

At ten o'clock he reaches home, his day's work done at last! And yet, come to think! the night is Thursday, and as yet he has done nothing on his Sunday's sermon. He must steal from the day two hours of the night and in their quiet try to arrange some thoughts in sequence.

At last he closes his study door from the outside and wanders off to enjoy the luxury which throughout the winter season he scarcely enjoys three times a week—of finding his way to bed before midnight.

MAKING BIG GUNS

THE GREAT ADVANCES IN NAVAL EQUIPMENT—HOW THE 12-INCH THUNDERERS ARE MADE—16-TON JACKETS FITTED WITHIN FOUR ONE-HUNDREDTHS OF AN INCH AND WELDED BY SHRINKAGE—GUNS IN USE AT SEA—THE DESTRUCTIVENESS OF MODERN GUN FIRE

BY

LIEUTENANT COMMANDER ALBERT GLEAVES, U. S. N.

(Illustrated in part with photographs by Frances Benjamin Johnston; taken by courtesy of Rear-Admiral Charles O'Neil, Chief of the Bureau of Ordnance)

EVER since the days of Edward III. the gun has steadily developed until it has grown from the tiny cannon throwing a three or four-pound stone ball a few hundred yards, to the imperial 16-inch gun capable of hurling a ton of steel a distance of twelve miles. The development of gun manufacture in the United States, however, began not quite twenty years ago. During the Civil War our ordnance was not greatly improved over that of 1812, and the guns of 1812 had advanced but little since the immortal fight off Flamborough Head. Gun-locks and shell had been introduced, it is true, and rifling and breech-loading were to a less extent employed, but the standard navy guns from 1850-51 to 1877 or thereabouts were the smooth-bore solid cast-iron Dahlgren "beer-bottles," as the sailors called them, burning nine pounds of powder and firing a projectile of about ninety pounds. A very few of these are still afloat, but they are as antiquated to-day as the old-fashioned carronades were in 1860.

After the Civil War, and during the transition period of our navy, an attempt was made to convert the old 11-inch Dahlgrens into 8-inch rifles by inserting a rifled tube into the bore, but the rapid advance in the manufacture of artillery abroad, and the entire revolution in the art of gun-making, soon rendered these makeshifts obsolete; so that as late as 1884 the United States was entirely destitute not only of modern artillery, but also of the means of manufacturing it. The only rifled guns we had were the muzzle-loading converted 11-inch Dahlgrens and the 60-pounder breech-loading rifles converted from muzzle-loading Parrots.

As this state of affairs was intolerable, in 1883 the President sent abroad a Board of

army and navy officers to investigate foreign methods of gun-making. After a close inspection of the gun factories in England, France and Russia, the Board submitted a report in February, 1884, that resulted in the establishment of the great naval gun factory at Washington and the army factory at Watervliet on the Hudson.

The site selected for the naval foundry was the old navy-yard on the eastern branch of the Potomac River, by which the yard has direct communication with the sea. Here it was in the old days that anchors were forged, ships built and fitted out, and guns fired and tested, for the Washington yard has always been identified with naval ordnance. Here also Dahlgren labored in his favorite field, and, dying, bequeathed to the yard the arm of his son Ulric which lies buried in the walls of the old foundry. During the Civil War the yard became a sort of fortified arsenal, and the scars of the loopholes with which the north wall was pierced when old Jubal Early halted within sight of the Capitol may still be seen. Here it was, too, that the remains of Ellsworth were brought at the beginning of the Rebellion, and those of Wilkes Booth at its close.

It was a simple matter, in beginning the new work of establishing a gun factory, to eke out the \$1,800,000 allowed as a starter by building upon the skeletons of the old shops; and then, year by year, as Congress loosened the purse-strings, to supersede the old buildings altogether. The result is the finest group of gun-shops in the world—not excepting those of Krupp. They cover forty-seven acres of land, and are splendidly capable of making every class of gun from the graceful 13-inch barker of the torpedo-boat destroyer to

the ponderous 13-inch thunder-makers of the battle-ships, not to mention multifarious accessories.

Visitors there see in contrast to the guns of today ancient trophies guarding the outside of the big gun-shop. Guns which frowned upon our infant navy from the castles of the Bashaw of Tripoli, brass field-pieces from the plains of Mexico, and the famous "Long Tom" of the brig *Armstrong* which once wrote history in letters of fire in the harbor of Fayal—all these and many more border one side of the main avenue of the yard. In their day of glory, each in its degree was the last word of kings, but if put together in a crucible they would scarcely produce enough metal in weight to make one shot for a 12-inch gun of to-day.

On the other side of the avenue the main gun-shop stretches over one thousand feet. Here the massive hoops, bands and tubes are delivered rough and rusty from Bethlehem or Carnegie's, and in due time—eight months or so—after a severe process of trimming and pruning in more than two hundred machines, they are converted into the shining rings and barrels which, when put together, make the finished gun. For, as every one knows, the modern "high-powered gun" is not made of a solid piece of metal, but is "built up" by shrinking around a central tube layers of massive steel rings in such a fashion that when completed the profile suggests an enormous drawn-out telescope.

In the early days of our gun-building, when the gun factory was a new toy, "shrinking day" always drew a crowd of distinguished visitors from the upper end of Pennsylvania Avenue and the vicinity of Lafayette Square. Shrinking on a 13-inch jacket was a great event. Even now it never fails to excite interest.

The shrinking-pit in the gun-shop is forty-five feet deep, and when all its petroleum furnaces are aglow and roaring with the cold-air blast, every man of the six hundred in the gun-shop knows that soon there will be something happening. By custom, shrinking-hour is usually three o'clock in the afternoon.

"I am not superstitious," remarks the foreman, "but I have shrunk on eight hundred jackets in my time, and always at three o'clock, and I have never had an accident; so I don't see any use in changing the time."

It requires thirty-six hours of baking to

bring the jacket up to its proper temperature of 675° or thereabouts, for it weighs 34,000 pounds. When this is accomplished, the jacket is ready for its final resting-place over the tube. It is a liberal education in discipline and order to see how the workmen transfer the jacket from the pit to the tube. Every man knows his place and station, and not a word is spoken. The foreman conducts every operation by motions of his hands and fingers. At his signal two overhead cranes, one with a capacity for lifting 110 tons, wheel over the pit. The smaller one hooks on to the lid of the furnace and swings it to one side, suspended in mid air. Then the big crane comes into position over the furnace and rapidly lowers its great shackle and chains to the jacket, where men with iron rods make the proper adjustments. When the shackles have hold of the jacket the foreman merely tips upward the fingers of his outstretched palm.

Immediately there is a mighty rattling and humming of the crane, and the jacket begins to rise out of the furnace. Wondering spectators grouped around the pit marvel at its length and size. When the jacket is clear of the furnace, after a moment's stop for a final wiping out with wet swabs on long poles, the craneman, with his eye on the foreman, moves the crane slowly along sidewise a few yards with its dangling 16-ton burden, until the jacket is exactly over the tube, which has also been placed upright in the pit. Now is the crucial time. Unless the jacket is exactly centred over the tube, it will bind when lowered, causing no end of trouble and expense and delay. As there is only four one-hundredths of an inch play all around, there must needs be steady eyes and steady nerves to guide the jacket fair. It is a breathless moment as the enormous cylinder is moved a fraction of an inch first in one direction, then in another. Everybody feels the strain, although the thing has been done and without accident a thousand times. The heat radiated from the jacket is intense, and the faces of the workmen who are steadying it with asbestos-gloved hands are red to blistering.

When the foreman determines that the jacket is centred, he bends his fingers downward, and at this signal the craneman begins to unwind his reel and the jacket descends very, very slowly at first, then with quickening speed until finally it brings up almost with a drop on the end of the tube.

ocean is nearly two hundred miles distant from the navy yard, it really is much closer. The voice of the sea is heard in every gun, and its mysterious influence is more or less felt by every man in the shops. When the war was on with Spain, the mechanics of the Washington gun factory rightly felt that they also served, and indeed there were no men under the Government who worked harder or more patriotically. They were the men who made the guns; by virtue of priority of service they felt at least the equal of the men behind them. Indeed, the connection between the fleet and the factory is so strongly felt that not infrequently men and boys yield to the "unseen reality" and enlist in the navy for service afloat.

Such in brief and most general terms is the gun factory and its method of fabrication. Since work was begun there in May, 1887, 1,210 guns of various calibres have been completed, and 281 are now in process of manufacture. The expansion in the volume of work performed at the gun factory is shown by the fact that the annual expenditure for



AN ENGLISH FIELD GUN SURRENDERED AT YORKTOWN

labor alone has increased from \$177,320 in 1884-5 to \$1,746,168 in 1901-2, or nearly ten-fold. Nearly four thousand men are employed. In 1891 there were in use in the gun shops 405 machines driven by engines aggregating 1,530 horse-power. In 1902, the total number of machines in the shops was 1,223; the horse-



MAKING READY TO LIFT A BIG GUN

power 6,136, or an increase in power alone in ten years of nearly 500 per cent.

The proving grounds at Indian Head, on a Government reservation, twenty-three miles from Washington, are a necessary adjunct to the gun factory. These grounds are primarily for the purpose of testing guns, armor plates and powder, but the scope of the work has been extended to include a smokeless powder plant. Since its establishment in 1890, to October, 1902, 1,194 guns have been proved,

Ships are built to carry guns—that is to say, ships are simply gun platforms furnished with motive power for transportation and mobilization. In our latest battle-ships (*Louisiana* class) the armament consists of four 12-inch, eight 8-inch and twelve 7-inch guns in the main battery, and fifty guns in the secondary battery.

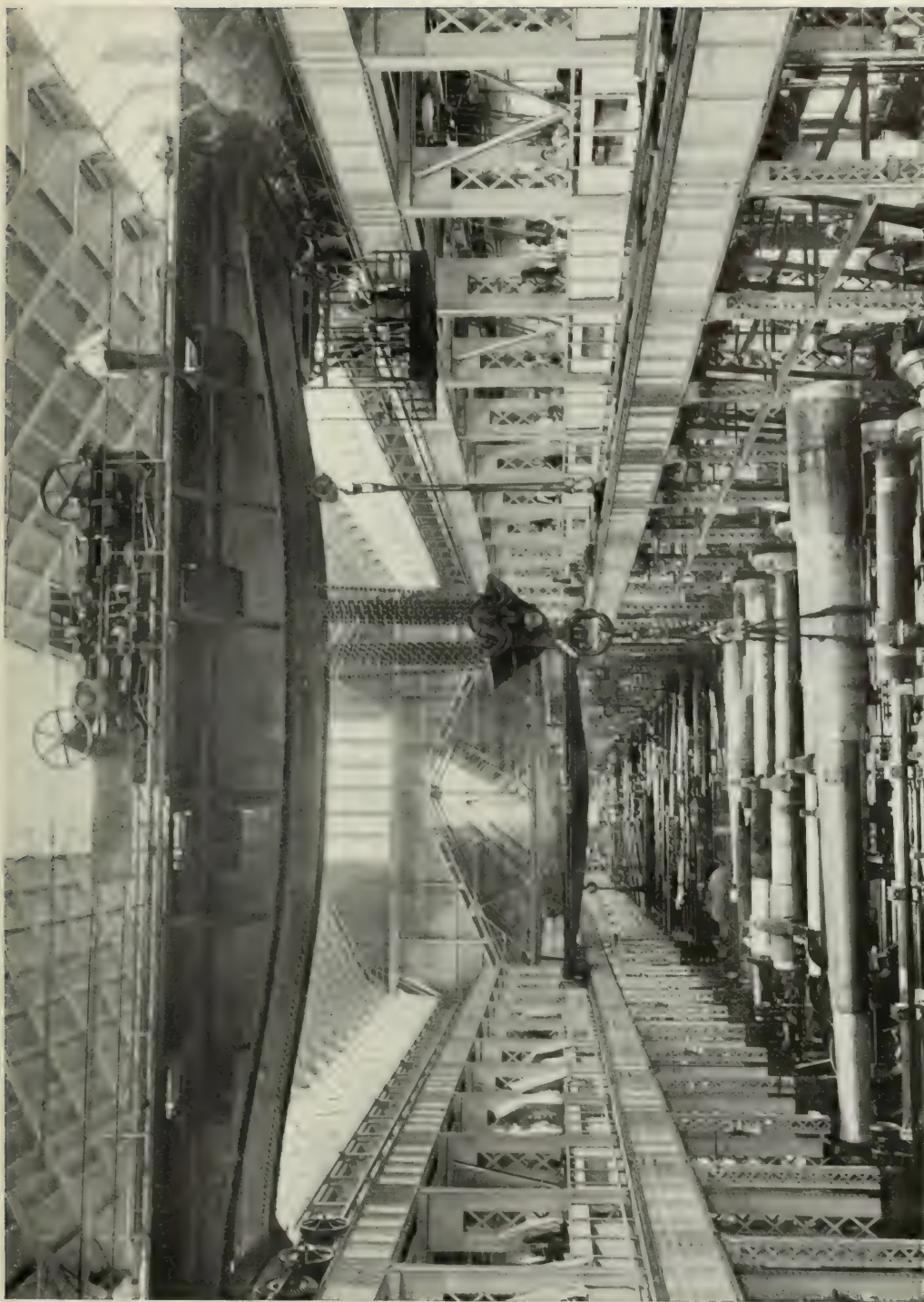
As the life of the ship depends upon her heavy guns, these must in the first place be thoroughly inspected, and they must also be



A COLLECTION OF SHELLS THROWN BY ADMIRAL SAMPSON'S FLEET INTO SAN JUAN, MADE AND PHOTOGRAPHED BEFORE THE AMERICAN OCCUPATION BY A SPANISH PHOTOGRAPHER

and 203 armor tests made for our navy and seventeen for the Russian Government, while the powder plant has now a daily output of 2,240 pounds. In 1894, 1,257 pounds of smokeless powder were expended in routine tests; in 1901, 92,324 pounds were expended. After "proof," the guns are returned to the gun factory, where they are finally inspected; they are then shipped by rail to the ships for which they are intended.

so placed as to obtain as large an arc of fire as possible. To this end they are mounted in pairs in heavily armored steel turrets. Each turret can be trained through 270 degrees of the horizon. The 8-inch turrets are disposed between the main turrets, while the 7-inch battery is located on the deck below in armored casemates. The small guns are distributed on the bridges, along the decks, and in the fighting-tops. The



THE 110-TON CRANE CARRYING A BIG GUN



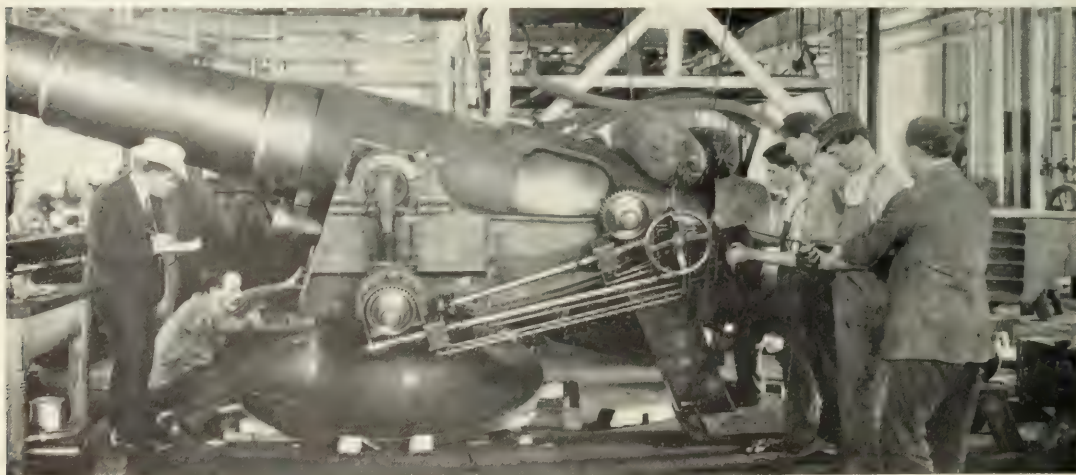
A 3-INCH FIELD MOUNT AND LIMBER

concussion of the explosion of a 12-inch gun is tremendous, but no disagreeable effect whatever is experienced by those in the turret. From "gut to thigh" the monster roars and trembles, but the noise is all outside. The gun, however, recoils in the turret with a speed of five and one-half feet per second, with the tremendous energy of more than 46,000 foot-tons, but so cleverly is the mount designed that this marvelous force is checked in a distance of thirty-six inches by absorption in heavy steel springs, which immediately return the gun to the firing position.

The first question one usually asks in regard to a gun is, How far will it shoot? But with the artillerist, range is not the measure of efficiency; the question rather should be, How much steel will the shot penetrate? As a matter of fact, the 12-inch gun will easily shoot a distance of nine miles. Standing behind the gun, it will require but little prac-

tice to follow with the eye the projectile in its flight. If the gun be elevated to twenty degrees, the projectile will be seen as a black speck to rise one mile above the earth before it begins to descend, and if the observer has a stop-watch he will find that the shell takes just forty-two seconds to travel the nine miles—a velocity sufficient to girdle the globe in less than thirty-three hours. It is more to the point, however, to know that with 385 pounds of smokeless powder, the new forty-calibre 12-inch gun will send an 850-pound armor-piercing shell hurtling through nineteen and five-tenths inches of Harveyized nickel steel armor at a distance of three thousand yards.

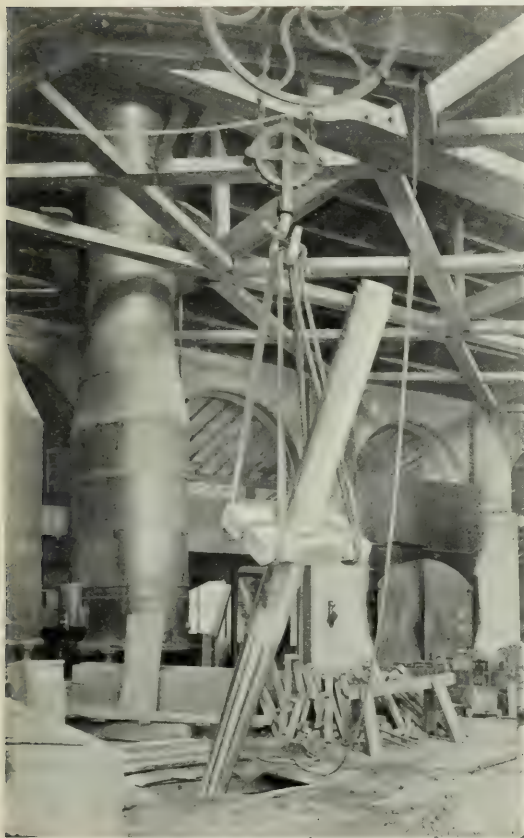
In the days of short guns—during the Dahlgren period—only black powder was used: a mechanical mixture that was practically the same as that used by Genghis Khan. When this powder burned it simply flashed, and its pressure was developed instantly.



TESTING THE MECHANISM OF A GUN CARRIAGE

As the introduction of long guns necessitated a change in powder, the Germans invented the brown or "cocoa" powder, the charcoal of which was made from carburized straw. This was made in hexagonal grains about an inch and a half in diameter and one inch thick, pierced with a longitudinal hole. It required three-quarters of a second for a grain to burn in open air, giving off large quantities of gas, producing a dense smoke cloud, and leaving a large residue of carbonate of potash. The secret of brown powder was jealously guarded

years of trial, smokeless powder is now a commercial article, and for military purposes it is as easy to manufacture as the old black powder. It consists simply of guncotton dissolved in a mixture of alcohol and ether, and is prepared for service in the shape of short perforated cylinders. It gives velocities as high as 3,000 feet a second. In the new fifty-calibre 6-inch gun it is expected to produce a velocity of 3,400 feet per second, which will be sufficient to send a 100-pound projectile through two feet of wrought iron.



LOWERING A 6-INCH TUBE INTO THE SHRINKING-PIT



SHRINKING ON A 13-INCH JACKET

for a long time, and we had to go abroad in order to obtain it. But as the demand for it increased in our navy, the great powder firm of the Duponts, after many trials, succeeded in turning out an article equal in every way to the German powder.

But brown powder had a short life. Whereas the black powder had given velocities of 1,500 feet per second, and brown powder gave from 2,000 to 2,200, inventive genius sought for higher velocities and smokelessness. After

As the pressure in the barrel is sustained and high, the walls of the gun must be strong, and it is a matter of congratulation that in sixteen years there have been but one gun ruptured in service and only a few cases of premature explosion of shells in guns.

The life of a gun is a matter of conjecture, for in the United States at least no high-powered gun has ever been tested to endurance. Some years ago it was published freely that Krupp guaranteed



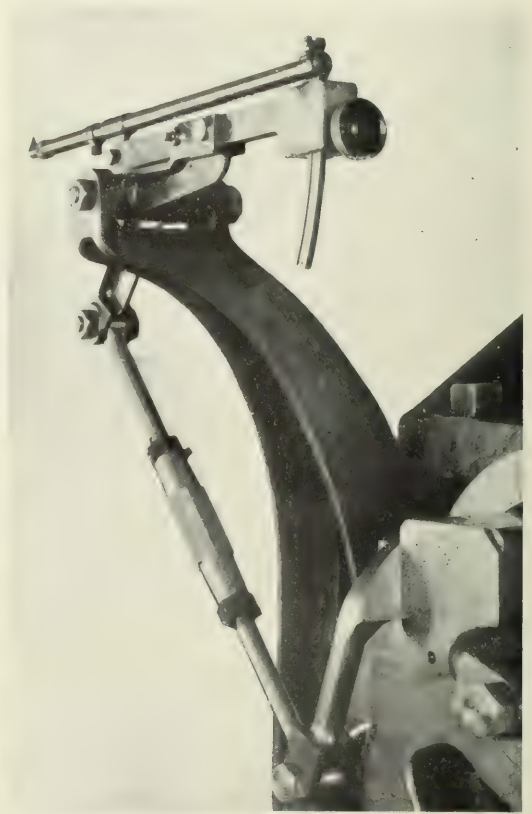
COMPARATIVE SIZES OF BIG GUN JACKETS

his heavy guns for only seventy-five rounds, but this probably meant the limit before it became necessary to re-line the bore. A year or so ago a 13-inch shell



ADJUSTING THE ELECTRIC FIRING APPARATUS

exploded in one of the *Kearsarge's* guns while at target practice in the Gulf of Mexico, gouging out the bore and mutilating the rifling. This gun was made as good as new by boring out the injured parts and inserting a new barrel. It is possible that a 12-inch gun may be fired three hundred times without serious damage. The injury that results from firing is mainly a mechanical erosion caused by the rapid rush of the powder gases around the base of the projec-

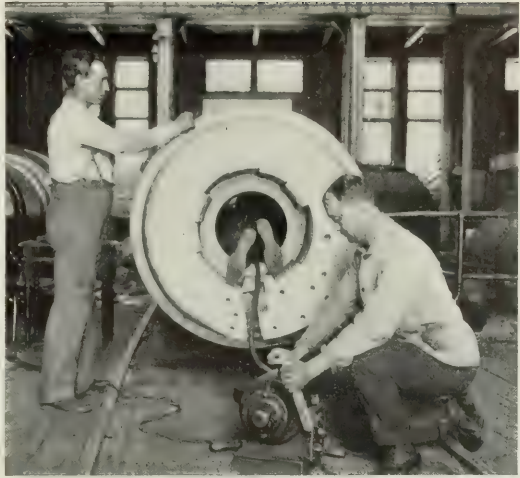


AN AUXILIARY BAR SIGHT FOR TURRET GUNS

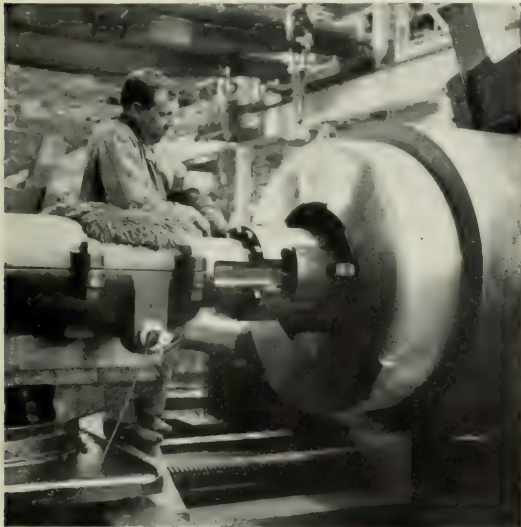
tile. It is possible that some chemical change also takes place, but if so it is not important. The English cordite, which is a smokeless nitroglycerine powder, causes serious erosion owing to the great heat it evolves, but it has the advantage of being forty per cent. lighter than our powder. Six-inch guns have been fired upward of 2,000 times without injury. This shows a great difference between the old and the new guns. Dahlgren guns were pierced with two vents and to each one were allowed five

hundred rounds, a thousand rounds being considered the life of the gun.

The secret of shooting true is to gunners what the philosopher's stone was to the alchemists, and naval powers today are making every effort to solve the mystery. When it is remembered that a 12-inch gun costs \$40,000, that the expense per round of firing it is nearly \$750, and that the erosion caused by each round lessens the life of the gun by a large percentage, from a financial consideration alone the importance of hitting the target is very great. It is still more important when the striking effect of the shot is considered. Shots that don't hit don't count, but a shot from a 12-inch gun striking square on the side armor of



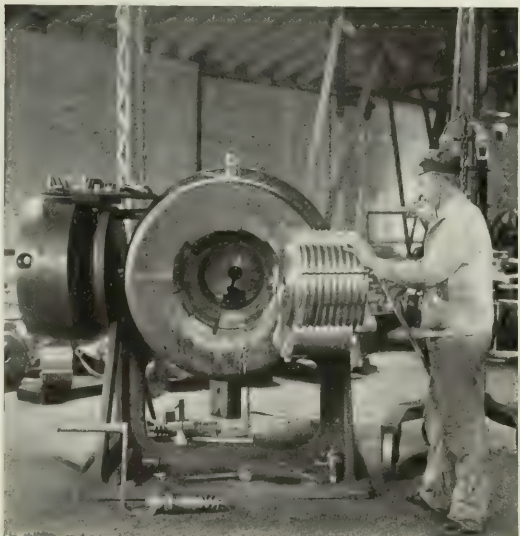
GIVING THE INTERIOR OF A 13-INCH GUN ITS FINISHING TOUCHES



A LATHE CUTTING THREADS FOR A BREECH PLUG

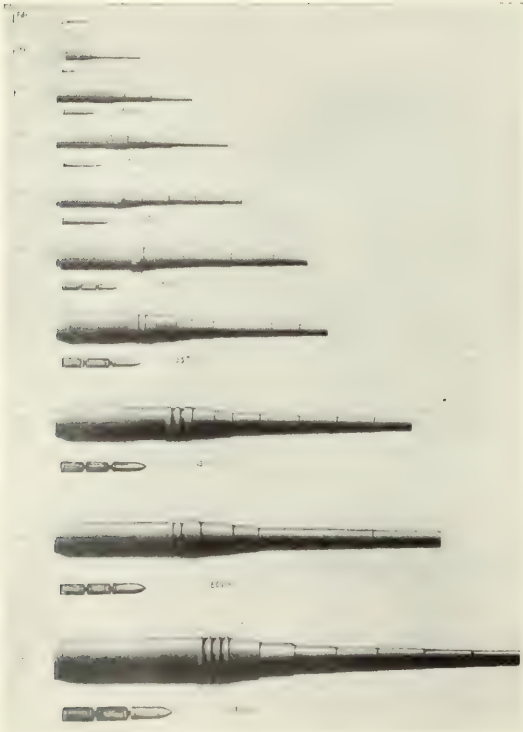
a ship at a distance of 3,000 yards will do incalculable damage.

Let us suppose that the *Louisiana* is engaged by a ship of her own class, and that a 12-inch armor-piercing shell strikes squarely on her side armor. What is the result? Her side is eleven inches thick; at 3,000 yards (one and one-half sea miles) the 12-inch gun will perforate nineteen and five-tenths inches of Harveyized nickel steel armor. As the fuse in the shell is "delayed action," it will permit the shell to get through the armor, and will then explode it in the interior of the ship. What havoc! The power of thirty-six pounds of powder, cordite,



EACH GUN PLUG IS ADJUSTED TO A DUMMY BREECH MECHANISM

melanite, or of whatever explosive the bursting charge of the shell may be, is suddenly released in an inclosed space. Steel bulkheads, decks, gun-mounts, stanchions, are blown out of shape and destroyed, and living guns' crews reduced to mutilated and scattered fragments. Should four 12-inch shots strike simultaneously, the effect may be imagined better than described. Two years ago the old English man-of-war *Belle Isle*, of 4,870 tons, was moored off the Isle of Wight and used as a target by the *H. M. S. Majestic*, a first-class battle-ship of 15,000 tons, which fired her 12-inch guns at her for the pur-



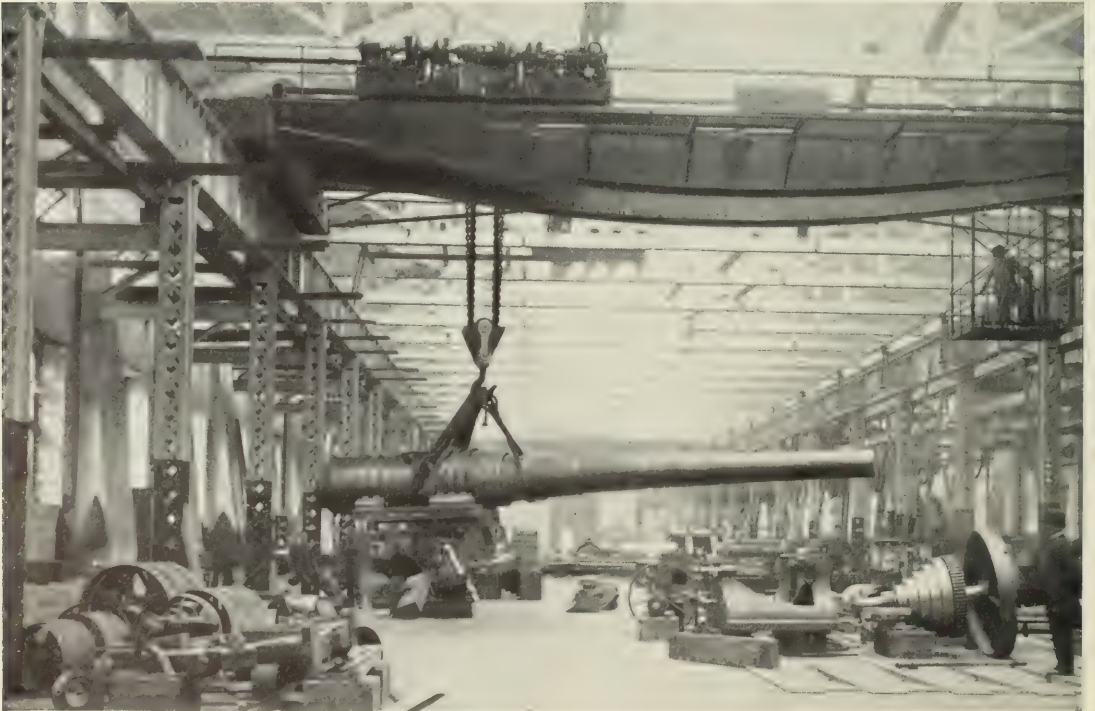
COMPARATIVE SIZES OF NAVAL GUNS

pose of observing the effect of shell bursting on closed decks, and of obtaining certain absolute data to be used in the new ship designs.

At a range of from 1,300 to 1,700 yards she fired, in all, fifteen 12-inch shells, 200 6-inch shells (100 loaded with powder and 100 loaded with lyddite), besides 2,000 small shells. Thirty or forty per cent. of the shells were effective and ten per cent. missed altogether.

The diagram shows the effect of the shooting. The woodwork inside was reduced to powder or set on fire; where the lyddite shells burst, large holes were blown through the deck; mounts, davits and funnels were shot to pieces or twisted out of shape and ruined; the upper works were blown to pieces; a twelve-inch shell struck right abaft the casemate and blew away one hundred square feet of the side. Immediately after, the firing officers boarded the ship and found her full of dense smoke; half of her 6-pounder battery was in firing condition; the dummies which represented the guns' crews were blown about and burning; the lyddite had pulverized everything wherever it had exploded.

Lieutenant-Commander Niblack, U. S. N.,



TRANSPORTING A 13-INCH GUN

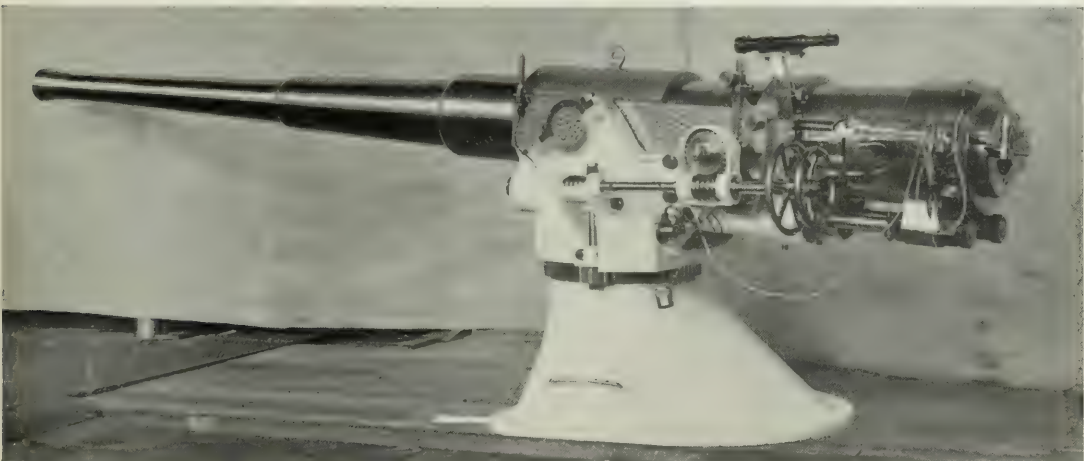


A VETERAN OF THE CIVIL WAR—A 9-INCH SMOOTH-BORE DAHLGREN

in a paper recently read before the Society of Naval Architects, says: "Few people realize the horrible destructiveness of modern gun fire. Our fleet at Santiago accomplished what it did with less than four per cent. of hits, and at that time our navy had the reputation of having the best gunners in the world. Since then both ordnance and gunnery have been almost revolutionized, so much so that guns and methods good enough for 1898 are an invitation today to disastrous and bitter defeat. To illustrate how gunnery has improved, and how terrible must be the hail of projectiles in a modern fleet engagement, let us briefly notice the recent progress made in the British Navy in the matter of target practice. Let us take first the 6-inch guns, as shown by the annual prize firing contest for 1901.

"Each ship steamed at a speed of twelve knots, and fired for two minutes with each 6-inch gun, firing one gun at a time, at a target twenty feet long and sixteen feet high, at a distance of nearly a statute mile. As published in the British press and verified by official reports, in 1901, the average of forty-eight British ships was nearly two hits per gun per minute. The best fifteen of the forty-eight made from two to four hits per gun per minute, but the best individual record was a string of eight shots and eight hits in one minute."

In 1902, the English man-of-war *Crescent*, with her 6-inch guns, scored 105 hits out of 135, averaging nearly five hits per minute. One of her gun captains fired nine shots and made nine hits in one minute. This is the world's record.



A 4-INCH RAPID FIRE GUN, WITH A TELESCOPIC SIGHT AND AN ELECTRIC FIRING APPARATUS



THE MODEL PREPARATORY SCHOOL

THE VARIOUS KINDS OF PREPARATORY SCHOOLS—THE BEST SCHOOLS
EQUIPPED WITH FACILITIES FOR EXERCISE, INTELLIGENT STUDY AND
COMFORTABLE LIVING—THE NECESSITY OF A LARGE ENDOWMENT

BY

FRANKLIN T. BAKER

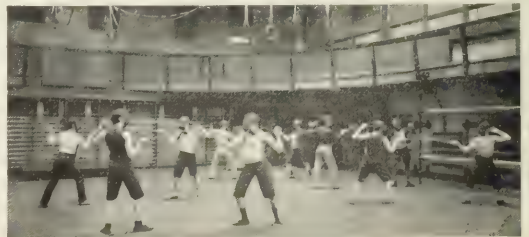
PROFESSOR OF ENGLISH LANGUAGE AND LITERATURE IN TEACHERS' COLLEGE, COLUMBIA UNIVERSITY

THE school under discussion here is the preparatory school pure and simple: that is, the school whose plan is to take boys from twelve to fourteen years of age to fit them in from three to six years for entrance to our best colleges. These are, presumptively, private schools. Public sentiment would not uphold, and general conditions would not justify, the public schools in devoting themselves exclusively to such work.

Of these preparatory schools, some of the more famous are endowed and under independent control; such are the Exeter and the Andover Academies, the St. Mark's, the Lawrenceville and the Hotchkiss schools, and the Tome Institute. Others, like the Horace Mann School, of Teachers' College, New York City, and the Ethical Culture schools, are partly endowed and partly conducted for the benefit of a higher educational or religious organization, and in accordance with its theories of education. Still others, like the Newark

Academy, the Hill School at Pottstown, Pennsylvania, the Newman School at Hackensack, New Jersey, and the numerous preparatory schools found in and about the large cities, especially in the East, are strictly proprietary and conducted for profit.

In all these schools are seen the American tendencies toward individualism. There are no uniform courses of study, no established methods of discipline, no prescriptive principles of control. Each school works out its own problems in its own way. Which particular school, or type of school, what



IN THE GYMNASIUM AT THE PRATT INSTITUTE



Photographed by Kimball

THE ENTRANCE TO THE QUADRANGLE AT
ST. MARK'S

kind of buildings and equipments, what sort of student life, should be considered best it is perhaps rash to say. In a number of the leading schools there are, however, certain recognized excellences.

Seclusion and space are desirable for the boarding-school. Nazareth Hall stands in a little Old World village; the Hill School, Tome Institute, and the St. Paul's School (near Concord, New Hampshire) stand outside and above small towns; the Lawrenceville School, midway in the ten-mile road between Trenton and Princeton, has near it only a few houses; St. Mark's, in Southborough, Massachusetts, and the Hotchkiss School, in Lakeville, Connecticut, are sufficiently

isolated from the busy world. Where the school must stand *in loco parentis*, the problem of control is rendered simpler by the remoteness from the temptations and dangers of a city. The day-school, on the other hand, must be in a populous district in order to be accessible to its students. Such locations have the Sachs, the Cutler, the Horace Mann, and other schools in New York City, the Penn Charter in Philadelphia, the Germantown Academy and the Newark Academy.

In the matter of grounds and buildings the day-school is generally at a disadvantage through limitations of space and the costliness of building in large cities. Some endowed schools, like the Drexel in Philadelphia, the Pratt in Brooklyn and the Horace Mann in New York, are, through munificent private gifts, housed in large and well-equipped buildings. But the extensive athletic fields, and the stretches of hill, plain and forest belonging to their country neighbors, they lack. The Hotchkiss, Lawrenceville and St. Paul's schools are on domains of many acres. The grounds of the Tome Institute consist of one hundred and eighty acres on a magnificent plateau two hundred feet above the Susquehanna, and half encircled by it, with an outlook over many miles of rich and picturesque country. The McDonogh Farm School, near Baltimore, possesses a princely colonial estate of more than eight hundred acres. If it is deemed better or



Photographed by Kimball

A GROUP OF ST. PAUL'S BUILDINGS

Seen from across the school pond

necessary for the boy to leave the home for his higher education, such places as these are, it seems to me, fittest for the expansion of his growing spirit. But mere space is not all that the boy needs. Baseball and football fields, running-tracks, golf-links, tennis courts, fives courts, and all the other provisions for out-of-door sports are among the necessities for the model school.

In certain New England schools, such as the Hotchkiss and St. Mark's, all the indoor life is under one roof. In others, as in the Belmont School, near San Francisco, there is, as there ought to be in such a climate, an arrangement of buildings that makes

are the interior plans and decorations. In his recent book, "Some Famous American Schools," Mr. Oscar Fay Adams gives high praise to Andover for its neat and cheerful dining-hall and for the well-chosen and well-placed casts and pictures found throughout the buildings. The Shattuck School, in Minnesota, proceeds upon an opposite theory. Its governmental influences combine the emotional element of religion and something of the hard severity of the barrack room; and students are expressly forbidden to "litter up their rooms with tapestry and hangings." In general, however, the modern school gives encouragement to all esthetic



THE LAWRENCEVILLE GYMNASIUM

Photographed by Ran

necessary more frequent exit into the open air. At Lawrenceville the English plan of housing groups of boys in the families of the masters requires many buildings.

Whatever the system and the method of grouping, however, the model preparatory school must have buildings attractive to the eye. The architecture may be of the severe type, but it must be beautiful. The educative value of good architecture no longer needs defense. Unsightly buildings of recent construction may be found at some of the richer schools; but it is only because they have been unfortunate in the choice of an architect.

Not less important than the exterior effects

inclinations, whether in literature, music or household decoration.

At Exeter, Tome Institute and many other places, the pupils are expected to study in their own rooms—a plan invented to cultivate self-reliance. At St. Mark's and other schools there is a common study room—a plan well adapted to the weak and dilatory. At the Horace Mann School the study hours of the day are passed in the lecture rooms occupied by the various teachers—a plan also well adapted to the weak and indolent pupils, but not so considerate of the nerves and temper of the teachers.

Two distinct types of dormitories are in common use. In the one, each boy has his

own room for study and sleeping. In the other, a single large room, or in the best buildings a suite of rooms consisting of a sitting-room and one or more bedrooms, occupied by two or more boys. The latter arrangement seems to be best justified by social and sanitary consideration.

Now that one or more sciences are required for entrance to most colleges, the model fitting-school must have scientific laboratories. These need not be of the elaborate kind needed for research, but must be furnished with facilities for experimentation. All the good schools possess such laboratories, some of them in imposing buildings specially

school must have—a large and well-equipped gymnasium. This must contain not only the ordinary gymnastic apparatus, but a running-track, a space for winter baseball, and a swimming-pool.

But all these things are the mere externals of a good school. The school is, after all, what the head master and its teachers make it. Fortunately, the rewards of secondary teaching, in money, reputation and opportunity for effective achievement, are sufficient to attract strong and good men. It is not too much to say that the average in character and scholarship among the head masters of the best schools is higher than among the



Photographed by Edward Perk Van Lith

ONE OF THE DRAUGHTING-ROOMS AT THE HORACE MANN SCHOOL

erected for scientific work. Andover, too, has a fine museum for the study of American archeology.

A good library is essential. Many boys read more voraciously and more sensitively than at any other period of their lives. Fiction—only the good—poetry, essays, history, biography, travels, general scientific treatises and works of reference, are the types of books required. The usual number in the best school libraries is from five thousand to ten thousand. The latter number could include all that need be in a first-class boys' library.

One more building the model preparatory

presidents of colleges. And well it needs to be. For the intimate relations of the head master to the pupils of the school and the critical stage in their development render his task one of peculiar delicacy and difficulty. There is a place here for the talents and character of men like the great Arnold of Rugby.

Without good teachers specially fitted by character and training for their work, no head master, however great, can maintain a good school. The teachers must be men of sound, if not extensive scholarship. They need not only a good, well-rounded college course, but also a year or two of graduate study in their specialties. They must be sympa-



THE CHAPEL AND BROOKS HOUSE AT GROTON

Photographed by Kimball

thetic with boys, but keen to see their weaknesses and evasions, ready to recognize merit, able to stimulate ideals, and capable of holding the enthusiasm through the weary grind of drill, and in spite of failure with many a pupil. They must be virile men of the strong and adaptable type that can convince the most spoiled son of the rich that the gentleman does not have to be born to wealth. Nor is their work to be regarded wholly as a martyrdom. The good schools pay better salaries than are usual in colleges. In the best of them a

young man just out of college may begin with a thousand a year and his home. If successful, he may hope to reach a salary of three thousand a year and a home for his family.

The problem of control is the distinctive problem of the boarding-school. One general principle may be found everywhere: the desire to bring the pupils gradually to intelligent and natural self-control. Three methods of attaining this end may be cited.

At Nazareth Hall the pupils are under military drill and strict surveillance. They



SKATING ON THE LOWER POND AT ST. PAUL'S

Photographed by Kimball

are divided into companies of twenty, and each company is under the oversight of a master during all the waking hours, at study, at meals and at play. At night the masters sleep in the same dormitory with them. It would seem that the master who can long do such work and retain peace of mind is either very much of a man or very much lacking in manly attributes.

At Lawrenceville there is an attempt to keep the boys in the natural atmosphere

conduct themselves as gentlemen. Until recently they have lodged mostly with families of the town approved by the school. Some of them now live in dormitories. But of direct surveillance there is very little. Alumni and friends of the school argue that the plan has worked very well.

All degrees of blending these three types of government may be found in the various schools. Many, like St. Mark's and the Hotchkiss, lay especial stress upon the



THE SCHOOLROOM AT ST. MARK'S

Photographed by Kimball

of a home. A group of boys, generally about twenty, live with the master and his family in one of the masters' houses in the grounds. The plan is admirable. The older boys, those of the higher class, live together in a dormitory known as the "upper house." This is for them the beginning of that independence and self-control which they are expected to exercise when they get to college.

At Exeter the house system has prevailed. The boys are left free, and are expected to

gradual withdrawal of surveillance as the pupils reach the upper forms. A clause quoted from the regulations of the latter well expresses the conclusion to which experience has led all good schools: "Boys who will not respond to appeals addressed to their self-respect or sense of honor may be dismissed without specific charges against their character or conduct." This is the final defense of the good school, and the safeguard of the boys enrolled in it. Though



THE CHAPEL AND BROOKS HOUSE AT GROTON

Photographed by Kimball

thetic with boys, but keen to see their weaknesses and evasions, ready to recognize merit, able to stimulate ideals, and capable of holding the enthusiasm through the weary grind of drill, and in spite of failure with many a pupil. They must be virile men of the strong and adaptable type that can convince the most spoiled son of the rich that the gentleman does not have to be born to wealth. Nor is their work to be regarded wholly as a martyrdom. The good schools pay better salaries than are usual in colleges. In the best of them a

young man just out of college may begin with a thousand a year and his home. If successful, he may hope to reach a salary of three thousand a year and a home for his family.

The problem of control is the distinctive problem of the boarding-school. One general principle may be found everywhere: the desire to bring the pupils gradually to intelligent and natural self-control. Three methods of attaining this end may be cited.

At Nazareth Hall the pupils are under military drill and strict surveillance. They



SKATING ON THE LOWER POND AT ST. PAUL'S

Photographed by Kimball

are divided into companies of twenty, and each company is under the oversight of a master during all the waking hours, at study, at meals and at play. At night the masters sleep in the same dormitory with them. It would seem that the master who can long do such work and retain peace of mind is either very much of a man or very much lacking in manly attributes.

At Lawrenceville there is an attempt to keep the boys in the natural atmosphere

conduct themselves as gentlemen. Until recently they have lodged mostly with families of the town approved by the school. Some of them now live in dormitories. But of direct surveillance there is very little. Alumni and friends of the school argue that the plan has worked very well.

All degrees of blending these three types of government may be found in the various schools. Many, like St. Mark's and the Hotchkiss, lay especial stress upon the



THE SCHOOLROOM AT ST. MARK'S

Photographed by Kimball

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A BIRD'S-EYE VIEW OF LAWRENCEVILLE SCHOOL

Photographed by Breda

religious rather than ethical influences now have weight in school life, the model still maintains religious ceremonies. Chapel services once a day, and in many schools twice a day, are the usual rule. In most cases the worship and the influences are strictly nonsectarian. In church schools like St. Mark's, St. Paul's and the Shattuck, more is made of the religious side of life and of the esthetic element in religion. Whatever theories there may be about religious services, most parents will consider them rather as a safeguard than as a superstition.

A model preparatory school must aim at making its boys manly and refined. Here the public high school, when well administered and supported by the influence of intelligent parents, has a distinct advantage. But it must be kept clean, busy, and under the influence of high ideals. So kept, it has the advantage of placing the boy in the normal relation of allegiance to both the home and the school, and of being less under the tyranny and terror of college entrance examinations. Such schools are too seldom found. Too often the uncertain tenure of



THE SHELDON LIBRARY AT ST. PAUL'S

Photographed by Kimball

office, the necessity for managing politicians, and the numberless petty details of administration sap the energy and undermine the intellectual freedom of superintendents and principals. The public press and the parents often harass where they should support. And the ignorance and dishonesty of the politicians frequently frustrate the best and wisest plans. Too often, also, the school must retain on its rolls pupils who cannot be made clean either morally or physically. What wonder that parental solicitude often looks elsewhere for the boys' welfare?

Next in value comes the good private day-school. It must have an administration that can keep it clean, busy, and rightly inspired. It has the same advantage as the public school in sharing control with the home. It can choose its teachers with more freedom than is usual in a city school system, and is able to get rid of unsuccessful teachers and undesirable students with more ease than can the public schools. It is freed from the depressing effects of political interference. Its besetting dangers are a mercenary and cowardly desertion of principle, and a superstitious fear of college examinations. Both are foolish weaknesses. Experience has shown that independence and high principle in administering a school make it more attractive, and therefore more lucrative to its proprietor, and that good teaching of a subject for its own sake is the surest way of preparing pupils for an examination in it.

In general I should place the boarding-school third in value, when we are considering the "average boy." But when the death of a parent, or his absorption in business, or when the unwholesomeness of surroundings, or the absence of a good day-school, makes impossible the boy's preparation for college under the joint control of home and school, the boarding-school at once becomes the best place.

At the model preparatory school there must be no weak spots in instruction. It is currently said that the boys from one school are defectively trained in the classics, from another, in English, from another, in the modern languages. Such conditions are problems for the head master. It is his business to find out why the work of any department will not stand the test, and to bring the weak department up by advice and assistance,

or, if need be, by a change of master. The head master may find, indeed, that the weakness is due to the praiseworthy but ill-balanced enthusiasm of one of his best teachers in another department. His may be one of repression as well as of stimulation.

A model school should not prepare only, or even mainly, for one college. To be a Harvard-fitting school or a Yale-fitting school is inevitably to take on too much the color of one particular college. And colleges, even the best, are notoriously inclined to a certain provincialism of attitude.

A model preparatory school should draw its masters from many colleges, and its students from many sections. It will make sound and stimulating instruction of first importance, and the passing of entrance examinations in college, second. Educational experts generally agree that the same training that is given to the boy who is going to college is also good for the boy who does not go. And practical school men and college professors alike agree that the mere cramming for college, while it may secure the boy's admission, does not fit him for the hard work after he gets in. One school whose graduates I have followed for a number of years has a fine record of college distinctions won by its alumni; this school has always refused to be classed as merely a college preparatory school.

A model school will strike a wise medium between too close and petty supervision and too great laxity in the control of its students. Too much watching is irksome to the boy, and when suddenly removed is a provocation to license. This is notorious in the students who emerge suddenly from the restraints of German gymnasias to the freedom of the universities. Such a system is equally hard upon the masters. It is likely to cost them their self-respect and the respect of their pupils. There is something incongruous, to say the least, between the duties of policeman and teacher. My own belief is that the house system as maintained at Lawrenceville, with the gradual accession to more privileges in the upper years, is at once the most normal kind of life possible in a boarding-school, and the best preparation for the freedom of college. The military style of discipline, while it has undoubted physical and moral advantages, is not in general to be commended. Many

sensitive boys of the manliest spirit see the absurdity of the tinsel and noise that make it attractive to minds of a lower type; or they find it too repressive of individualism, too much like a régime for slaves and convicts. Its good results at Annapolis and West Point count for nothing in the argument; those are picked boys, attracted to the system by the prizes that it offers. Most military schools are the last resort for boys who can stay nowhere else.

Finally, a model school should be so heavily endowed that it can afford to offer special advantages to boys of conspicuous

abilities, but of moderate means; not pauperizing them as do some over-endowed theological schools, but enabling them to go through on a moderate sum. There should be more and better endowed scholarships, such as are now granted at schools like Exeter and Hotchkiss. The richly endowed schools are doing a great work; but they will be doing a greater when they make possible the mingling of an intellectual aristocracy recruited from rich and poor alike. As this is one of the best features of our great universities and of our best private day-schools, so should it be of our great private boarding-schools.

RAILROAD ACCIDENTS IN AMERICA AND EUROPE

A COMPARISON OF THE ACCIDENT TABLES FOR VARIOUS COUNTRIES—DEATHS AND INJURIES NO MORE FREQUENT IN THE UNITED STATES THAN ABROAD

BY

SLASON THOMPSON

ECHOES of a misreported statement by Professor John H. Gray, of the chair of political economy at Northwestern University, that more persons were killed in railway accidents in the United States than in the Boer war in the same time, are still rolling round the world. It matters little that the statement would not bear analysis and has been disclaimed by Professor Gray. It has been taken up in every country that boasts a mile of railway track, and reiterated to the scorn and abuse of American railways. And everywhere it is placed in odious juxtaposition to the providence of God which saved the passengers of British railroads from a single fatality from accidents to trains in the year 1901.

Premising that there is no uniformity in conditions or statistics of American and foreign railways that can yield an entirely satisfactory basis for comparisons, it is yet true that conditions, facts and figures do afford grounds for defending American railways from wholesale abuse for recklessness as to human life, while they explain the apparent disparity in the number of accidents,

deaths, and injuries. The field of railway operations in America covers a continent which has been gridironed with tracks at a cost per mile so far below the average European figures as in itself to indicate one source of the accidents on our roads.

Let us begin by presenting from official sources the bald figures of fatalities by railway accidents in the United States and the principal countries of Europe, which, without explanation as to conditions, and so on, afford such an easy text for the arraignment of American railways:

NUMBER OF KILLED BY RAILWAY ACCIDENTS

	Year	Passengers	Employees	Other Persons
United States	1901	282	2,675	5,498
United Kingdom	1901	158	565	554
(a) Germany	1901	92	493	295
(a) France	1900	94	314	270
Russia	1899	64	367	765

(a) Exclusive of suicides, of which in Germany in 1901 there were 258 fatal and 14 unsuccessful.

The returns of injured have been disregarded as affording absolutely no common ground for comparisons because there is no fixed standard as to what constitutes an injury. In the United States and England scarcely

any injury is too slight to escape the notice of the statistician, whereas on the continent officials have to be confronted with dismembered limbs before they take cognizance of the fact that "something has happened to Ole," as a fellow Swede remarked after he had picked up the hat, coat, legs, arms, and headless trunk of his companion, strewn along a quarter of a mile of track, where Ole had been caught trespassing by a locomotive. Even in England the statistics persistently used for invidious comparison with our long roll of injured suppress no less than 11,635 of the 18,375 victims really injured by and about the British railroads.

Next to the seeming excess of fatalities on the American railways in the foregoing table, the American reader must be at a loss to understand 158 deaths credited to the United Kingdom in the very year when he has been confronted with the British boast that not a single passenger met his death in that country through railway train accidents. That boast was only possible by excluding all kinds of accidents to passengers except those directly due to collisions or derailments. Even thus, that no passenger was killed must be attributed to Providence and not to human foresight, for the report for the twelvemonth shows that 476 passengers were injured in accidents to trains, including "fifty-one collisions between passenger trains or parts of passenger trains; fifty-five collisions between passenger trains, parts of goods trains or mineral trains, light engines, etc.; sixty-five cases of passenger trains leaving the rails, and 211 cases of trains running through gates at level crossings (*sic*) or into other obstructions." In the United States no less than 110 passengers were killed in collisions and derailments, leaving only 172 against 158 in the United Kingdom whose deaths were due to other kinds of railway accidents. The comparative British immunity from serious collisions may be traced to the fact that 12,272 miles, or more than half of its total mileage, is double track, while the high cost of construction (\$270,755 per mile, to only \$57,006 in the United States) accounts for the freedom from fatal derailments. It must come as a shock to American readers who have been led to believe that there are no grade crossings in England to be told that no less than sixty-seven persons were killed there while "passing over railways at level crossings."

And now let us consider the condition and circumstances prevailing in the United States that modify, if they do not entirely confute, the conclusions from the figures in the foregoing table. In the first place, there is the enormously greater mileage of American railways, as shown in the following table:

RAILROAD MILEAGE IN 1901

United States	195,561
United Kingdom	22,078
Germany	*34,167
France	23,701
Russia in Europe	26,698
All Europe	176,174

(* Including 1,276 miles of narrow gauge.)

Probably the first impression gained from this table is that there are almost twice as many miles of railroad in the United States as in the four other countries combined. This confronts us with the reassuring fact that with almost twice the mileage the number of passengers killed in America in 1901 was only 282 to 408 in the United Kingdom, Germany, France, and Russia. From this point of view the difference in the fatalities on American and European railways is well shown in the following table, giving the number of deaths of employees as well as passengers per 1,000 miles:

NUMBER OF PEOPLE KILLED PER 1,000 MILES

	Passengers	Employees
United States	1.44	13.6
United Kingdom	2.16	25.6
Germany	2.69	14.4
France	3.96	13.2
Russia	2.39	13.7

When the comparison is made on passengers carried alone, the showing on its face is not so favorable to American railways, as appears by the following table of the number carried for one killed:

NUMBER OF PASSENGERS CARRIED TO ONE KILLED

United States	2,153,469
United Kingdom	7,420,000
Germany	9,778,000
France	4,821,000
Russia	1,444,000

But here again the adverse story of the figures almost disappears, except as to Germany, when the distance passengers are carried is taken into the computation. In the United States the distance of the average railway journey is almost thirty miles (28.58); in England it is scarcely ten miles, while in Germany it is fifteen miles, in France twenty-one miles, and Russia sixty-five miles.

In the United States, where alone the statistics on this point are tabulated, the passengers carried one mile for one killed were 61,537,548. For those carried ten miles the figures would be 6,153,754, which does not compare so unfavorably with the British figures.

Turning now to the fatalities among employees, where the United States on the surface appears to occupy such an unenviable preëminence, the actual conditions prove that, all things considered, railway employment is not so disproportionately hazardous here. Per mile, as we have already seen, it is not as great as in any of the other countries except France. There are two other tests by which it should be judged—the number of employees and the task they perform. These are shown in the following table:

	EMPLOYEES	TONS OF FREIGHT MOVED
United States	1,071,169	1,080,226,440
United Kingdom	440,347	416,053,441
Germany	322,060	359,348,290
France	251,971	126,829,723
Russia	414,152	130,300,000

As the average haul per ton in the United States is 251 miles against only sixty in Great Britain, the ratio of fatalities accompanying the moving of America's enormous freight business is actually less per ton-mile than under the highly organized and denser conditions of transportation prevailing in Europe, outside of Russia.

It is not necessary, neither would it be profitable, to discuss the relative number of "other persons" killed and injured in railway accidents in the United States and Europe. Out of a total of 5,498 fatalities to other persons reported to our Interstate Commerce Commission, no less than 4,601, or eighty-five per cent., are classed as trespassers. In the United Kingdom the proportion is seventy-seven per cent., while in Germany and France they deal so summarily with trespassers on railroad property that comparatively few of them, except deliberate suicides, are left for the trains to kill.

More persons in America are killed on or about railway tracks and property whose deaths are due to their own negligence or misconduct than meet their death through the fault or want of due precaution on the part of railways or their employees, as the following table, confined to passengers and other persons, shows:

For year ending June 30, 1901	Killed	Injured
Falling from trains, locomotives or cars	518	1,109
Jumping on or off trains, locomotives or cars	576	2,307
Struck by trains, locomotives or cars		
At highway crossings	831	1,354
At stations	399	897
At other points along track	2,905	1,744
Other causes	304	1,672
From accidents unconnected with movement of trains (including employees)	227	20,093
Total	5,760	29,176

The number of persons killed at points on the railway track, *other than at stations and railway crossings*, is a startling reminder of the indifference of the average American to the danger of being where he has no legal right or necessity to be.

From the foregoing review it is clear that, hazardous as railway employment everywhere is, it is no more so in the United States than elsewhere when all the circumstances of the vast territory, enormous traffic, great distances and nervous temperament of our people are taken into consideration. Moreover, there is gratifying proof in official statistics that it is proportionately less dangerous now, so far as preventable by rules and safety appliances, than it was a decade ago.

But there is one fruitful cause of accidents in connection with the operation of American railways that is beyond the reach of Safety Appliance acts, block signals, automatic couplers, and all the regulations that conservative managers can adopt—the restiveness of the American people under restraint of any kind. Similarly, familiarity with their work breeds in the American railway employee not caution, but contempt for its perils. Bravado and recklessness combine to make him indifferent to rules for his safety until the fatal day comes when the chance is taken once too often and another daring man is added to the roll of killed or injured in the railway service. Even the *Locomotive Firemen's Magazine* admits "the fact that many railway employees are almost criminally careless." If the trespassers and the disobedient could be eliminated from the list of "other persons" and "employees" who yearly fall victims to railway accidents, there would soon be an end of the odious comparisons made about the mortality due to our railway accidents.

ZIONISM AND THE FUTURE OF THE JEWS

THE SIXTH ZIONIST CONFERENCE GRAPPLING WITH POLITICAL QUESTIONS
— A PASSION FOR PALESTINE THE JUDAIC ROMANCE — THE TENDENCY
TOWARD DENATIONALIZATION AND THE HOPE OF RENATIONALIZATION

BY

ISRAEL ZANGWILL

IN August the Sixth Zionist Congress met at Basle, and gathering strength with the years, and quickened by the horrors of Kishineff, this international Jewish parliament, numbering envoys from "the four corners of the earth," for the first time grappled with practical political proposals for the solution of the Jewish question. Delegates of South African millionaires took counsel with representatives of the rich American Jewry, and with these modern spirits conferred caftaned rabbis from Russia and sages from India and Persia. In the mere coming together of such an assembly the promised regathering of Israel is already literally accomplished. Eighteen centuries of dispersion have not succeeded in breaking the cohesion of the race; eighteen centuries of exile have not eliminated the passion for Palestine.

Here, surely, is a phenomenon unique in history. It may be profitable to examine briefly into the causes and conditions of this apparent miracle.

I

There is a many-sided symbolism in the dramatic picture of Jochanan ben Zakkai escaping from Jerusalem in a coffin, what time Titus and his legions hovered at the gates of the Holy City. For Jochanan bore in his own breast the seeds of the future, and saved Judaism from the fall of the Jewish State. The zealots of nationality preferred to meet the conquering Roman with grim suicide; Jochanan founded a school at Jamnia, under the protection of Titus. That disentanglement of religion from a *locale* which Jesus had effected for the world at large was in a minor degree effected, a generation after Him, for the Jews themselves by the mailed hand of Titus and the insight of

the prudent sage. Possibly Jochanan had already outgrown "the burnt offerings" which tied Judaism to the Temple; he may have felt already that Israel's greatness was spiritual, belonged to a category of force that could not, and should not, be measured against Rome's material might. However this be, his reconstruction of the Synhedrion, even in the absence of the hewn-stone hall of the Temple for it to meet in, and the subsequent conversion of the substantial sacrifices into offerings of prayer, made the salvage of Judaism more spiritual than the original totality. The unifying centre was no longer geographical, and the Jews became "the People of the Book" in a far profounder sense than when they were the people of a soil, too. The law was never so obeyed in Bible times as it was when the record of these times became the all-in-all.

But this transformation was not achieved in one generation, nor without violent reactions. Scarce half a century after Jochanan ben Zakkai, the great rebel, Bar-Kochba (Son of a Star), beat back for a time the whole might of Rome, even the great general, Severus (hastily summoned from his task of quelling the less important revolt in Britain). And in the monstrous régime of religious persecution by which Hadrian avenged the difficult suppression of the uprising, the transformation of Judaism might well have been into paganism.

Nor was the transformation into mere spiritual Judaism ever effected radically. Two reactionary influences remained. Palestine still retained a certain authority over the Diaspora. Babylon soon asserted itself as the peer of Jerusalem, and later, with the movement of history and the great teachers, the spiritual hegemony shifted to Spain, to

Cairo, to Poland. But underneath all this flux Jerusalem was still the Holy City. Secondly, the literary ritual substituted for the literal sacrifices did not profess to be more than a temporary necessity. The stubborn national spirit clung to the hope of glorious restoration. Rachel wept for her children, and comforted herself by the belief that they were not dead, but sleeping. As little as possible was changed of a liturgy enrooted in the Holy Soil, and thus it came to pass that in the narrow, sunless, stony streets of European ghettos shambling students and peddlers offered metaphorical first-fruits in ingenious lyrics, and celebrated the ancient harvest festival of Palestine in pious acrostics. Never was there such an example of the dominance of the word. Life was replaced by Literature. What wonder if the love of Zion grew mainly literary, so that even the passion of a Jehuda Halvei for Palestine has been dubbed more of the passion of a troubadour for a visionary mistress than a patriotism with its roots in reality.

Fantastic and factitious though this love of Zion was, yet, supplemented by eschatological superstitions, it made Jerusalem still the mystic City of God, still the capital of the Millennium, still the symbol of Israel's misery and Israel's ultimate regeneration. And, to this day, in the ghettos of New York and Philadelphia, the "messenger of Zion" may be met on the trolley car, going his rounds, collecting the humble cents which enable graybeards to pore over moth-eaten Talmuds in the Holy City.

Thus, although Jerusalem has remained throughout the entire Christian era in the hand of foreign conquerors, the Jews have always retained some sense of being colonists whose mother city was in Asia. Some day it would be their own city again—but in God's good time, in a whirl of miracles! Hence, except under the ephemeral inspiration of pseudo-Messiahs, Zionism was never a matter of practical politics: it was a shadowy, poetic ideal, outside life; a romantic reminiscence. Old men went to Jerusalem to die—not to live. Its earth was imported—but to be placed in coffins. In practice, Jews have always been ardently attached to the country of their birth, and if they have seemed to remain apart, Ezra and Nehemiah are largely responsible, those zealots (more Mosaic than Moses) who stamped out marriages with other

peoples, even when the strangers accepted Judaism. The very rabbis of the Talmud could not endorse this principle of compulsory mutual intermarriage, yet in practice it became the rule, and an institution designed in the fifth century before Christ to preserve the religion served in the Dark Ages of Christendom to preserve the race. Religion and race have, indeed, come to seem one and the same thing. And against this people, already doubly cut off from mankind, the Christian raised his material wall of separation, and created the ghetto.

But the ghetto fell at last, and separatist legislation tottered, and emancipation brought another development. With the liberal movements of the eighteenth century, Jews began to form part of the general life. The aspiration for Palestine was felt to be incongruous, even as a far-off religious ideal. Again it was proclaimed—by Moses Mendelssohn this time—that Judaism is larger than a land: that its future realm must be that of spiritual conquest. But in America, whither this doctrine spread in its broadest form, it was not followed by its logical outcome—by marriage outside the faith and the welcome of converts. Jewish life in the United States, instead of becoming expansive and spiritual, has drawn itself together in secular clubs. In Australia, on the other hand, where orthodoxy is still the professed creed, outside marriage has become frequent. In Germany, the notion that modern Judaism and Christianity are not very far apart has led many to baptism. A large minority everywhere—cultured, or rich, or callous—has succumbed to the general indifferentism of the modern world.

Thus, today Israel is face to face with a menace of disintegration more formidable than the legions of Titus.

To read the history of Israel is like reading a romance of perilous adventure written in the first person. Again and again the hero may be divided from death by a hair's breadth, yet we know that he will always come through safely, since is he not here, narrating? During the thirty centuries or so of his national existence, Israel has been perpetually stumbling on the verge of the abyss of annihilation, yet always he has recovered his footing. But Israel's serial is "to be continued," and who can say it will not "end happily" after all?

II

As the century of Israel's disintegration closes, however, a new phenomenon meets our astonished eyes. It is "Zionism."

Zionism, in its latest official exposition, aims at securing a public legally assured home in Palestine for those Jews who are unable or unwilling to assimilate. It is not the movement that George Eliot's Mordecai dreamed, nor that which Rabbi Mohilewer of Russia initiated. The advent of Doctor Herzl has stamped Zionism with "modernity." In the Austrian journalist's first published scheme of a Jewish State, indeed, Palestine played no necessary part. Herzl, whose instrument of national regeneration is the bank, for dealing with the Sultan and subsidizing the selected immigrants, was never, despite the date of his advent, *fin de siècle* (which seems to imply a certain flippancy), but prophetically twentieth century. He would, if it were possible, lead back his people to Palestine by the moving sidewalk of the Paris Exposition. Withal a charming, magnetic, even poetic personality, a more diplomatic and domesticated Lassalle.

But the deeper issues and sequels of the movement will develop themselves with the material success, and the present leaders might quite conceivably be swept away by spiritual floods they have themselves let loose. The Orthodox Jewish Congregational Union of America, at the convention of June 8, 1898, while maintaining that "the restoration to Zion is the legitimate aspiration of scattered Israel," likewise declared, "we reaffirm our belief in the coming of a personal Messiah." The agents of political Zionism—men like Max Nordau, or Mandelstamm, the great Russian oculist, or Marmorek, of the Pasteur Institute—can no more control the religious future of Judaism than they can control the mystic interpretation which Christendom would put upon their success. Men are only instruments. And each must do the work he sees to hand.

At present, though orthodox rabbis are working amicably with ultra-modern thinkers, the movement is political, and more indebted to the pressure of the external forces of persecution than to internal energy and enkindlement. Yet in truth could any but a political cause unite the Jew of the East with the Jew of the West? And, viewed merely on its

prosaic side, Zionism is by no means a visionary scheme. The aggregation of Jews in Palestine is only a matter of time—already they form a third of its population—and it is better that they should be aggregated there under their own laws and religion and the mild suzerainty of the Sultan than under the semi-barbarous restrictions of Russia or Rumania, and exposed to recurrent popular outbreaks. True, Palestine is a ruined country, and the Jews are a broken people. But neither is beyond recuperation. Palestine needs a people; Israel needs a country. If, in regenerating the Holy Land, Israel could regenerate itself, how should the world be other than the gainer? In the solution of the problem of Asia which has succeeded the problem of Africa, Israel might play no significant part. Already the colony of Rishon le Zion has obtained a gold medal for its wines from the Paris Exposition—which is not prejudiced in the Jew's favor. We may be sure the spiritual wine of Judea would again pour forth likewise—that precious vintage which the world has drunk for so many centuries. And, as the scientific activities of the colonization societies would have paved the way for the pastoral and commercial future of Israel in its own country, so would the rabbinical sing-song in musty rooms prove to have been but the unconscious preparation of the ages for the Jerusalem University.

But Palestine belongs to the Sultan, and the Sultan refuses to grant the coveted Judean Charter, even for dangled millions. Is not this fatal? No; it matters as little as that the Zionists could not pay the millions, if suddenly called upon. They have collected not two and a half million dollars. But there are millionaires enough to come to the rescue once the charter was dangled before the Zionists. It is not likely that the Rothschilds would see themselves ousted from their familiar headship in authority and well-doing. Nor would the millions left by Baron Hirsch be altogether withheld. And the Sultan's present refusal is equally unimportant because a national policy is independent of transient moods and transient rulers. The only aspect that really matters is whether Israel's face be or be not set steadily Zionward—for decades, and even for centuries. Much less turns on the Sultan's mind than on Doctor

Herzl's. Will he lose patience? For leaders like Herzl are not born in every century.

III

Apart from its political working, Zionism forces upon the Jew a question the Jew hates to face.

Without a rallying centre, geographical or spiritual; without a Synhedrion; without any principle of unity or of political action; without any common standpoint about the

old Book; without the old cement of dictory laws and traditional ceremonies; without even ghetto walls built by his friend the enemy, it is impossible for Israel to persist further, except by a miracle—of stupidity.

It is a wretched thing for a people to be saved only by its persecutors or its fools. As a religion, Judaism has still magnificent possibilities, but the time has come when it must be denationalized or renationalized.

FEATS OF MODERN RAILROAD ENGINEERING

GREAT MOUNTAINS TUNNELED THROUGH AND PRECIPITOUS CHASMS BRIDGED—THE RESOURCEFULNESS NECESSARY TO THE SUCCESSFUL ENGINEER WHOSE DAY'S WORK IS TO ACCOMPLISH THE IMPOSSIBLE

BY

HENRY HARRISON LEWIS

WHEN a certain transcontinental railway determined to make Puget Sound its western terminus it found the barrier of the Cascade Mountain in its path, and the problem was to pierce it. Longer tunnels had been built elsewhere, but never had one been considered in such an inaccessible region and on such a short time-limit. The railway was convinced that a man could be found who would undertake the task.

When the bids were opened the man was found. His name was Bennett, and he guaranteed to deliver the tunnel within twenty-eight months, and at a figure considerably below those of his competitors. He was derided by all save the railroad company. The company told him to go to work. It was in New York City, the 21st of January. Three thousand and odd miles away, at a spot in a region desolate and remote from civilization, a tunnel two miles in length was to be constructed in a trifle more than two years.

Bennett's first act was to telegraph an assistant in the West to gather a force at once and clear a road to get the machinery on the ground; then he purchased and shipped an equipment consisting of engines, water-wheels, air-compressors, boilers, exhaust fans, two complete electric arc light plants,

fully equipped machine-shop outfits, miles of steel rails, three dozen air drilling machines, two locomotives, two sawmills, two telephone outfits, and tons of steel drills and other supplies.

This large plant reached the end of the rails in time, and then came the question of transporting it to the scene of operation. From the end of the railroad to the mountain-side was a distance of eighty-two miles, which included a rise of 3,700 feet. For the entire distance, until the mountain range was gained, the course was over hills, through valleys, across streams, and much of the way along an untraveled route. The only means of transportation were wagons and sleds.

As an example of the difficulties Bennett and his little army confronted, for the last fifteen miles before ascending the Cascade Range the mud was so deep, as the result of a thaw, that it was impossible for the double teams to haul the wagons, which sank to the hubs in the mire. Planks had to be brought from sawmills, miles in the rear, and laid down lengthwise in front of the wheels of each wagon of the train. As fast as the train passed over the planks they were hauled to the front and laid down again. The wagons were hauled over these planks by blocks and tackle, the rope tied to



THE 575-FOOT BRIDGE CONNECTING TUNNELS 31 AND 32 ON THE OROYA RAILROAD

the end of the wagon-tongue and a team attached to the other end, while the men guided the wagons on the planks. By this means all the heavily loaded wagons of the train were worked along over the fifteen miles of miry road at the rate of about one mile a day.

These difficulties passed, the ascent of the mountain began and the obstacles to the journey were increased. Snow was encountered so deep that it was necessary to improvise sleds from small fir trees, and transfer the loads of heavy machinery from the wagons to these sleds. So difficult and

tractor offered a bonus to the men engaged in drilling. In spite of this inducement the task proceeded slowly, and it was only by the greatest effort that the daily average of excavation was maintained. Toward the end money flowed like water. No expense was spared. The contractor and his immediate assistants scarcely slept.

On the eighth day from the time set for completion the drilling forces in the headings met at a point about midway of the tunnel, and twenty-four hours later the excavation was at an end—just seven days before the expiration of the contract time. With all



THE MONITOR AT MOUNTAIN CREEK WASHING DOWN GRAVEL FOR THE FILL

perilous was the new road, running along gorges 500 to 1,000 feet deep, and precipitous mountain-sides where it was impossible for the teams to haul the loads, that the blocks and tackle had to be again used for hauling. When the machinery was finally set up on the site of the tunnel, six months of the twenty-eight allowed under the contract were gone, and Bennett had expended \$125,000.

There was grave need of haste, and work was carried on every day and night in the year, and at both ends of the tunnel. This required four shifts and a monthly pay-roll of \$30,000. To stimulate the work the con-

tractor offered a bonus to the men engaged in drilling. In spite of this inducement the task proceeded slowly, and it was only by the greatest effort that the daily average of excavation was maintained. Toward the end money flowed like water. No expense was spared. The contractor and his immediate assistants scarcely slept.

Today there are more than 200,000 miles of railway tracks in this country, and each ten miles represents an engineering achievement. There are tunnels and bridges, revetments and cuts, built under all conceivable conditions and at a total cost of hundreds of millions of dollars. There does not seem to be any obstacle too great to be overcome by that little body of silent, modest, earnest workers we characterize merely as railway builders.

How many of us can call to mind the name of the engineers who projected and built that marvel of engineering, the Oroya Railroad of Peru, which reaches an elevation of more than 15,000 feet above sea-level, a height at which it is difficult to generate steam. The two Americans who constructed this road, Messrs. Meiggs and Thorndike, were considered crazy when they proposed it.

It was necessary to carry the roadbed for miles through galleries cut in the solid face of the rock, and the workmen engaged in cutting the galleries were in many cases

possible only by the liberal use of the "V switch" or "switchback." In one instance on the Peruvian railroad it was found necessary to construct a switchback in the side of a mountain, the train heading in on the lower level and backing out through an upper tunnel almost exactly above. The cost of the Oroya Railroad, when completed, was \$43,000,000, or \$311,594 a mile, making it one of the most costly roads in existence.

The annals of railroad construction are filled with instances of unforeseen obstacles. During the construction of the Guatemala



THE COMPLETED WORK AT MOUNTAIN CREEK

lowered in cages from the cliffs above. More than sixty tunnels had to be cut in the course of construction, one, the famous Galera Tunnel, one and one-half miles in length, the highest engineering project of its kind on earth.

It is on this road that the signal achievement of constructing a lofty steel bridge connecting two tunnels was accomplished. In building this bridge, which spans a crevice 575 feet wide and hundreds of feet deep, it was necessary to lower all material from the top of the cliffs by wire cables.

The whole stupendous task was made

Central Railroad, which was built by American engineers, between the port of San José on the Pacific coast to the capital of the country, Guatemala City, a distance of seventy-three miles, a broad sheet of water called Lake Amatitlan was reached. One side of the lake was mountainous and the other low-lying, but made up of very treacherous volcanic earth. It was decided to try the mountainous side first, and a tunnel was begun.

After boring a short distance, probably seven hundred or eight hundred yards, it was noticed that the temperature began to increase

amazingly. Finally it became so hot in the borings that the navvies refused to continue. Then some one connected with the construction pointed out that the lake was midway between two volcanoes about twenty-five miles apart.

"There must be a subterranean connection between them," decided the chief engineer, "and we almost penetrated into one of the vents. We will try the other side."

The rails were laid along a surface broken up with little steam-jet crevices until a spot was gained where the two shores of the lake were not more than a thousand feet

When the engineer reached the spot he saw nothing save the placid surface of the lake. Of the thousands of tons of earth and rock that had been dumped into the water, not an ounce remained in sight. Soundings were made from a boat and a depth of sixty feet was reached. Sixty feet was the depth of the water before commencing the fill!

"This looks uncanny," said the engineer. "Where has all that earth gone?"

He borrowed more boats from the neighboring town of Esquintla and made a thorough sounding of that part of the lake. His



THE "JAWS OF DEATH" AND THE REMARKABLE STONE RAILROAD BRIDGE



LOOKING THROUGH A TUNNEL ON THE OROYA RAILROAD

apart. Gravel and earth were brought in quantities, and in the course of time a causeway connected the two shores.

"We will lay the rails the first thing in the morning," announced the chief engineer, when the last shovelful of earth had been thrown down. That night there was a slight earthquake shock, but as such things were not unusual nothing was thought of it. The following day at sunrise, as the chief engineer was leaving his bunk, one of his foremen rushed up in great excitement.

"The fill, sir," he cried, "it's gone. The whole causeway has disappeared."

efforts resulted in the discovery of a ridge extending between the two shores at the spot he had selected for the building of the causeway. It was the only shallow place in the whole body of water, and there was no other way out of it; so the filling-in process was repeated. Again the embankment disappeared, and it was not until the third filling had been completed at a cost of many thousands of dollars beyond the original estimate that a permanent way was established. It still exists.

It is possible that the building of few railroads has called for greater skill than

the transcontinental Canadian Pacific. There is published in connection with this article a photograph of the "Jaws of Death," a famous bridge on the mountain division of the road. It was a triumph of that marvelous skill which makes every railroad builder an inventor when need be. The railroad had reached a spot on the Fraser River where it was necessary to skirt the edge of a rocky mountain. It was impossible to build along the top, and equally impossible, because of recurring floods, to construct on the level of the river. Only one thing was left—to cut a ledge along the face of the cliff itself. As an engineering task, this was simple enough, being merely a question of drilling and blasting, but half-way along the mountain-side was a deep cleft in the living rock which extended from the summit to the river. The cleft was hundreds of feet wide, and almost as deep, and it presented an engineering problem that nonplussed the staff of the construction corps.

A wooden trestle was thrown across, and it fell under the weight of a construction train. Then another bridge was started, and Sir William, then plain William C. Van Horne, an American railroad builder, who had been called upon to construct the road, was sent for. He devoted a day to the problem, and then started the masonry bridge, which still endures.

Another example of ingenuity is the method adopted in replacing old wooden trestle bridges with permanent structures. In the Rocky Mountain district are numerous ravines which are spanned by trestles because of the time limit of construction, and also because of the great cost of transporting steel bridge material across the continent. When it became desirable to replace these wooden trestles, a division superintendent of the road, who was himself an engineer and who had assisted in the building of several roads, suggested filling in the most important ravines. He was laughed at.

"Why, man, it will take all the cars we have to transport the gravel, and it would cost a fortune," objected the chief engineer.

The division superintendent had worked out the problem before making his suggestion, and he quietly replied:

"It will not be necessary to haul gravel to fill up the ravines. We can get the material on the spot."

"How would you shovel it? It would take an army of men."

"It can be done with a dozen," was the division superintendent's startling reply.

After enjoying the chief engineer's expression of astonishment for a moment, he explained:

"It can be done by hydraulic power. We can take the Mountain Creek trestle, for instance. It will be a simple matter to make a temporary dam up the mountain-side and with the force of water thus obtained use a monitor on the side of the hills at each end of the trestle. The gravel can be sluiced down wooden conduits and terraced up from the bottom of the ravine. The cost will be small, and only a short bridge span will be needed."

The plan appeared so feasible that, after it had been duly considered, an appropriation was made by the Board of Directors and the work begun. It will be seen by the accompanying photographs that the division superintendent's idea was thoroughly practicable. It is simply another instance of ingenuity and brains properly applied.

Today there is a road building between Chile and the Argentine Republic that possesses some very interesting points of construction. It is called the Trans-Andine Railroad, and it will extend, when completed, from Mendoza, Argentina, to a small town in Chile. In its course it will pierce the Andes by a tunnel in many ways one of the most remarkable ever built. The road, which is narrow gage, is of ordinary construction until it reaches the foot of the mountain. Then it ascends through a gorge, with the aid of a cogged rail, until it reaches the limit of elevation. Then it enters the tunnel, which by reason of a necessary sharp descent is built in spiral or corkscrew shape, crossing under itself, until the Chilian side of the Andes is reached. It is expected that the road will be ready for traffic in two years. It was begun as far back as 1887.

Mount Tamalpais has long been famous as the only lofty mountain in the immediate vicinity of San Francisco, and in time it was decided to construct a road to its summit for the benefit of pleasure seekers. No little ingenuity was necessary in solving the engineering problem to make a possible ascent, and the task was only accomplished by a remarkable series of long reaches and

gradual ascents up the sides of the largest cañons, and finally by a succession of loops, popularly known as the bow-knot. Coming up out of a cañon it has crossed, at the head, the road sweeps to the west, turns to the east, making another end to the bow, then quickly turns backward

and downward to rise and complete a second bow, during which it proceeds on a regular grade to the summit, from which the traveler looks directly down upon the winding and circuitous track which has solved an exceedingly difficult problem in mountain climbing.

"REFORM" RESULTS IN NEW YORK

HOW THE TAMMANY "SYSTEM" LAPPED OVER INTO MAYOR LOW'S ADMINISTRATION—DECENCY AND ECONOMY FINALLY SECURED—THE CHANCES OF THE REFORM PARTY IN THE NEXT ELECTION

BY

EDWARD LOWRY

TO know what the present reform administration of New York City has accomplished toward the purification of the city, the condition to which the municipality was brought under Tammany must be roughly sketched.

The carnival of vice and open crime began as soon as the newspaper bulletin boards announced Van Wyck's victory on election night. I was assigned by a newspaper to go through the "Tenderloin" shortly after midnight on that night and describe the revelry of the "world of graft." Pickpockets, "flimsy" men, bunco operators, "strong-arm" men, thieves, touts, and all the flotsam and jetsam that prey, had come out in the open, crowding the drinking-places, and jubilating in thieves' slang. Low resorts and dives that had been running in the shadow tore down their screens and lighted up, filled with men and women, drinking.

After the new administration was installed the city was given over to the plunderers. Vice, protected by the police, flourished and thrived. Disorderly houses opened in every part of town. In the notorious "Red Light" district on the East Side, where the "cadet" system was instituted, conditions were unspeakably vile. Young girls were enticed from their homes, or under pretense of marriage were abducted and forced to lead lives of shame, the proceeds going to the "cadets" who had seduced them. Girls were lured from their homes in the country in neighbor-

ing States and kept imprisoned on starvation diet until they obeyed the demands of their jailers. Gambling houses were run almost as openly as hotels, and where the night life of the town is centred they outnumbered them. More than once, walking up Broadway in the evening after the theatre, I was accosted by "runners" for the houses, carrying business cards containing the street number, and, in some cases, the name of the proprietor.

The presentation of one of these cards was sufficient to guarantee entrance to even the veriest stranger. The inspection at the outer door was of the most casual character. A horde of Western "crooks" and gamblers invaded the town because of the reports of the notoriously "easy graft." Afterward, when District Attorney Jerome began raiding these houses and confiscating the gambling devices, he found that in nearly every case the "layouts" had been "fixed" and the players had no chance against the "house." The various games of chance, as conducted, were simply refinements on highway robbery.

It was a matter of common knowledge all this time that the police under the notorious Devery were exacting tribute from every form of vice, and in turn guaranteeing protection from interference and arrest. Devery was Chief of Police in Van Wyck's administration, a vulgar graduate policeman, suspected of connivance at the "system" of blackmail, and held accountable for it.

A curious and significant commentary on what may be called the fickleness or lack of stability of public opinion in New York City is afforded by contrasting the present-day estimation in which Devery is held and the attitude of the great body of citizens before Mr. Low was elected. Through the preëlection period the fat-necked “Big Chief” was held up to public execration as the personification of all that was vile and evil in the city life. He was considered one of the most dangerous and harmful of men. Nothing was too bad to say about him and not find willing believers. He never talked then. Since he has been deprived of his possession he has talked incessantly on every topic of local interest that has held the attention of New Yorkers longer than a day. He has proved the possession of a pretty mother-wit, and shown himself to be something of a buffoon. Despite his past record, this has gained him admirers. His fight for admittance to Tammany has been given an undue amount of publicity, and he is generally regarded with a surprising tolerance, though Tammany, despite his election to the Executive Committee, refuses to admit him. It may be that the voters recognize that he has put himself in a position where he can never do any more harm to their interests.

The partnership of the police with crime was reduced to such a science that it became known as “The System.” “The System” protected police officers who from time to time were caught in derelictions of duty by any one of the various societies for the suppression of vice. All of the gambling and disorderly houses paid a certain sum on opening and a fixed sum each month thereafter. The rates were as fixed as the tariff, and were uniform throughout the city, showing that blackmail was not the individual caprice of the precinct commander. Corruption and dishonesty prevailed on every side. The city and its defenseless citizens were plucked like pigeons. The excise laws were openly violated. Nearly every saloon-keeper kept open on Sunday and after the legal closing hours; every one that did paid blackmail to the police. From an ingrained fear of the police this blackmail is still paid to a less extent all over Manhattan Island.

Finally these intolerable conditions led to the formation of the Fusion movement and

the election of Mayor Low. Though corruption had tainted nearly every department of the city government, the fight was centred on the corruption of the police and the personalities of Devery and Richard Croker. Devery was driven into retirement after a bitter contest in the courts, and Croker left the country to take up his residence in England. To give an account of Mr. Low’s stewardship, three departments vitally affecting the welfare of citizens may be considered: the Police, Charities, and the Health Departments. First the Police:

I.

Mr. Low called Colonel John N. Partridge from Albany to become the Commissioner and executive head of the force. His previous record in Brooklyn had been a good one, but it soon became evident that he was not strong enough to deal with the conditions that confronted him. His term of office was a lamentable failure. Inspector Adam A. Cross, a suave and plausible man and a “pal” of Devery’s, was the real head of the force. He quickly got Colonel Partridge’s confidence and seemingly veered him from point to point at will. Devery continued to be the real power. Every evening the higher police officials went to him at his headquarters at “The Pump” for instructions and advice. Citizens and newspapers impatiently demanded of the administration the promised reforms. Nothing was done. Mr. Jerome, whose personality and whose aggressive fight had done more than any other one thing to bring success to the reform ticket, was raiding gambling houses almost nightly, but to no general practical avail, since he did not have the active support of the police. The old Devery henchmen continued to command the important precincts. The System was untouched, and the revenues from blackmail were not decreased.

After twelve months of futile service, Colonel Partridge, under the pressure of public opinion, resigned. Critics of the administration were by this time predicting an easy victory for Tammany in November, and the foes of Reform were jubilant.

Since the appointment of General Francis V. Greene to succeed Colonel Partridge the tide has turned again. General Greene is an ex-army officer, and he took hold

briskly. Then inspectors and captains were shaken like dice in a box. They were made to realize for the first time that a new order of things had come in Mulberry Street. In brief, he has broken the backbone of "The System," and made an organized system of blackmail impossible. There has not been time to eradicate the evil, but the *morale* of the force has been improved immeasurably.

The eleven district inspectors now have their offices in their districts, instead of twelve or fifteen miles distant, as was formerly the case in some instances, and are held directly responsible for wrongdoing in their jurisdiction. The "wardmen" (306 in number), most of whom acted as collectors for their captains, were remanded to patrol duty and transferred to different precincts. No captain can promise protection now because he is liable to be transferred at any time. All of the old Devery captains who have not been dismissed or allowed to retire have been sent to unimportant posts. The detective bureau has been reorganized. The officer first selected (Inspector Brooks) failed to accomplish anything, and was relieved from the work so summarily as to open the eyes of the detectives.

Since January 1st two inspectors (one of them the suave Cross), four captains, one sergeant and forty-one patrolmen have been dismissed from the force. Two inspectors and fifteen captains have considered it wise to retire. There has been a corresponding increase in efficiency.

II.

As showing the calibre of the men at the head of the Health Department under Tammany, it is related that a reporter who went to Commissioner John B. Sexton with a pamphlet by Robert Koch, the celebrated German specialist on tuberculosis, was greeted with this inquiry: "Who the h—l is Kotch, anyway?" Michael C. Murphy, who preceded Sexton, was of the same type.

The "graft" from the department was said to be worth \$1,500,000 a year, one of the most corruptly profitable of the branches of the municipal government. Under Doctor Lederle it is generally conceded that this department has been thoroughly reformed and blackmailing suppressed. As showing the economies effected, this table of the

cost of supplies for the department may be of interest:

		Price 1900	Price 1902
2-quart fountain syringes.....	Per doz.	\$18.00	\$9.18
Common drinking glasses.....	" "	.95	.29
10-gal. water coolers.....	Each	10.00	6.00
1-64-in. white rubber tubing.....	Per lb.	4.00	2.25
Fire hose.....	Per ft.	.93	.40
Eight-foot ash oars.....	Per pair	3.75	1.44
16-in. electric fans.....	Each	29.66	14.00
Galvanized netting.....	Sq. ft.	.12	.02½
Portland cement.....	Per bbl.	4.75	2.50
16-foot rowboat.....	Each	110.00	47.50
Paste.....	Per lb.	.08	.05
Carbolic acid.....	" "	.30	.16
Salicylic acid.....	" "	1.30	.40
Elix. iron, quinine and strychnine.....	Per gal.	4.50	2.30
Bals. Peru.....	Per lb.	2.25	1.60
3-in. steam tube cleaner.....	Each	7.50	3.00
Phenacetine tablets, 5 gr.....	Per M.	14.50	9.95

III.

In the Department of Public Charities superfluous employees have been discharged, the embezzlement of funds stopped, the gruesome "undertakers' trust" broken, and other scandals eradicated. In fine, as much as possible has been done to put the affairs of the city on a business basis. Economies have been effected in nearly all the departments. The city's borrowing capacity has been increased and many public improvements undertaken. Probably the most valuable asset of the administration is the belief of the citizens that their money is not being stolen or wasted and that crime will be punished. For this last belief District Attorney Jerome is responsible. He has fairly revolutionized the office by getting rid of old indictments and making it possible for persons without a "pull" to get justice.

The liquor traffic is the snag on which most reform administrations come to grief, and this is particularly true in New York. Mayor Low's vague attitude on the enforcement of the excise laws, and his speech about "the extreme of law being the extreme of injustice" very nearly worked havoc with his own craft in the early days of his administration.

The administration was committed to Sunday closing of saloons, but seemed loath to enforce it. This absence of a definite policy demoralized the police. There was plenty of adverse criticism from the friends of Mr. Low, and even to-day the liquor dealers as a body are antagonistic, it is believed, to the present administration, though they sell just as much liquor on Sunday as they ever did. The trouble with most reform administrations is their lack of practicability,

and this is a fault that was found with Mr. Low's at first. Some of his heads of departments took a long time to settle down to business. They were full of Utopian schemes. Mr. Lindenthal, the Bridge Commissioner, made himself the laughing-stock of the town by an apparently inexhaustible multiplicity of schemes for relieving the daily crush of traffic on the Brooklyn Bridge during the “rush hours” in the morning and evening. Nothing of any real value ever came of any of them.

Mr. Low has made at least one other (besides Colonel Partridge) very unhappy appointment. The Fire Commissioner, Mr. Sturgis, lost public confidence after the trial of Fire Chief Croker, a nephew of Richard Croker, of Tammany, which was a travesty and a farce in the way it was conducted. It had an unfortunate effect on the public mind in that Croker was popularly considered a badly treated man. In other respects, too, Mr. Sturgis has shown himself, in the opinion of competent observers, unfit to be in charge of this important department. It is charged that by a plentiful injection of “practical” politics and favoritism in promotions and the enforcement of discipline he has badly demoralized the men under his command. He has been publicly and sharply called to account by Comptroller Grout for alleged illegal practices in awarding contracts without allowing public and competitive bidding. He scraped clear on this charge, though acknowledged to be guilty of a “technical” violation of the law. His unsatisfactory record in office will be one of the burdens of the Fusion forces in the coming fall election. Citizens do not regard with much patience even “technical” violations of the law by a reform official. They have to bear a much closer scrutiny than Tammany office-holders, for the reason that more is expected of them.

Mr. Cantor, who was elected President of the Borough of Manhattan on the ticket with the Mayor, does not stand forth luminously as the type of man who would put municipal reform and civic ideals before personal aggrandizement, and some of his official actions have not been conducive to his continuance in office by the suffrage of friends of reform. His removal of the Superintendent of Buildings without apparent rhyme or reason, except some mysterious

“pressure” brought to bear on him, and the appointment of a young man (who, because of his business as a contractor and builder, was unfit) who, at the time this is written, has not been able legally to qualify for the office, was a blow at the prestige of the reform administration. As a former Tammany man, his professions of belief in Fusion principles are still regarded with skepticism in some quarters. The conduct of his office has not been above reproach in minor matters, and the charge of “playing politics” rests constantly at his door. As far as the future may be foreseen now, it is improbable that his name will appear on the Fusion ticket to be nominated before the November election.

Because Mr. Low is not, in the political phrase, a “mixer,” and has not the elements in his character nor the experience that make for great personal popularity, and because he is known to but a comparatively few men of a (broadly speaking) isolated class, it is difficult to say what the voters think of him personally. Though he has been, in one capacity or another, more or less in the limelight of publicity for a number of years, few New Yorkers have anything but a vague idea (colored by prejudice) of his personality.

He is undoubtedly looked upon as an eminently sane, safe, and conservative man; not brilliant nor imaginative in the sense of large conceptions, but a trusted agent capable of doing the work that comes to his hand with thoroughness. His very seriousness has appealed to the quick sense of public humor, and he has had to endure some good-natured jibes and jests from a public that seeks an opportunity for flippancy. His academic life as president of Columbia fostered these traits of seclusion and the attitude of mind that inevitably results from being looked up to as the fount of authority and wisdom by a body of students. The schoolmaster, no matter how glorified his position, in his public utterances insensibly gives the impression of handing down irrevocable decisions. One of two men listening to Mr. Low making a campaign speech turned to his companion and said, “That’s a mighty poor argument he’s giving us.”

“He’s not arguing; he’s telling you,” was the response.

But, on the whole, Mayor Low has made a distinctly good impression. He has never

been regarded more favorably than just now. He has shown an understanding and appreciation of the needs of the city since the first months of indecision and hesitation, and without showing any surpassing ability his administration has been one of progress and many real and effective reforms. His renomination seems practically assured. Through simple honesty and economy he has accomplished many things, and in case of reelection will undoubtedly do more.

So much is expected of a reform administration in New York that its venal faults are made to stand out prominently because of the close scrutiny to which it is subjected. These items may be put to the credit of the present reform administration: A cleaner and more healthful city, with better kept parks and streets, projected and accomplished public improvements, including docks, bridges, small parks, street signs, free baths, and buildings; a more efficient and better organized police force; the breaking of the system of police blackmail; almost total suppression of gambling, a better enforcement of the building and tenement laws, keeping immoral women off the street to a large extent, the closing of many notorious resorts, cleaning the town of crooks,

and, on the whole, making New York a more desirable place to live and do business in than it was before. The mistakes of the reformers have been tactical. Those that will count in November have been made in handling the excise question.

What the chances are for two years more of reform it is almost too early to say. The reputable element of the community, if not wholly satisfied with the present order of things, still prefers honesty to dishonesty, and will support Mr. Low for reelection. If the moral element can be wrought up to a proper state of indignation in New York, the "grafters" can never carry an election. The unaccountable apathy of the friends of reform after carrying the city has in the past usually resulted in Tammany coming into power again at the succeeding election.

One factor that will make for success this year is the very complete organization the Fusionists have brought into being. There is no longer any doubt that the only way to beat Tammany and keep the city clean is to combine every element and class opposed to that organization. The present era of reform in New York, and the prospects for its continuance, should cheer and encourage every lover of good government in the United States.

CHARLES FRANCIS MURPHY— TAMMANY'S NEW RULER

THE PASSING OF RICHARD CROKER'S POWER—HOW A MAN MUST WIN
HIS WAY TO TAMMANY HEADSHIP—THE STORY OF MURPHY'S RISE

BY

FRANKLIN MATTHEWS

THE chances of a victory at the polls for good city government in New York this fall depend to a great degree on the leadership of Tammany Hall; and for this reason the leadership of Tammany is a subject of national concern.

Two things are required, first of all, of any man to become the recognized leader of Tammany Hall. He must come up from the ranks: and he must be a silent man.

To remain leader he must win the local elections in New York City. The elections

won, he must parcel out the spoils offices for subordinate leaders, jobs of various kinds for the more lowly workers, contracts for the inner circle that finances and controls the organization. He must crush any rival in his own camp. If he fails in any of these, Tammany sweeps him aside, and a new leader who has "slashed his way up from the stoke-hole to the quarter-deck" assumes control.

Tammany has a new leader now facing the crucial test. He has come up from the

ranks, and he is uncommonly silent. He is Charles Francis Murphy, for ten years the leader of the "Gas House" district, as the Eighteenth Assembly District is called, and for nearly twenty years its real power.

There is no doubt that Murphy is in complete control of Tammany today. If he wins the coming municipal election he will be entrenched in power more completely than Richard Croker was. In his brief term of leadership he has played a better game for perpetuating his rule than Croker ever played, and, like so many rulers of Tammany, he is approaching the supreme crisis of his leadership with the lightning of municipal scandal playing about his head.

The first thing that Murphy did that Richard Croker never did, and probably never dared to do, was to destroy, or make it possible for him to destroy, democratic representation in the councils of the organization. Murphy's hatred of ex-Chief of Police Devery, whose unsavory record as an office-holder did more to defeat the last Tammany ticket than any other element of Van Wyck's administration, is responsible for this; the State primary law makes it incumbent upon Tammany to accept any man elected to the membership of its General Committee. It does not, however, require Tammany to accept as a member of its Executive Committee a man duly chosen from the General Committee to represent a district. Therefore, although Devery was regularly elected to the Executive Committee, Murphy threw him out, and the courts have upheld him thus far on a technicality.

Then Murphy had a resolution passed which makes the Executive Committee self-perpetuating, or, rather, Leader Murphy self-perpetuating. No member of the new Executive Committee can serve until his credentials have been approved by the retiring committee. In cases of rejection or "non-selection," the retiring committee selects for the next committee. The County Committee is supposed to go through the form of indorsing this to make it fully legal. By that process, any district leader, no matter if his election is unanimous, may be tossed aside as Devery was. Croker never was so high-handed.

Next, Murphy abolished the celebrated Finance Committee, whose chairman, through his control of the money, was the leader of

Tammany. Croker was chairman of that committee. Murphy had a resolution passed declaring in so many words that he was the leader. Then came another innovation. The treasurer of Tammany, John McQuade, died. Murphy had his intimate friend, Frank O'Donnell, a man who was a corporal rather than a captain, who lives only a few doors from Murphy, and who is his creature absolutely, made treasurer. Murphy, however, is the real treasurer and the man who holds the money-bag of Tammany—and, according to the Tammany code, what possibilities lie right there! No books are kept; no reports are made.

Murphy is really concentrating Tammany Hall into his own district, placing it absolutely in his own grasp, to remain there until he loses an election and his power. But he is going a step further, if he can. He has admitted more than once that he would like to nominate Congressman George B. McClellan for Mayor this fall, unless such a nomination should imperil Tammany's success. McClellan will not be named if such a course shall seem to endanger Tammany's chances of victory. The reason why McClellan was first in Murphy's thought as a Mayoralty candidate is plain. He lives in Murphy's district, and ever since he has been in public life has bowed absolutely to Murphy's wishes. If he should be elected Mayor, there can be little doubt that Murphy will be the real Mayor, just as Croker was the real Mayor in Van Wyck's term. Murphy will then have concentrated not only the power of Tammany Hall, but also the power of control of municipal affairs, in his own district.

Charles Francis Murphy is forty-four years old, tall, of athletic frame, with steel-gray eyes, and a mouth that shows on his clean-shaven face intense determination. He is rated, probably correctly, as a millionaire. He was born in the "Gas House" district, in the neighborhood of Avenue A and Twentieth Street, on the East Side, and has had only a common school education. Probably he is not as illiterate as Croker, but he has not yet revealed those remarkable mental qualities that made Croker a born leader of men. Murphy is a graduated saloon-keeper. He had four saloons, got rich, gave up the business, took the only municipal office he ever had—that of Dock Commissioner, under

Van Wyck—and was not long in getting richer. His friends say it was a legitimate increase of wealth, and his enemies have not yet dared to assert otherwise openly.

He wears a dress suit comfortably, and, in his later days, has made his way repeatedly into a corner of Delmonico's with Tammany politicians and leading sporting men. He cares little for social life, nor has he put on airs by buying an expensive residence uptown. He never affected attendance at the Democratic Club in Croker's prosperous days, when "The Club" was headquarters for the Tammany politicians. He went there when necessary, but he preferred to stand on a corner in his district at night, and to receive the politicians of his district. His charities have been many, and the Reverend Doctor Rainsford has praised him openly from his pulpit. Murphy has played politics almost from the very day he became a saloon-keeper. He is temperate, unobtrusive, silent. He knows every trick of the politician's art. He has even dared to bolt Tammany, and has brought it to terms. He never shirks responsibility in a fight, and his friends say he never lacks courage. He is steadfast to his friends, he was a dutiful son to his parents, and he cared for them and his brother's children when a protector was needed. At his request, Congressman McClellan appointed one of his nephews to West Point and another to Annapolis. The Congressman thereby committed a grievous party sin, according to many Tammany men, by not throwing open the appointments to competition and "giving the poor boys a chance." Murphy will hear from this in the fall's campaign.

Murphy has always put his brothers and relatives in office and has secured contracts for his friends. A select coterie has grown rich with him. Just as he has reached his greatest distinction, the leadership of Tammany Hall, grave scandals in the Dock Department under Van Wyck's administration have been disclosed, affecting his reputation and likely to embarrass Tammany Hall. Leases of piers at ridiculously low figures were granted to Tammany contractors and to figureheads, and contracts at high prices to the extent of millions were given out without public bidding. One excuse of Murphy is that he was ill when a large part of this was done. Another is that the city ought not to expect "more than five per cent."

income on its property, the corollary being, of course, that Tammany men should get the rest.

Like Croker, Murphy fought his way to petty political leadership in his youth with his fists. He left school early and went to work in the Roach shipyard near his home. The surroundings were rough, and the boys of his own age were tough. By brute strength he won their leadership. On Sundays he showed his athletic prowess by playing catcher on a baseball team on the "Big Lot" running along the East River from Eighteenth to Twenty-first streets. He was the best ball-player of the gang. He was boss of the nine, and his political predilections were shown by the name selected for the team. They were called the Senators.

Eddie Hagan, Murphy's political leader in the district until he died in 1892, played on the team. The team went up the State and won trophies, and one of these, won from Syracuse, ornamented a Murphy saloon for a long time. Young Murphy had a chance to become a professional ball-player. He preferred to become a power in his own neighborhood. He was also a famous oarsman, and one Sunday, when a crew from the neighborhood were to row the well-known Biglin brothers on the East River, and tens of thousands were out to see it, "Tecumseh," the stroke of the East Side boys, was taken ill—drugged, his partizans said—and Murphy stepped into the boat, stroked it, and won the race. Great was the fame of Charlie Murphy thereafter.

Tired of the rough shipyard work, this industrious, thrifty fighter and hard worker sought a job as a driver on the "Blue Line" cross-town street-cars, that still run their jolting ways in his neighborhood. His younger brother, John, later an alderman, brought him his dinner in a tin pail every day, and Charles paid strict attention to his work and saved up \$500. That was the turning-point in his career. He had helped to form a social club called the Sylvans—they spelled it Silvians in their primitive way—and he had kept up his baseball interest. He opened a saloon on Nineteenth Street near Avenue A, and upstairs he had the club-rooms of the "Silvians." He sold a good glass of beer and a bowl of soup for five cents. He wouldn't allow women in his place. He had hundreds of friends in the

dock workers, shipyard workers, gas-house employees, and street-car men.

Every one liked Charlie Murphy, the East Side athlete, quiet, resolute, game, and true to his friends and to his neighborhood. That saloon business began in 1879. Prosperity came. Hagan and he went into politics. In 1883, Murphy had two saloons. Hagan had been "turned down" by Tammany Hall for a third term in the Assembly. He asked "Silent Charley" what he should do. After a long period of thought, during which the lines of his face hardened, Murphy replied, "Run independent." And Hagan did, Murphy really managing his campaign. Murphy beat Tammany Hall, but he said he never would do it again.

Still the saloon business prospered and the political firm of Hagan and Murphy prospered with it. Murphy was the steadying hand; Hagan was the "mixer" and money-spender. The belief is general that Murphy supplied the money. By 1890 Murphy's four saloons were in full blast and he was rich, a power in his neighborhood, and a coming giant in Tammany. Hagan grew sick in 1892. Dying, he spoke of the Tammany leadership for the "Gas House" district. "Elect Charlie" were his dying words, and Murphy became the actual leader of the district of which he had been the real power for ten years.

In his quiet, effective way he rolled up a Democratic majority more consistently, perhaps, than any of the other district leaders. "Democratic vote, 6,000; Republican vote, 1,500," is the way it runs in the "Gas House" district year after year, not counting, of course, the years of political upheavals. He kept standing on the corner at night, getting places for his friends and strengthening himself inside the party. Croker's word was law with him. Then came the Van Wyck election. Murphy had reached a place where he could demand an office for himself.

Murphy asked for a Dock Commissionership. That field was the richest in spoils in Van Wyck's gift. Millions of dollars' worth of work under a vast system of dock improvements, set in motion by the Strong administration, was to be done. The Dock Commissioners in many of their transactions were a law unto themselves. Murphy was strong enough to be made treasurer.

Now, Lewis Nixon wanted the place Murphy got. As a ship-builder and a student of the needs of the commerce of the City of New York he had some high-minded notions that he could be of worthy public service to Tammany and to the city. He wished to lift some of the burdens that were handicapping New York as a port. But Croker decided that Murphy, the graduated saloon-keeper, would make a better Dock Commissioner for Tammany than Nixon, and undoubtedly he was right.

Whether there was anything criminal in the Murphy Dock Board's transactions it is for the courts to decide, if the matter comes before them. It has been charged that more than \$3,000,000 of contracts were given out at exorbitant prices without public letting; that long-term leases of public piers were given away to Tammany men for a mere song, insuring various favorites profits of from \$10,000 to \$50,000 a year with scarcely more effort than to take in the money; that Tammany "dummies" were put into many firms that obtained the plums; that Murphy's own relatives, some of them being in office, reaped a large profit from these contracts. And it is not denied that Murphy's own wealth increased rapidly during his term of office. He and all his friends say that it was by legitimate speculation, and that his hands were clean.

The disclosures of what at best might be called Tammany mismanagement of the Dock Department were of such grave importance that even Murphy had to break his silence in June last. He gave out a carefully prepared statement, the gist of which is this:

"As to escaping criticism by leasing piers to the highest bidders, I want to say that it would never do in the world, as it would open the way to endless blackmail. A man might build up a big coal business and then when his lease was expiring a rival might come along and threaten to outbid him for his pier." [*One would think that a business man would take such a risk into consideration; at any rate, the pier is the city's, not the business man's.*] "That would not be fair. The city should not, in my opinion, make more than five per cent. on its property. . . . It is all nonsense to talk of my giving treasurer's orders on my own responsibility. The law requires a unanimous vote on these, and it

was always had, although there are isolated cases where the names of but two of the three commissioners were signed to the orders." [*An important admission*].

The fact remains that by the time the Low administration came in, Murphy, through the distribution of patronage, had made himself one of the foremost leaders of Tammany Hall. Almost up to the last minute of his office-holding, he went on parceling out favors where they would do the most good. Before Tammany went out of power another man had risen to unusual prominence among the leaders. He was Timothy D. Sullivan, now Congressman, and familiarly known as "Dry Dollar." He is a man of more cunning than Murphy, and he has more suavity. He is an attractive man personally. He had gradually obtained control of the great Tammany stronghold, the Lower East Side. That belonged to him as much as the general leadership belonged to Croker.

When Croker came from England to manage the Shepard campaign, Sullivan was nearly strong enough to overthrow Croker. He waited for Croker to make the first move. Croker had to come to him, and Sullivan practically dictated the nominations of Tammany in the campaign. Murphy saw the way things were going. A strong friendship, amounting to an alliance, sprang up between him and Sullivan. The leader that had Sullivan's support would become the real leader of Tammany. Sullivan was not strong enough to capture the place for himself. He did not want it. The leader that had his support, with a powerful backing of his own, could not be overthrown. Murphy secured this and became leader. Sullivan let him do it. Some persons think that Sullivan, therefore, is the real leader of Tammany. Murphy, however, has outgrown that situation.

It was, therefore, by a process of strict Tammany evolution that Murphy became leader. The leadership of Tweed, Kelly and Croker came in the same way, although the conditions varied. Twice within ten years had Richard Croker attempted to appoint a new leader of Tammany, ignoring the fact that the leadership of Tammany is a growth. The first was John Sheehan, schooled in all the devious ways of practical politics, able and adroit. Sheehan became more or less

arbitrary. A good many truths and a good many lies were told to Croker about him, and Croker came from England and in a rage swept him aside. Sheehan had not come up from the ranks, and did not last.

Chagrined by his defeat when Low was elected Mayor, Croker planned a startling coup on his enemies in Tammany Hall, who, he thought, had brought him a second time to such an embarrassing position. He appointed another leader, Lewis Nixon, highly educated, cultivated, the best ship designer in America if not in the world, regarded generally as clean as Roosevelt's "hound's tooth." Nixon, although a believer in the spoils theory, was also a relentless advocate of purity and honesty in public life. He had not come up from the ranks, and neither did he possess the other requisite of Tammany leadership, silence. He took charge when there was absolute depression in Tammany's ranks. For months, night after night, he went out among the Tammany men, instilling courage into them and drawing young men into the organization. Letters by the thousands from young men came to him. He thought he was secure in his place. The Tammany leaders let him run his course of preaching a new gospel for Tammany and of drawing in young men, and then, when the psychological moment arrived, tried to pitch him out. By taking advantage of a technicality in the Tammany Hall constitution, Nixon could have beaten his foes, but he would not rule by such methods, and he quit in utter disgust.

Then came the Tammany regency of Murphy, McMahon and Haffen: "Sport," "Two Spot" and "Joke," as ex-Chief of Police Devery called them. Public ridicule had a large part to do with the passing of the regency, but the fact that Tammany Hall must be ruled by one man was most potent in bringing about a change. Murphy, as the survival of the fittest, stepped into control by the grace of Sullivan, Haffen and himself.

There has been one test of Murphy's leadership, but it was not thorough. In 1902 Tammany gave Coler an unprecedented plurality of votes for Governor. At first it was declared that Murphy had proved his claim to the leadership. Upon examination, however, it was seen that Coler had polled in New York County only 6,700 more votes

than Stanchfield had polled two years before. Forty thousand Republicans had stayed away from the polls in New York City in the Coler campaign, and thereby hangs another story. With everything in Coler's favor, with the young men that Nixon had brought into the ranks, with many of the bolting Democrats in the days of McKinley voting the regular ticket again, Murphy had made Tammany only 6,700 votes stronger, scarcely the normal party growth, in two years. It was seen that the Coler vote added no new laurels to Murphy, and left him where he was and where he must remain until the municipal election this year.

When Croker resigned his leadership to Nixon he said to the latter privately:

"I am getting timid. People come to me and ask me questions about finance and other public matters of which I know nothing. I cannot answer these questions. Tammany's leader should be able to do so. No man can lead Tammany successfully hereafter unless he does so. Conditions have changed, and Tammany must change with them."

No one will assert that Murphy can discuss public questions which Croker could not. Murphy will not agree with Croker that Tammany's leader need discuss public questions. He will admit that Tammany has changed and must change with the times, but his belief is that in one respect it has not changed and must never change, and that is in respect to its traditional purpose of securing office and the spoils of office for its followers.

Youthful and energetic, Murphy is fearless where Croker was timid. Tammany with Murphy has changed to the extent that it is necessary for the leader to out-Croker Croker in retaining control of Tammany. Croker ruled by force of his genius; Murphy must rule by craft and cunning. He has found it necessary to destroy Democratic ideals in order to secure his place. The coming election will determine whether he is to keep it and whether Tammany is to have a Czar more autocratic than any by which it has ever before in its long and eventful history been ruled.

ARE RICHES DEMORALIZING AMERICAN LIFE?

HOW WEALTH IS EXPENDED IN THE UNITED STATES FOR RECREATION
AND PLEASURE—THE INCREASE IN YACHTING, AUTOMOBILING AND
HORSE-RACING—SARATOGA—THE EFFECT OF LUXURY ON OUR PEOPLE

BY

RALPH D. PAINE

A NEWSPAPER correspondent once said of the Newport colony that "it devoted itself to pleasure regardless of expense." He was gently corrected by the late Colonel Waring: "What these people really do is to devote themselves to expense regardless of pleasure." An unprecedented era of prosperity, with a very epidemic of millionaires whose expenditures are marked by a prodigal ostentation and a swiftly increasing pace of luxury in the style of living, as typified by Newport, the social rivalries, and the diversions of the rich, have caused foreboding. The rich have even been said to have no morals. Such sweeping charges, however, lack facts to bulwark them,

though the question whether the growth of luxury is sapping our national vigor is worth investigation. In considering the sensational growth of luxury in American life, however, one must avoid the pitfall of assuming that luxury is always wealth wasted and the common fallacy that all "lavish spending is good for business."

Out-of-door sport and recreation have become elements of social life in the United States only within the last twenty-five years. Wholesome recreation for the masses of the well-to-do was fostered in its infancy by the wealthy class. Golf, laughed at at first as a foible of Anglomania, was soon discovered by an army of workers who needed

just such recreative exercise. Its growth has been phenomenal. At present there are 1,122 organized clubs for golfing in the United States, including the country clubs, equipped with facilities for the sport. For golf clubs and balls \$2,000,000 are spent annually, and in 1902 American golfers used 1,800,000 balls, a trifling but impressive detail of statistics. The club-houses, equipment, and the land used for golf courses represent investments of \$20,000,000. It is far from sound doctrine that this wealth would have been better spent in building scores of factories and in giving employment to thousands of persons. There can be too many factories for the demands of consumption, but there can never be a surplus of health and vigor in the working community.

Twenty years ago the total outlay for equipment in baseball, tennis, rowing, etc., was only \$2,000,000, whereas last year \$10,000,000 worth of sporting goods were sold. Yachting is considered a rich man's pastime, a luxury which, in homely phrase, "fairly smells of money," yet for every costly yacht placed in commission a score of smaller craft are built and enjoyed by those in humbler circumstances. The economist says that the steam yacht is a wasteful extravagance. However, the yachting industry in itself gives employment to many thousands of well-paid men, and the pastime heightens the social efficiency of the yachtsmen in increased health, without enforcing burdensome or noxious labor on others. Moreover, during the war with Spain many yachts and their owners were of service to the navy. It is true, also, that the "captains of industry," with millions of employees dependent upon their business efficiency, find in yachting a recreation positively healthful. Twenty-five years ago the sight of two steam yachts at one time in New York harbor was distinctly sensational.

More than \$50,000,000 is invested in the fleet of American pleasure craft, and of this total nearly \$40,000,000 is in steam yachts. The approximate annual cost of wages, maintenance, repairs, and insurance may be placed at \$6,000,000. The 5,000 men employed about three months earn \$1,500,000 while they are afloat, and to feed them costs steam yacht owners an average total of \$2,500 a day. It has become easier for an owner to rent a first-class steam yacht than

to get a tenant for a costly summer estate, and the demand has increased so rapidly that a charter for a first-class steam yacht will command from \$5,000 to \$20,000 a month, exclusive of all charges for keeping the boat in commission.

It would be an easy matter to mention twenty-five American steam yachts whose aggregate value is \$10,000,000. The millionaire's standard of living has increased in the maintenance of his yacht, as well as in his homes on shore, and a yachting item of \$100,000 a year is included in the budget of a modern Midas. One of them said recently that he reckoned on a cost of \$1,000 a day as long as his yacht was in commission, and another claimed to have spent \$150,000 for the maintenance of his 270-foot yacht last year.

Sir Thomas Lipton spends \$1,000,000 to race for the America's Cup, and the syndicate for the defense spends as much again to prepare for the struggle. Up to the year when the *Thistle* came across the Atlantic, it is doubtful whether the cost to one side in these matches had ever been more than \$50,000.

The automobile must be viewed from a different point of view. It is a luxury which the rich man has brought within the reach of the moderately well-to-do. It will soon be ranked among the conveniences, if not among the necessities. In 1898, there were not thirty automobiles in America. In the first six months of the following year the companies formed for the manufacture of automobiles in the United States had a total capital of \$388,000,000. The beginnings of the pastime and of the industry were inspired by the importation of machines by the very rich. Before 1900, or within three years after the introduction of the pastime, eighty establishments in the United States were building machines of 200 different types.

So much is heard of the automobile in racing, fast road performances, and reckless scorching, that the sport overshadows the pastime. But for every mile driven by the high-powered auto sportsman twenty are covered by owners who seek recreation and the quiet pleasures of road travel. On August 1st nearly 7,000 automobiles were licensed in the city and State of New York, with a total value of upward of \$20,000,000.

There can be no dispute as to the whole-

some effects of the pastime. Moreover, the owners of automobiles are doing more for good roads in the United States than any other influence in the community.

It is going outside the facts to make a case against automobiling as a demoralizing luxury. The handful of men who set the pace in raising the costliest standard of living do not stop at outlay in automobiling. Perhaps a dozen men own more than one of the most expensive foreign cars and maintain elaborate auto stables. But the sensational outlay of a few millionaires is an inconsiderable feature of the growth of automobiling.

Polo and riding to hounds are classed as sports of the rich, and polo cannot become popularized because of the cost. They are manly sports, foes to weakening dissipation or a soft manner of life, and cannot be said to demoralize the sons of rich men. The recent appearance of polo in university life is not an unmixed blessing, however, tending as it does to assail the democracy of the campus. As for hunt clubs, the farmers of eastern Pennsylvania and the gentlemen of the South were hard riders and mighty hunters generations before riding to hounds came to be fashionable among the very rich. This hardy sport, even when gilded with English trimmings, develops qualities to make men bold and women strong, accepting hazards for the love of adventure.

There is left one field of popular pastime across which the apologist for luxury in diversion must go with a limping gait. It is in the immensely increased patronage of the racing of thoroughbreds as a pastime of the very rich and influential men of this country. Yet the men now in control of racing, who are proud to be known as influential turfmen, are a pledge to the public that honesty in racing will be guarded as strictly as possible. Without the foundation laid in New York State by such men as August Belmont, James R. Keene and William C. Whitney, racing would not have gained its tremendous prestige and popularity. But there cannot be successful racing without betting, and the greater the public confidence in the management of the turf the more extensive will be the betting interest. In the State of New York betting at race-tracks is illegal, yet never in the United States was there a

greater volume of open gambling at race-tracks than during the meetings at Saratoga and around New York last year. The law is cleverly disregarded. The Jockey Club does not officially recognize the "betting ring." Therefore, the book-makers do not pay for the betting privilege. But each of these betting agents must agree to purchase \$100 worth of admission badges for each day he does business at the track, adding \$10,000 a day to the revenues of the Jockey Club. These hundred or more book-makers, operating in immense pavilions built and supervised for their benefit, handle the public betting in total amounts of hundreds of thousands daily. By a transparent subterfuge, the law is dodged in that no record of a gambling operation is given the patron, nor are the odds posted conspicuously. In other words, it is assumed that a number of gentlemen are engaged in private transactions among themselves. As a matter of fact, thousands of wage-earners fight in a frenzy of eagerness to crowd their way to the stands of the book-makers on every important racing day, and the betting-ring is a seething pandemonium. The evasion of the law is evident to the point of absurdity at every turn. This feature of racing is, of course, a grave moral evil, the more demoralizing because of the influential interests in control.

During the racing season at least \$1,000,000 is wagered each day at the race-tracks and the pool-rooms of the country—unqualified waste. Public interest in racing has spread like wildfire since the turf was reorganized by men of standing and integrity. Betting has increased proportionately, since it is the backbone of the turf. When a number of turf syndicates collapsed in St. Louis it was learned that \$4,000,000 had been invested in these swindles by a part of the public which never frequents tracks or pool-rooms, the "solid, respectable" element. They had been bitten by a craze that is fostered by newspapers to such an extent that even the *New York Evening Post* prints the "probable winners" for the guidance of its dignified clientage who wish expert opinion in placing their bets.

In 1902, the public paid \$3,401,717 in admissions to the six tracks in the State of New York. In addition, it was estimated last year that \$200,000 a day were wagered in the betting-ring at Saratoga alone. As

a sop to rural sentiment, which threatens legislative action, five per cent. of the gross amounts received in admissions to the tracks in New York is turned over to the State agricultural societies or county fair associations. Since 1894 this tax has aggregated \$710,477, making the total receipts of the tracks from the public in seven years \$17,209,540. In 1895, the public paid only \$544,414 to see racing in New York, as compared with \$2,571,630 in 1901 and \$3,401,717 in 1902, an increase out of all proportion to the growth in population or the sporting element of the community. In 1895, the receipts of the Saratoga track were only \$30,720, as compared with \$359,942 for the season of 1902. The difference indicates the increase in public confidence and interest and the fact that large purses can be given because of the lavish patronage which is chiefly attracted by the facilities for betting. Since 1893 the prizes offered for the racing of thoroughbreds in the State of New York have aggregated \$7,500,000. Last year the prizes contested for amounted to \$1,770,029, an increase over the previous year in New York of \$335,623. It is true that the average price of yearlings sold in the city of New York has increased from \$311 to \$932 in seven years, and that last year \$1,213,130 worth of thoroughbreds were disposed of at public sale in this city alone. Gentlemen sportsmen, racing as a diversion, have made the amusement nationally patronized.

That the frenzy of Vanity Fair should invade even the sequestered country seats of the rich is a pernicious symptom. All other nations have a time when the leaders of wealth and fashion withdraw to country homes, as this class was wont to do in the United States a generation ago. Yet there are signs that the very rich of the next decade will live more reasonable lives than their parents. At present, enormous fatigue is incurred, great fortunes are spent, serious sacrifices endured, to keep the ball turning toward no visible goal. The rich are each year finding more pleasure in manorial living, and the season spent at country seats is growing longer. Many families come to town for three months at most in the winter, while few of the large colony at Tuxedo leave their homes for more than a few weeks at a time. Lenox typifies to a notable degree the best life of the millionaire class, where

in fourteen years thirty very rich men have built country homes, magnificent in outlay. But the manner of life has followed the traditions of a quiet and sensible elegance, that harks back two generations. With the costliest standard of luxury in living at Lenox is joined taste and breeding in the enjoyment of leisure.

The creation of splendid country estates, even where there is no rational enjoyment of them, has impressively raised the standards of architecture and landscape gardening. The period of wretched taste in the art of creating country homes is passing rapidly away, and the millionaire has discovered that it is absurd to crowd on a patch of ground a castle or château designed to be framed in a thousand-acre estate. Twenty years ago the man who spent \$100,000 a year on his living expenses was a conspicuous figure in his own class, nor could he avoid ostentation, even were he desirous of avoiding it.

Millionaires have also established game preserves—luxury on a royal scale which is of distinct benefit to the nation. The best known of these enterprises is the New Hampshire preserve of Austin Corbin that encloses 25,000 acres—a considerable part of four townships. Bison, moose, elk, wild pig, in a total of several thousand head, are preserved in natural surroundings, cared for by a large staff of gamekeepers. The park represents an investment of not less than \$1,000,000. The forest game preserves of Doctor W. Seward Webb in the Adirondacks comprise 40,000 acres. Litchfield Park, in the same region, belonging to Edward H. Litchfield, of Brooklyn, includes 9,000 acres, fenced in as a shooting preserve, and is extensively stocked.

The fashion of country life on a lordly scale is working against the marked trait among American people of wealth to herd together and live in the public eye, to be luxurious all in a heap. This is the spirit that has made Newport a monument of man's folly, and that crowds the new class of showy winter resorts, of which the Palm Beach hotels are the showiest type.

Living in town houses has seemingly reached the limit of outlay. The domestic life of today is not much costlier than that of a decade ago. The same list of servants, slightly increased, will do for the rich man of today.

Personal charge of her own home has become impossible for the mistress of millions, because she finds the greater part of her interests outside her home, which is conducted like a small and elegantly appointed hotel. The "superintending housekeeper" directs the whole household machinery, seeing the mistress only in a brief interview each morning. Old-fashioned home life, as it existed in the most representative New York society into the eighties, is a thing of the past.

A tendency inseparable from these conditions is to make the woman who shares the luxuries of a great fortune calloused toward the needs of those less fortunate. There is no consideration for the lowly in the "inflexible rule which permits none of the servants in an ultra-fashionable house to be married while holding their positions." Matrimony makes a man ineligible for service in such establishments as these, with the glittering exceptions of the butler and the chef. One woman of great wealth remarked that she sometimes received fifty begging letters a day that she did not bother to read. Another woman, famed, however, for her charities, has sometimes received definite requests for sums of money amounting to more than \$1,000,000 in a week. J. P. Morgan has said that it cost him \$5,000 a day to live, not including the maintenance of his yacht nor any extraordinary purchases. This living cost of more than \$1,000,000 a year for what may be called "running expenses" included as a chief factor the incessant demands of incidental charity and benevolence, regardless of special benefactions known to the public.

It is a sign of the times that contractors in New York are building houses in recent years to sell to chance customers at prices ranging as high as from \$300,000 to \$500,000. In no other city or time would contractors dare to build houses for the general market hoping to sell them for more than \$100,000. But whereas a half-century ago the furnishing of the wealthiest homes was characterized by monstrous ugliness, a single generation has seen a revolution in American taste. Even until a decade ago the acquisition of costly collections in art was confined to paintings, and the ruling spirit was to get the most display for the greatest outlay, with a few notable exceptions. Little by little

a group of millionaires found time and inclination to appreciate or to value porcelains, rugs, tapestries, and gems. It is common for a plutocrat of this era to spend \$1,000,000 in furnishing his home, and the ablest experts sell their services to insure the highest standard of taste.

An American millionaire paid \$500,000 for three tapestries to fit a wall in his newly erected palace. Another set of three pieces of tapestry was sold for \$300,000 to adorn an American home. The wife of another American paid \$125,000 for a set of furniture not long ago, and there were only four pieces. Their value was in the tapestry upholstery. In a shop in Paris there are three panels of tapestry for which \$100,000 each are asked. The dealer has an agent in this country, who is confident of finding a purchaser as soon as he finds the millionaire who wants costly tapestries. At the sale of the Marquand collection last winter a rug was sold for \$38,000. It is supposed to have been bought by a dealer who will hold it until he finds a purchaser willing to pay \$75,000 or even \$100,000 for the treasure. Senator Clark, of Montana, has a collection of rugs among the furnishings of his home for which he paid at lowest estimate \$250,000. Unostentatious Philadelphia can furnish a list of \$1,000,000 worth of paintings in twenty-five frames hanging in the private galleries of her millionaire collectors.

On Fifth Avenue there are perhaps a dozen inconspicuous shops which deal almost exclusively with the very rich. The owner of one of these said recently:

"There are not more than 150 men in the United States whom I can fairly class as possible customers of mine. If I can get two of them as regular customers, I will ask no other patronage. It is true that some millionaires buy that they may shine in the reflected glory of their treasures. And as a class they have come to recognize the fact that there is no safer investment from a business standpoint than fine paintings, rugs, tapestries, porcelains, antiques in general, when picked by experts. They buy on a rising market, for the demands of American luxury are exhausting the treasures of the Old World. It is a business estimate that any collection wisely chosen and not bought for extortionate figures will increase in value at an average rate of four per cent. a year,

or the interest on the investment. It is still characteristic of many wealthy Americans that small objects, even if they be priceless from the collector's viewpoint, are not bought for their own sake, because they cannot be displayed with impressive effect. This includes antique coins, medals, carvings, small tapestries, and laces."

This is not wholly true of precious stones, for the American demand has raised prices in the world's market for certain kinds of gems. One of the leading gem collectors of this country, who buys to sell again, has sold to one man in Boston more than \$1,000,000 worth of precious stones, treasures that are never seen outside his own home. For a single ruby \$40,000 has been paid by an American collector, and a dealer who asked \$100,000 for another ruby found a purchaser in New York. In less than ten years the increase in the value of diamonds and other precious stones imported into the United States has been fairly phenomenal, advancing from \$15,168,746 in 1893, to \$25,412,776, or 66 per cent. in this brief period during which population increased less than twenty-five per cent. The increase last year over these imports for 1901 was \$550,209. The kind of luxury indicated by these figures is sometimes held indicative of an increase in the extravagances that make for dissipation.

Those most conspicuous in display of costly luxuries are alleged to be drinking more than is good for them and to be "making champagne flow like water." Yet despite the increase in standards of outlay for luxuries, there has been a decrease in the consumption of champagne in recent years. In 1893, the total imports were 374,124 dozen bottles, valued at \$5,579,074, as contrasted with 335,256 dozen bottles, valued at \$3,179,913 in 1902, a falling off of ten per cent. The importation of distilled and malt liquors showed no increase in these nine years, the importation of tobacco, cigars, and cigarettes a decrease of sixteen per cent. And while there has been a notable increase in the domestic production of beer in the last two decades, the ten years between 1890 and 1900 recorded a decrease in the output of whisky and other distilled liquors of eight per cent.

Saratoga has suffered in its own peculiar way from an excess of irrational luxury.

There was an era when Saratoga was the most fashionable summer resort of the country, as dignified as it was salubrious. The grandfather of the young man who goes to Saratoga to see the races stayed all summer in the place when not many more people had private cottages than today have private stables.

The Saratoga of today is submerged by the thousands who now flock from all parts of the country to get in a brief season as much excitement as they can seize. It is no longer a fashionable place. There was an intermediate era when Saratoga was in disrepute, a rowdy *declassé* régime, which succeeded the austere fashionable resort of a generation ago. Racing was in the hands of a gang of cheap gamblers; games of chance swarmed in the main street. The people who had taken the place of the dowagers on the piazzas of the hotels and cottages would have been avoided by the dames of other days. The latest transformation has made Saratoga something like Baden-Baden in its best days. It has been said that the Saratoga of today is devoted to "improving the breed of horses and improving the breed of gamblers." The overwhelming influence of the place is for gambling, and gambling with a gilded finish. The real seekers for recreation are in a microscopic minority.

The race-track and gambling-house winnings and losses at Saratoga last year marked the high-tide of waste in the country's history—a whirlwind of gambling made popular and respectable. The effects upon character cannot be confused in the up-to-date Saratoga.

A study of the catalogues of Yale and Harvard universities for the last twenty years reveals no alarming symptoms of idleness in luxury among the sons of the very rich. Twenty-three out of twenty-eight of the sons of millionaires whose names are more or less public property, graduated from Yale in recent years, are "working for a living," and in most cases sticking to their offices as if they had no other means of support. In this younger generation are those who are being trained to conserve and foster the vast interests they will inherit, but Cornelius Vanderbilt toiling as a mechanical engineer is by no means the sensational exception the newspapers would indicate.

The inconsiderable sprinkling of the sons of the very rich who have made more or less of an occupation of outdoor sports are neither effeminate nor dissipated. They are unproductive, but they are hardy and self-reliant. The rich young men in the Rough Rider regiment, and the naval reserves of the Spanish War, were not weaklings, mentally or physically.

Facts show that the ne'er-do-well, the spendthrift, and the weakly dissipated son is as heavy a tragedy in the social life of the moderately well-to-do as in the millionaire class. The social efficiency of the sons of the rich will always be handicapped by luxury. Yet, when the highest standard of wealth in this country was a fortune of a million dollars, the tendency to become lazy and self-indulgent was as strong among the sons of the favored class as when the highest standard of individual wealth is a billion dollars.

A grasping tendency to coin money for the mere love of it does not broaden character nor produce as good an effect on society as the habit of spending freely and judiciously. Never before in the history of the race have the obligations of the rich to the poor been so widely recognized as in the United States today. Experience has shown that personal gifts and distribution of money without adequate return is vicious, and that the only safe channels through which fortunes can be distributed are more or less public. In 1895 the total amount of private gifts to public institutions aggregated \$27,000,000. In 1899 it had increased to \$62,750,000, and the high-water mark was reached in 1901 with a total of \$107,360,000.

If luxury be the keynote of life among the very rich, the same tendencies have been working among the well-to-do, yet neither their productive efficiency nor the power of accumulating wealth has suffered. The growth in industry, sobriety, and ability to make economic gain has outstripped the waste expenditure in unproductive luxuries. Wages have been increased, but has the cost of living increased proportionately? Comparative figures for the total amounts deposited in the savings banks of the United States are, by decades:

1880.....	\$ 819,106,937
1890.....	1,550,026,560
1900.....	2,750,177,290

In other words, while the increase in population between 1890 and 1900 was only 22 per cent., the increase in direct savings was 80 per cent. In the previous decade the increase in population was 25 per cent. and in direct savings 88 per cent. While the individual savings increased so much faster than the population, there was an increase in the production of certain luxuries beyond the growth of population. It follows that the public spent more money for luxuries, yet increased their industrial efficiency without signs of demoralization. Some of the channels of outlay, especially significant, with their percentage of increase, are seen in the following table:

	1880-1890	1890-1900
Jewelry	54 per cent.	35 per cent.
Millinery		100 " "
Pianos	100 " "	40 " "
Perfumery	100 " "	75 " "
Silk and Silk Goods	100 " "	23 " "
Sporting Goods	100 " "	50 " "
Cigars and Cigarettes	100 " "	23 " "
Watches		90 " "
Silverware	150 " "	104 " "
Malt Liquors	20 " "	80 " "

Unproductive pursuits in which the number of employed increased faster than the population between 1890-1900 include musicians, 50 per cent.; domestic and personal servants, 33 per cent.; barbers, 34 per cent.; hotel-keepers, 62 per cent.; restaurant keepers, 100 per cent.; valets and maids, 102 per cent.

Foreign travel among the very rich demands increasing luxury of transportation, and suites of rooms on the costliest steamers are filled through the busy season at \$2,000 each for the Atlantic voyage. Yet the rich are a small fraction of the summer travel among the population which can afford this luxury. Last year 70,000 first-class passengers were carried to England and the Continent from Atlantic ports, and the westward business brought 72,000 passengers back in the autumn, a strikingly even ebb and flow. This number is more than double the number carried twenty years ago, or twice as many Americans go abroad for recreation as the percentage of population has increased in that time. If these figures show anything, it is that the growth of luxury, an increase much beyond the pace of gain in population, has not in the slightest degree impaired the economic power of the nation.



Photographed by Miss Ben-Yusuf

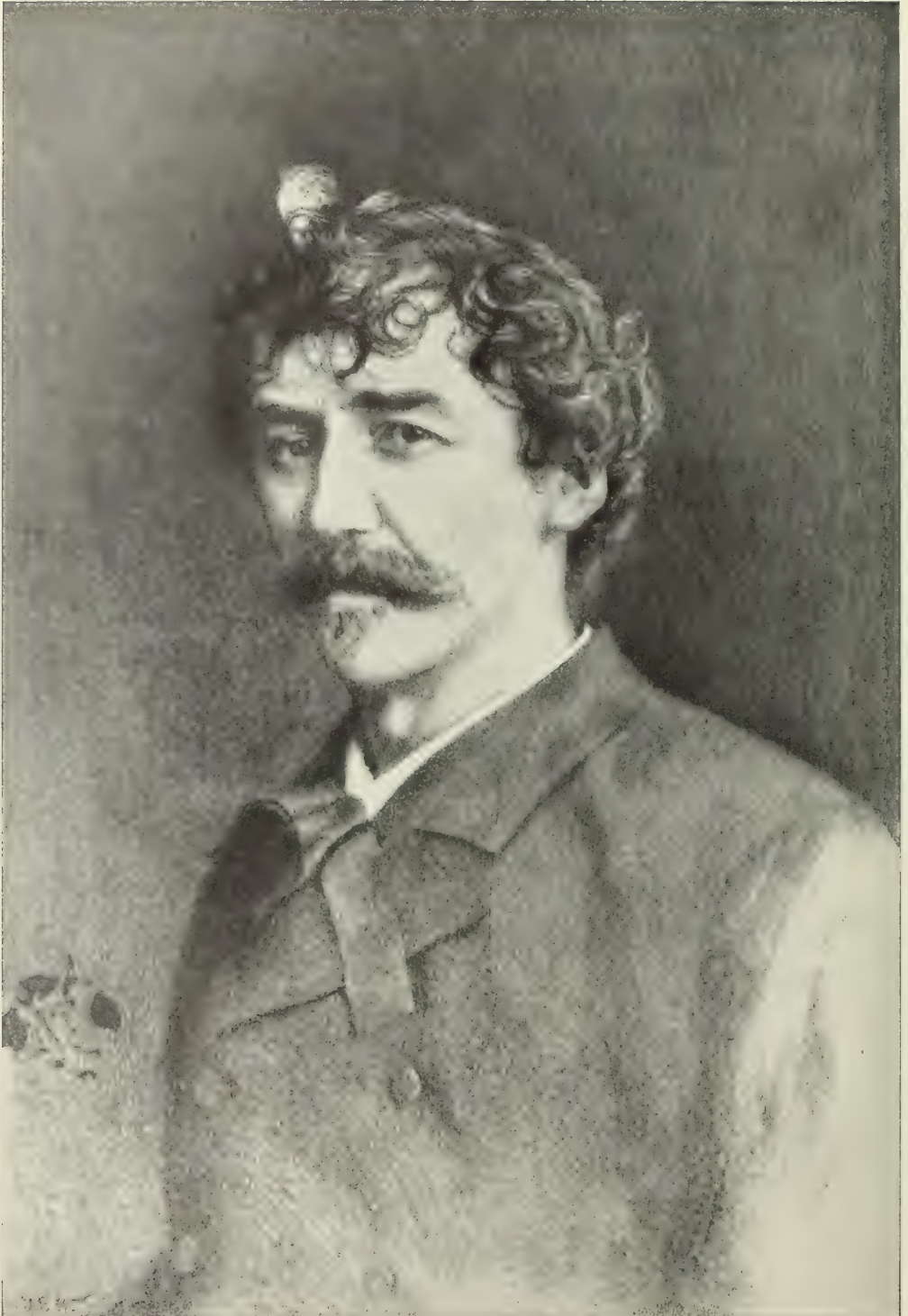
JOHN FOX, JR.

AUTHOR OF "THE LITTLE SHEPHERD OF KINGDOM COME," ETC., ETC.



GABRIEL HANOTAUX

MEMBER OF THE ACADEMIE FRANCAISE, EX-MINISTER OF FOREIGN
AFFAIRS, AND AUTHOR OF "CONTEMPORARY FRANCE," ETC., ETC.



Courtesy of Frederick Keppel & Company

JAMES A. McNEILL WHISTLER

From the lithograph by T. R. Way

THE ART OF MR. WHISTLER

BY

FRANK JEWETT MATHER, JR.

MR. WHISTLER'S notoriety as a wit has somewhat obscured his fame as an artist. In the proverbial hundred years it will matter little that he was a superlatively clever pamphleteer, that he tossed his white plume mockingly at enemies, patrons and friends, that in open court he made a fool of that great writer and good man, John Ruskin; it will matter, though, that he was perhaps the most exquisite artist and unquestionably the foremost etcher and lithographer of his time. By his art, then, he must be judged, and not by more or less legendary anecdote.

His manner of painting is best described by one of his distinguished sitters, Count Robert de Montesquiou. The full-length figure was brushed hurriedly in at a single short sitting. Then followed sixteen agonizing sittings. It would be long, anxious minutes before the poised brush descended and the stroke was made. So by some fifty strokes a sitting the portrait advanced. Nothing was done until the artist had concentrated hand and eye upon the stroke, and the finished work consisted of some hundred accents, of which none was corrected or painted out. At the end, the slender figure of a nobleman stood as if seen in the dusk, and yet absolutely crisp. The innumerable distinct strokes had fused into an apparently simple whole—a simplicity laboriously attained, and only a certain aggressive firmness of pose, sober harmony of color, and aristocratic aloofness of expression told that it was a Whistler. Two things are noteworthy in this process: first, an eye fairly microscopic, ready to grasp the subtlest varying of tone and contour; and second, a mind that out of the ten thousand possible observations chose the few hundred which counted, then recombined them on the canvas in a new image far more salient and interesting than ever the original was. Add to this a capacity for enriching almost indefinitely a generally sober color scheme by the introduction of varied subsidiary

tones and by interplay of the shades of a single color: and you have Mr. Whistler's most striking technical qualities.

Fastidiousness is the prime quality of such an art. The impression is aristocratic where the subject be, as in the etchings, a nude model, Venetian beggars, or a dog kennel. Whistler, in the famous libel suit against Ruskin, told the counsel for the defense that he despaired of making him see the beauty of the "nocturne" under criticism. It is probable that the whole series of "symphonies," "arrangements" and "harmonies," in which he treated evanescent effects of nature and the human form as a mere factor in an arabesque, will ever remain inexplicable and unappreciated. Representing fleeting phases of nature, they assume reality only to him who will study rare natural appearances with Whistler's own pertinacity. Their exquisiteness is incompatible with breadth, and their atmospheric quality too completely dissolves all familiar forms and textures. This gossamer phase of his art will always fascinate the few; I cannot believe that it is as important as it is charming.

It must have been a grief to Mr. Whistler that his single supremely great picture was also his most popular. He insisted that the noble portrait of his mother, now in the possession of the French Government, was merely "An Arrangement in Black and Gray," that it happened to be the picture of a lovely old lady and his mother interested him profoundly, but was no concern of the public's; let them regale themselves with a skilful balance of black and gray masses. The misleading half-truth of this technical description will appear when one peruses this familiar masterpiece. The benignity, fortitude and resignation of old age transpire from every detail. Not less in the curtain which falls softly at the right, hardly less in the black picture-frame which balances the seated figure, than in the austere profile itself and the gently clasped hands shadowed by drooping lace. Painted in the same year,

1872, the Carlyle is very similar in arrangement, tone and sentiment, and only slightly inferior in quality. It hangs appropriately in the Corporation Gallery of Glasgow, where Carlyle was Lord Rector of the local university.

His best tools were, after all, rather the etching needle, the dry-point, and lithographer's chalk than the brush. Exceptionally a great painter, he was habitually a great etcher. Appropriately, his first plate, represented by a unique print in the Lenox Library, was a portrait of himself. He has done greater work than this production of his twenty-third year, but already his mastery of the black line is evident. It is used sparingly, and it always does double service: It caresses the boyish features as it defines them, and it tells of the soft ripple of the long hair while it establishes the solidity of the head. Two years later came the group of scenes from humble life known as the "French Set." Tiplers in the cafés of the Quartier, shopkeepers in the dusk of tiny rooms, were among the subjects which he treated with a graciousness and poetic feeling not always found in his later work.

Then followed, month by month, the plates later collected as the "Thames Set." Here the line hitherto used without great emphasis assumed extraordinary firmness and precision. Tangles of rigging against the sky, barges on Thames strand, tottering buildings on the bank, bridges crazily or securely spanning the tide-way are represented with the care of a Méryon. The art of the work lies in novel but always solid composition and in the accuracy and austerity of the line. He is less concerned with chiaroscuro than in the Paris set, less preoccupied with problems of lighting than in the later Venetian plates. Everything depends upon the pure, continuous line, recording skilfully selected facts; and if the artist has frequently been more engaging, he has never been more masterful.

It would be impossible to enumerate here even the main classes into which his later etching falls. Suffice it to say that they include miniature portraits as winsome as the Paris series, large portraits of less successful execution, nudes as sinuous as the sculpture of Rodin, panoramic views at Venice and elsewhere, finished studies of architecture, sketch harbor and street scenes, and a few very rare interiors in dry-point,

of which the two representing a workman at the forge, by night, must serve as the type. From his fortieth year his manner of etching changed greatly. Forsaking elaborate and relatively crowded composition, he chooses arrangements so simple as often to seem mere notes. The white paper gains against the line, which itself becomes broken into dots and dashes. The needle no longer moves firmly upon the plate, but flicks it nervously here and there. He no longer seeks to portray the literal shapes of things or to affirm their textures, but he undertakes in a thousand ingenious ways to render the motion of clouds, winds and currents, to give the allusion of the shimmer of sunlight or the creeping of fog, the play of light under archways, and of reflections on the water. There are tremulous hours near sunset or sunrise when the land and all upon it seems of one substance with the air. The scene is felt poignantly, for there is a sense that it must soon pass. The sentiment of such scenes Whistler has marvelously caught in the best etchings of his middle period. "Little Venice" and "The Salute: Dawn," for example, seem the very wraith of a dead city rising over the wide lagoon. There is no sense that any hand made them, that a few black lines contain them; domes, palaces, bell-towers exist as in a dream, which a breath or a sound would dissipate.

It is probable, however, that in many of these later plates he required of the etching line rather more than it would yield, multiplied inordinately studies which should have reposed in his portfolios, and generally perplexed not only the Philistines but also his real friends, who feel that his lighter and more capricious sensations found a more perfect medium in lithography than in etching or dry-point. To a small number the destruction of about one-half of his plates would mean a substantial diminution of the pleasures of life. He would be better represented, however, by the part than by the whole. When time has made that selection I cannot doubt that it will be found that he had no superior as a craftsman. It may possibly be said of him that his style not infrequently outran his ideas, and that he falls, therefore, somewhat short of the great creative artists. Is it not enough to have had the best eye and truest hand of his time?

How far was Mr. Whistler an American? The question, I fancy, would have amused him, for he felt his citizenship to be in no visible state, but in the apostolic succession of art. There had never been an artistic nation, there had merely been artists—that was the conviction which made so thorough a cosmopolitan very much of an Ishmaelite. Taken at eight years old to Russia, his impressions of America were those of childhood. From fifteen to twenty-one he was here and there, in desultory study at West Point and in government employ. The remaining forty-seven years of his life he spent mostly in London, which he scorned, moving occasionally to Paris, where he was most at home. Actually a citizen of no country, a portion, at least, of his leading tendencies are traceable to his American origin.

No young man, I believe, ever painted with so little deference for received formulas. Mr. Whistler set out as if the art of painting had begun with him. He consulted only his own eye and hand. To be sure, he borrowed here and there from the Japanese and Velasquez, but in so doing he merely reinforced his personal idiosyncrasies. For

he came naturally by the Japanese assurance in the use of the line and by their pleasure in simple, well-balanced color marquetry, while he had a hardly less penetrative curiosity for character than the great Spanish master. He was remarkably his own exemplar. You might examine all his canvases without suspecting that he began when the men of 1830 were at their prime and lived until the impressionism of the men of 1870 had become a past issue. So fresh and unbiased an entry as his was hardly possible except in an American. French innovators, like Manet and Monet, usually have worked upon some theory conceived in advance. Mr. Whistler simply recorded joyously what his eye selected from reality. English innovators have shown a riotous and unchastened personality, like Turner, or a somewhat antiquarian tendency to readopt outworn methods and forgotten emotion—the Pre-Raphaelites. That first-hand attitude toward a difficult task, and that disregard for accumulated and possibly staled experience, are essentially American. In a less gifted artist than Mr. Whistler they would have been disastrous: to him they give a very high and solitary distinction.

SOME RECENT BOOKS

A DISTINCTIVE KENTUCKY NOVEL

A NOVEL has just come out of Kentucky that is potent with the wine of life. John Fox, Jr., loves every inch of the State, laurel-clad mountains, river valley, and bluegrass, peopled with upstanding men and women of firm American fiber, and the tale he tells of country and people in "The Little Shepherd of Kingdom Come" is drama to make the pulses beat. The bluegrass country saw dark days when Kentuckians who rode with John Morgan fought brothers in the Union Army, and Mr. Fox's story makes the meaning of the ordeal so clear that the book may be called an epic of the neutral State.

It has more than ephemeral value—indeed, there is little that so scrupulous a literary artist as Mr. Fox has done that is not. It is distinctively well written. It is saturated with the spirit of war-time Kentucky—is perhaps as good an expression of sectional

feeling as we have had on a Civil War theme. But the charm of the richly colored style is not for its own sake, nor is the meaning of time and place insistently exploited. To tell the story of Chad Buford, mountain waif, who stumbles on a relative in the bluegrass and then, grown up, leaves his relative, the fine old Southern Major, to fight with Grant against his neighbors, is Mr. Fox's main business. Style and significance are but thread and dye of a fabric whose *raison d'être* is its pattern. And seldom does one meet to-day so fresh and moving a story, with so entertaining a mixture of traditional Southern refinements and the picturesque crudities of mountain life, the fire and dash of war, and the softer play of social motives and love.

There is much delightful humor in Mr. Fox's picture of his hero Chad as a boy, straightforward, alert, devoted, competent to land on his feet wherever he finds himself.

The reader chuckles with pleasure when the boy, on his first visit to the "settlemints," buys the old brown mare at the auction and later in mountain fashion says "Don't care if I do" when Major Buford facetiously offers him whisky—to the Major's unbounded surprise. But blood tells in this mountain foundling. Intellect, dignity and fine feeling grow with the years. The courage the little boy shows when he and his dog first fight their way in the world becomes later adventurous manhood that reaps its reward in the Civil War. The steady development of a Southern gentleman from a waif, who unknowing was the son of a Southern gentleman, is Mr. Fox's problem. And the success with which he artistically works it out results in a novel that is the best thing Mr. Fox has done, and not the worst of the few distinctive works of fiction published this year.

THREE VOLUMES FOR THE ANGLER

WHILE every sportsman must feel indebted to the Macmillan Company for the three volumes which cover the angling section of the "American Sportsman's Library," one cannot help feeling that the books would have been more successful if they had not attempted to cover the less important game fishes so minutely. The editor has, in the main, made ideal selections of writers, and if the space given up to the innumerable Western trouts, to the groupers, channel fishes, etc. (much more fully covered in a recent comprehensive scientific work on our food and game fishes), could have been devoted to actual experiences with the dozen or so important varieties, and especially to a summary of existing fishing conditions and waters, the books would have been far more valuable. In spite of this, however, no wielder of the rod will want to be without "Salmon and Trout," by Dean Sage and William C. Harris; "Bass, Pike and Perch," by James A. Henshall; and "Big Game Fishes," by Charles F. Holder.

Mr. Sage has, of course, the place of honor in dealing with the Atlantic salmon, and he makes excellent use of his chance. His chronicle of this prince of fishes is delightful reading, and is full of instruction and suggestion, drawn from thirty years of experience—sufficiently varied to have brought the author to that state of wisdom regarding this ever-mysterious fish at which

his most devout followers have always arrived: namely, that of knowing that in his life history, in his taking of the fly, in his feeding habits, he is still a mystery. The second section of the book, on the Pacific salmon, is singularly remote and uninteresting, possibly because the sporting side of the Coast salmon is overshadowed by the commercial importance of the yearly \$13,000,000 catch.

The trouts are described by the veteran angler and editor William C. Harris, and after he has finished with the bewildering array of cutthroats, steel-heads, and so on, he gives several admirable chapters of character study and of advice as to equipment and angling methods, winding up with a dissertation on fly-tying. It seems rather remarkable that the volume should devote a hundred pages to trout species which nine fishermen out of ten would never hear of, yet have not a mention of the landlocked salmon, which is rapidly becoming one of our standard game fishes and which is second only to *salmo salar* as an angling prize.

Doctor Henshall is, of course, the one great authority on the black bass, and has every right to feel some pride in pointing out how conditions have changed in the twenty years since his classic book practically created a new game fish in the shape of the "large mouth" and "small mouth." Naturally, his fifty pages on this subject cannot add much to what he has already given us in his two famous volumes; but he also treats at length of the pikes, perch, whitefish, groupers, bass, and other less well-known fishes.

Perhaps the most novel contribution to angling literature of the whole series is Mr. Holder's exciting account of the sea monsters who have only recently been brought under dominion of the rod and line. Himself the originator of tuna fishing some twelve years ago, Mr. Holder tells of the capture of these acrobatic giants (the "record" now stands at 251 pounds) in a manner to stir the blood of every sportsman. And there are others: black sea-bass weighing "six or seven hundred pounds," fierce barracuda, yellowtail, king fish, tarpon, leaping shark, drum—the author has personal experience of them all, and tells his stories with a vivid reality which is delightful. It is truly a unique and fascinating book, and it must remain for a long time the standard authority for these

adventurous anglers who go down upon the sea in small boats in search of sport. Probably nowhere else can the novice obtain such detailed and accurate information as to the equipment necessary for this newest development of angling. Mr. Holder's tales are so extraordinary (as he himself says) that it is particularly unfortunate they should be accompanied by such illustrations as appear in this volume. The artist has drawn freely upon his imagination, anyhow, and when to this is added the absurd exaggeration of the "three-color" process of reproduction, the result becomes quite unworthy of a serious book on sport.

A NEW VIEW OF CONTEMPORARY FRANCE

M. GABRIEL HANOTAUX quotes President Thiers as calling the readjustment of France at the end of the Franco-Prussian War the most important crisis in all French history. In this Thiers was not far wrong. And M. Hanotau, witness himself of the troublous events of 1870-73, could find no better field in all the world's affairs for the difficult kind of literary treatment such a book as "Contemporary France" inevitably demands than that wonderful recuperation presents. It is chiefly because the events of the presidency of Thiers were so universally dramatic that M. Hanotau's new volume can be read so avidly and with so great pleasure.

For strictly it is not history even in its pretensions. M. Hanotau, who for three years was Minister of Foreign Affairs and who is one of many eminent Frenchmen who combine political activity with literature, naturally gives French color to his treatment of the German diplomacy in the war settlement; and, a party man himself, he can scarcely be said to hold the balance true in discussing the motives of men whose policies still live. Thirty years cannot give historical perspective. Moreover, M. Hanotau doubtless knew that with these inevitable limitations—he is evidently quite aware of them—a conventional history of mere events would be a dull thrice-told tale. "Contemporary France" is therefore not so much a history as a vastly entertaining historical discussion. Frequently knowledge of historical events is taken for granted—the author simply alludes to them and then proceeds to give his explanations, his exposures of motive

and his commentary. But both narrative and discussion are deeply interesting and often brilliant.

This first volume—the second will appear in the fall—is essentially the story of President Thiers from his assumption of power at Bordeaux, while the Germans were still besieging Paris, to his enforced resignation in 1873. His wise statesmanship, his victory over the Commune, his remarkable efforts in paying the war indemnity to Germany, his political maneuverings and his political troubles provide the motive of a drama of which all France is the stage. Bismarck looms up forbiddingly, a harsh and blighting figure, in the background. Gambetta circulates pyrotechnically about through the provinces, fanning the fire of Republicanism. The Count de Chambord sits aloof in cold dignity and chills the monarchists who would place him in the president's chair which should become a throne—though this is not enough to hold the monarchists back from hounding Thiers unthanked to his downfall. The Vatican at a distance adds to the President's problems. And if Thiers, amid all his difficulties, looms a greater figure than M. Hanotau's estimate would make him, it is because the author's picture is more compelling than his final judgment. A purely political narrative, dealing with the government and the assembly and their joint activities, the book necessarily throws Thiers into high relief and gives him thus an unquestioned dominance. M. Hanotau will treat the phases of the French rebuilding, other than the political, in his second volume.

The effect of this work is to throw a vivid new light on modern France. Internationally it drives home the fact that the loss of Alsace and Lorraine will never be forgotten. M. Hanotau closes a chapter thus:

"Let every French citizen always keep before his eyes the sum of the debt which under different forms was contracted by France for the extraordinary expenses of the war, from 1870 to 1872:

"Ten milliards five hundred and fifty millions (\$2,110,000,000). Such is the burden which merely on the side of the loans, the consequence of the war of 1870, weighs upon the fortune of France, upon the liberty of France, upon the fortune, the independence of every citizen.

"We were very proud in 1871 and 1872 of the success of the two loans; we might be prouder still, if, after the lapse of thirty years, they were paid back."



A DAY WITH A RURAL MAIL CARRIER

A FEW minutes before nine o'clock the rural mail carrier hitched the mare and wagon near the post-office. The morning's mail did not arrive until nine; so he stepped into the feed-store and asked for the amount of his bill. Then, sitting down on a bale of hay, he did some rapid figuring:

Blacksmith's bill for month.....	\$ 3.00
Feed bill " "	17.00
Veterinary service " "	2.00
Harness repairs " "	1.75
Interest on equipment " "	1.25
<hr/>	
Total.....	\$25.00

He groaned inwardly at the figures. The last item particularly worried him, for it meant the interest on a note at the bank—a note for \$250 which must some day be paid. With that borrowed money he had, three months ago, purchased two horses at \$90 each, a wagon for \$50, and harness and blankets costing \$20. He shuddered to think of what would happen if one of his horses should die or go permanently lame, or if the wagon should be smashed to pieces in a runaway.

"For," thought he soberly, "there's little enough left from my \$50-a-month salary after the \$25 operating expenses are paid. Our rent costs us \$8—which leaves only \$17 for groceries, meat, and other living expenses."

At ten o'clock he started on his twenty-two-mile journey. The day wore on. He sold stamps, postal cards, and money-orders, cashed a small cheque or two, and delivered one "special delivery" letter that took him some little distance out of his way. For this last favor the Government allowed him an extra remuneration of eight cents. At other houses he answered complaints, took orders for various errands, and received one subscription for a daily paper. In one mail-box he found a piece of nice cake wrapped in paper, and in another box he found a threatening note from a man who "didn't get a letter he expected."

When the noon hour arrived the rural

carrier was ten miles from home. But the sun was shining, and rest was at hand. At a certain farmhouse he stabled and fed his horse, and then sat down under a tree to eat his own dinner. Afterward, he began to read the *Rural Free Delivery News*. The advertisements were especially interesting to him:

"We pay big money to rural carriers for information," stated one Chicago firm. "No soliciting, no work—just a little thinking and a few moments spent in writing us a letter."

"Kind friend," read another offer, "if you will send us your name we will mail you a very interesting proposition. . . . It is an honest offer to you to increase your earnings by assisting us in distributing literature concerning our business."

Other advertisements read:

"*Mr. Rural Carrier:* This is a direct personal note to you. In you we recognize an important factor in the further extension of our business. . . ."

"Every R. F. D. carrier writing to *Smith's Farmers' Magazine* will receive an interesting proposition that means money in his pocket."

"Carriers! Increase your income by writing insurance. For agency, address —"

"One postal card may earn any R. F. D. carrier a month's salary. Merely send us the names of persons contemplating building a farmers' telephone system. . . ."

"We want information regarding people who think of migrating West. . . . Liberal terms. Rural carriers, write us!"

"Attention! You can make big money taking orders for our household goods on your rural route. Write for catalogue and special proposition to rural carriers."

"We have a number of dairy specialties that appeal to farmers, and we can offer you liberal commissions for selling our goods. . . . Write for particulars."

"Listen! We will pay you well, Mr. Rural Carrier, to deliver free samples of — to farmers along your route. . . ."

"Twenty-five dollars for a postal card! Carriers, this is your opportunity. We

manufacture the best corn-husker and shredder on the market and desire to be placed in communication with prospective customers. It will take but a moment of your time to send us such names on a postal card. We will make a record of the names received, mail advertising matter to the parties, and, if necessary, send a representative to see them. If we make a sale to any of the parties whose names you furnish, we will pay you a commission of twenty-five dollars on each sale."

"Whe-oo-oo!" whistled the rural carrier, with hungry eyes, "this is getting interesting!"

During the return trip he carefully re-read each advertisement. At four o'clock he arrived at the village post-office and, stretching his stiffened legs, entered the building and worked faithfully at the task of getting the afternoon's mail in readiness for tomorrow's trip.

Afterward he attended to various commissions and errands, one of which took him into the general store of Jones & Knaak. Mr. Jones seemed unusually grumpy. "Why!" said he, "this rural mail idea is goin' to ruin the business of the small town merchants. Farmers don't come to town an' buy as they used to—they either give you carrier fellers the order, or else send through you to some big city mail-order house. Fust thing we know, the entire rural business of this country will be in the hands of a few thousand rural mail carriers!"

The rural carrier journeyed home to supper feeling unusually sober and thoughtful.

"Hang the rules and regulations!" he finally ejaculated as he turned into the yard. "A man has got to live. . . . If Uncle Sam doesn't want us to do honest business 'on the side,' why in tarnation doesn't he pay us enough to live on?"

That night the rural carrier sat up late, writing letters. . . . He had joined the vast army of Uncle Sam's unheralded commercial agents.

HOW ROYALTY ADVERTISED A BICYCLE

THERE is hardly a standard article of export that is not surrounded by a business romance. The writer created a market in northern Europe as early as 1894 for American bicycles and other specialties. Scandinavia was my first field. I had a stock of 500 high-grade American bicycles at \$110 apiece to dispose of within four months. I advertised—to have the natives pilgrimaging to our headquarters in droves, but not buying. All admired the cycles, but all were afraid to ride. Wooden rims

and single-tube tires alarmed them. Several prodigiously fat men were therefore prevailed on to purchase against a heavy discount, and proved to be practical advertisements. Moreover, finding that no racing men of repute could be induced to race our make, I entered races myself, and as my wheel was from seven to ten pounds lighter than the European makes I had no difficulty in holding my own at first and finally winning as I pleased. Then I was permitted to send Prince Christian, a nephew of the Czar of Russia, a wheel on approval, with which he entered into an impromptu race with his paternal uncle, Prince Waldemar, and beat him. Then Waldemar rode Christian's wheel and beat him. Their royal highnesses at once admitted that it was "in" the wheel, and forthwith gave us their order. The aristocracy followed suit, and by the next season a bicycle was not a bicycle in the popular estimation unless it had wooden rims and single tires.

MAKING SUCCESSFUL FARMERS OF CITY FAILURES

WHAT a broken-down man, to whom city life has proved a millstone can do in the country if he has a chance is shown pretty plainly in the success of the Salvation Army's farm colony at Amity, Colorado. If a man is thought worth bothering with, he can borrow enough money from the Army to take his family all the way to Amity. Here he goes in debt to the Army for ten or twenty acres of good farm land at the rate of \$60 an acre. Next, he is given two cows, a team of horses, pigs, chickens, a wagon, lumber for a house, and seeds for his first planting. When the value of all these things, which is about \$500, is added to the cost of the little farm and the railroad expenses, the prospective farmer owes the Army between \$1,200 and \$1,800. This debt, including interest, the new colonist is supposed to pay off in ten equal yearly instalments. If he cannot pay some years, he simply gets more time. One colonist paid off his entire debt a year ago, and the colony was only started in the spring of 1898. After a man has got out to Amity he is usually almost penniless; so until he harvests his first crop, the colony hires him at \$2 a day to make fences, dig ditches and do odd jobs.

Colonel Howard, of the Salvation Army, and the first fourteen colonists, with their families, had to sleep in box-cars the first night they were at Amity, and then in tents until they got their houses up. It was a motley crowd, all hard up, mustered from all sorts of occupations. Ten of these men came

from Chicago and hardly knew one end of a plow from the other. The other four had had farming experience, but had drifted into city life. The capital stock of experience of the whole colony was centred in these four men and in what Colonel Howard knew about farming, which he says was not much.

This is what one man has accomplished. Five years ago, at fifty years of age, he was earning \$3 a week in a Chicago sweat-shop as a tailor; he has now one of the finest farms at Amity, where he grows alfalfa, which yields him a good living, and in addition to this he has a coal business in the village which amounts to \$600 a year, and an equally prosperous shoe business as well. Another colonist before going to Amity had to support his wife and six children on \$7 a week in Chicago. He has now a well-stocked twenty-acre farm. He has also purchased a lot in the village on which he has built a confectionery store, which his wife tends. Still another farmer, with a family of ten, used to get \$12 a week in a Chicago railroad yard. During his first year at Amity the Army loaned him \$5 a week for support. He has recently built a \$2,000 store, which he manages along with his farm.

In five years, the value of the property at Amity has increased from \$81,000 to \$200,000. The town has now some fifteen stores, three schoolhouses, a depot and a newspaper, the population of the colony being about three hundred. Last year the colony did \$200,000 worth of business, \$50,000 of it being in freight shipments. The principal crops are cantaloupes and sugar beets. The Salvation Army has similar colonies at Fort Romie, California, and at Herrick, Ohio, which, though much smaller, are successful.

A NEW SOURCE OF GOLD

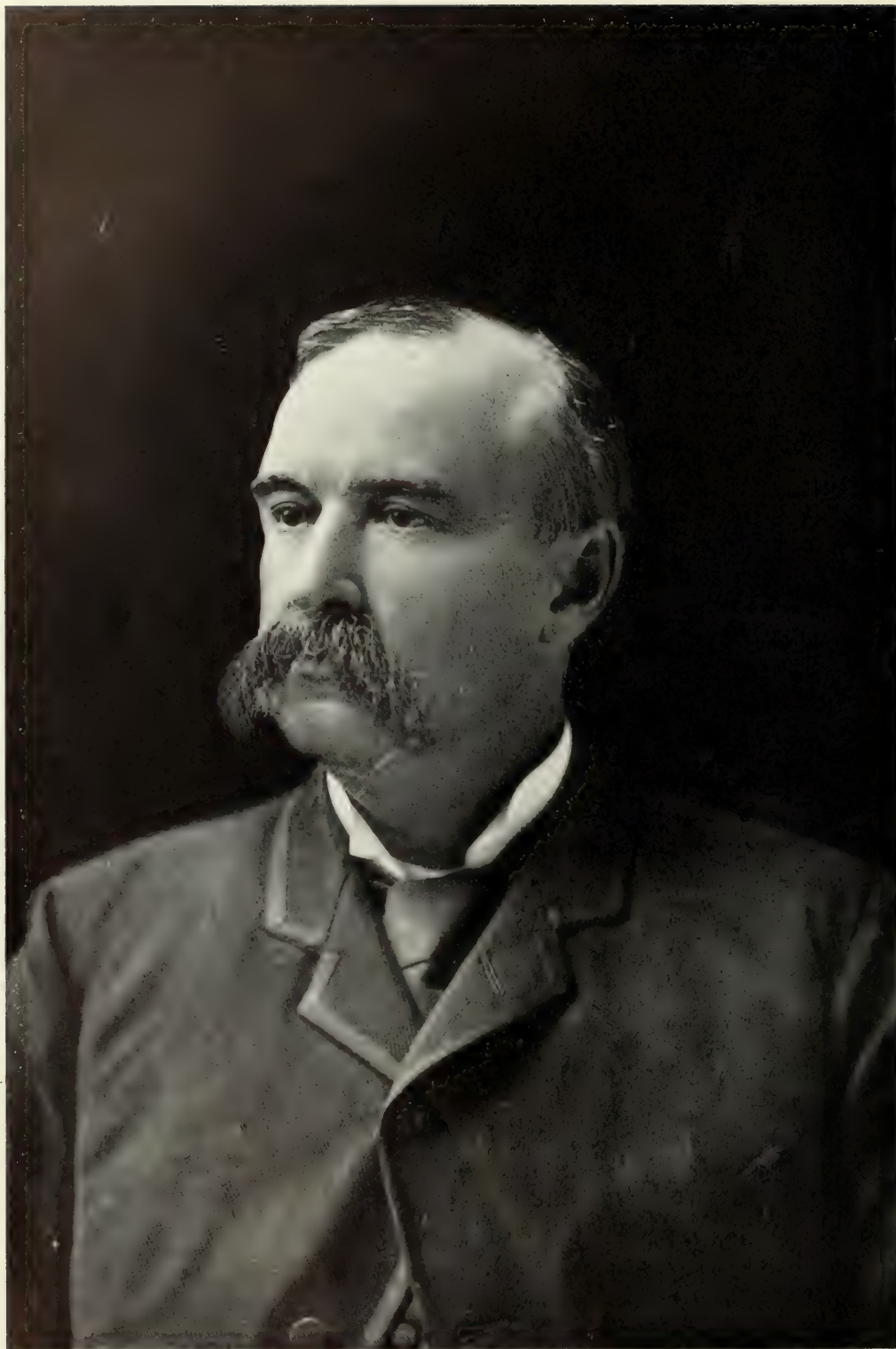
THOMAS A. EDISON has announced an invention for winning gold from placer sands without "washing." Gold-bearing sands have hitherto been cradled, or swished through flumes with riffles to catch the gold, or dredged—especially in Australia—by a machine which takes the gravel up from river bottoms or swamps and separates the gold in riffled flumes on the dredger. But in the United States alone there are nearly 100,000 acres of gold-bearing sands in desert regions where the absence of water makes the ordinary methods impracticable. Thus the need of the invention, although, to be sure, there is the century-old Mexican riffle-board. Grooves or ridges are constructed transversely on a long board which

is shaken and joggled. A current of air from a bellows blows the sand the length of the board and out, while the heavier gold settles in the grooves and is swept out at intervals.

During the past year there has been a revival of interest in dry-placer machines, due in part to the practical stoppage of wet-placer operations in California because of the débris discharged on top of the fertile farm lands lower down the streams, and partly to the announcements of new placers of great richness discovered in California.

In the new invention for working such placers as these a large volume of air is blown through a horizontal pipe against and through a transversely placed wire screen, to split up the air, so to speak, and equalize the pressure, thus avoiding eddies and back currents. The regulated air current next meets a falling sheet of placer sand, and catching up the particles which are lighter (usually the sand), carries them over to the further set of open shutters placed transversely to the pipe across its bottom, whence it is diverted into a separate discharge hopper. Other shutters and hoppers placed nearest the ore sand entrance catch the heavier gold particles and carry them into the locked gold-drawers, the intermediate shutters catching the gold-bearing black sands.

Most inventors of dry-placer machines would appear to have reasoned—"Sand and gold, the latter eight times heavier than the former—any kind of specific gravity separator will do!" But it will not do. Most geologists agree that placer gold has been deposited from gold-bearing solutions. Something in the sand caused the gold to stop or precipitate there. These precipitations grew with the passing ages and replenished the solutions, until sometimes the original gold attractor was completely replaced, wherefore today we have flat or ovoid nuggets. Other gold particles fell off the gold collector either by later abrasion of sand on sand or by unequal precipitation, and these flat shimmering gold scales provide the "flour gold." Thus any good dry-placer machine will save the majority of the coarse gold nuggets, a very few will save a part or all of the black sand and gold, but none of them has yet succeeded in recovering the "flour" gold. But for that matter, "flour" gold saving is the gold-worker's great problem in any process. In dry-placers "flour" gold seldom represents less than 30 per cent. of the total gold content, the coarse gold ranging from 40 to 70 per cent. in weight, while the black sands, if present, contain from nothing to 30 per cent. of the gold, and sometimes an overwhelming proportion.



JUDGE GEORGE GRAY OF THE UNITED STATES CIRCUIT COURT

A POSSIBLE DEMOCRATIC PRESIDENTIAL NOMINEE

Photographed by Clinedinst

(See "The March of Events")

THE WORLD'S WORK

OCTOBER, 1903

VOLUME VI



NUMBER 6

The March of Events

MR. ROOT has been most fortunate as Secretary of War, and good fortune in this case, as in most others, means an energetic use of a great opportunity. He took the portfolio that General Alger put down in a confusion that was akin to disgrace. The lack of preparation and of organization which the little war with Spain revealed in our army was scandalous. The memory of it smells of fever-camps and bad beef.

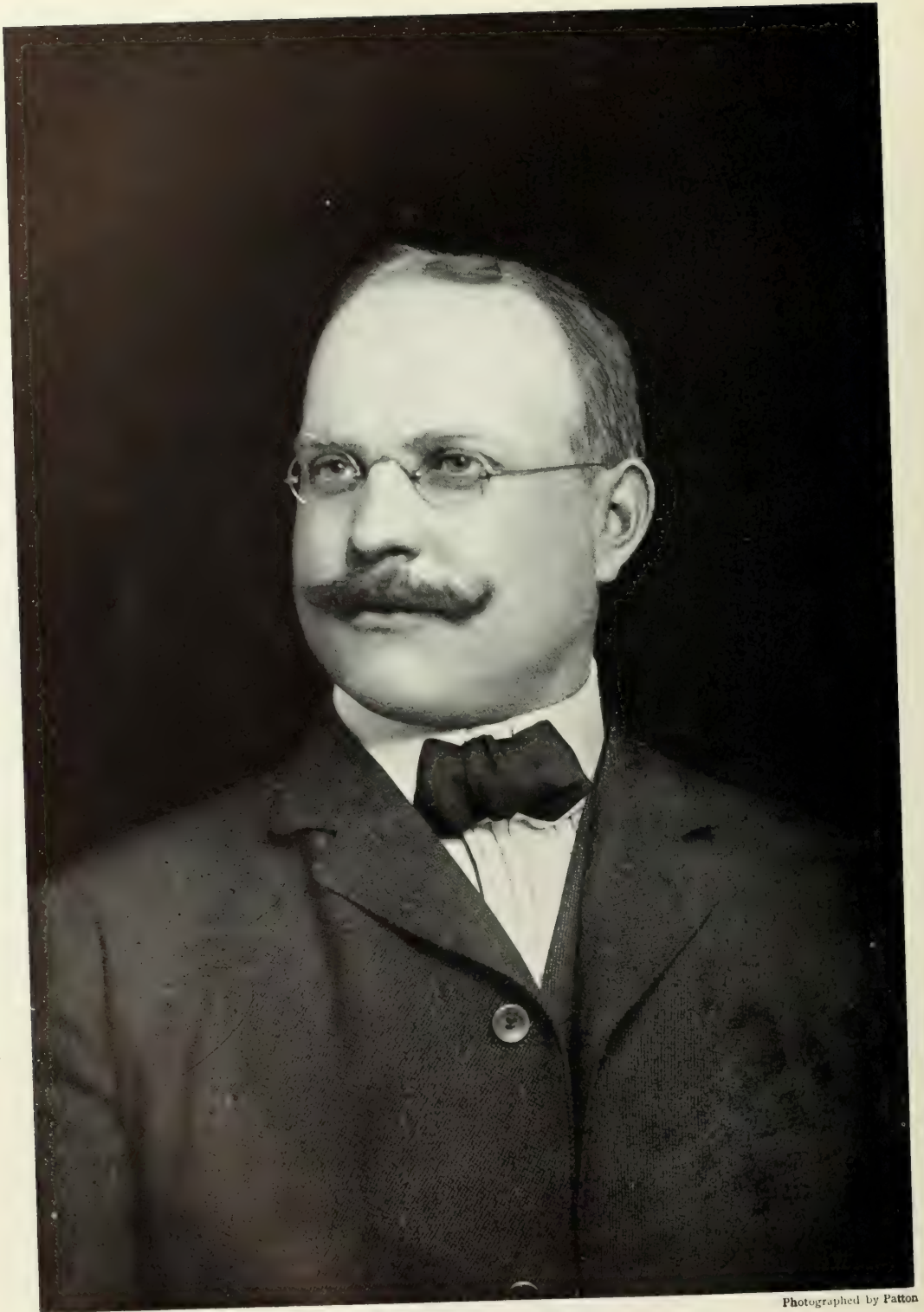
He went to work to make a reform from top to bottom. He brought to the task not military training (there were army officers who could supply that), but a much more important quality—the ability to put a comprehensive plan into effect. Even to make a comprehensive plan was difficult, but it was far more difficult to carry it out. Congress was divided. One modification was favored by one man or one group of men; another by another. Meantime a troublesome insurrection was going on in the Philippines. Whatever the Secretary of War might do, he would provoke sharp criticism. There was no conceivable kind of difficulty that did not present itself—public criticism, Congressional confusion and ignorance, factions in the army, the practical trouble of carrying on war in tropical jungles, an antiquated and long-entrenched organization, and a general ignorance both of the necessity

and of the difficulties of army reorganization. Here was the chance, if there ever was one, for a resolute and untiring man.

The sweeping plan of reorganization included the creation of a General Staff (which is the recognized and now usual instrument of army administration), the establishment of military training-schools in the places of mere army posts, preparation for the constant instruction of officers and of men, and the co-ordination of the State militia with the regular army in a way that would mean readiness and efficiency. This was put through Congress by the most patient and tactful management; and all the essential features of the plan have now gone into operation. We have no longer an anomalous lieutenant general commanding the army, but a practical staff through which every President, as the constitutional and necessary commander-in-chief, may keep close to it.

Our peace army now provokes neither war nor—contempt. It is a compact, active, ever-ready, small organization, which is kept at work drilling, practising, studying. There could now be no repetition of the shameful unreadiness and mismanagement which caused great loss of life in camp during a little war that was almost harmless in its battles.

By this achievement, clear-cut and now complete, Mr. Root made a historic place for

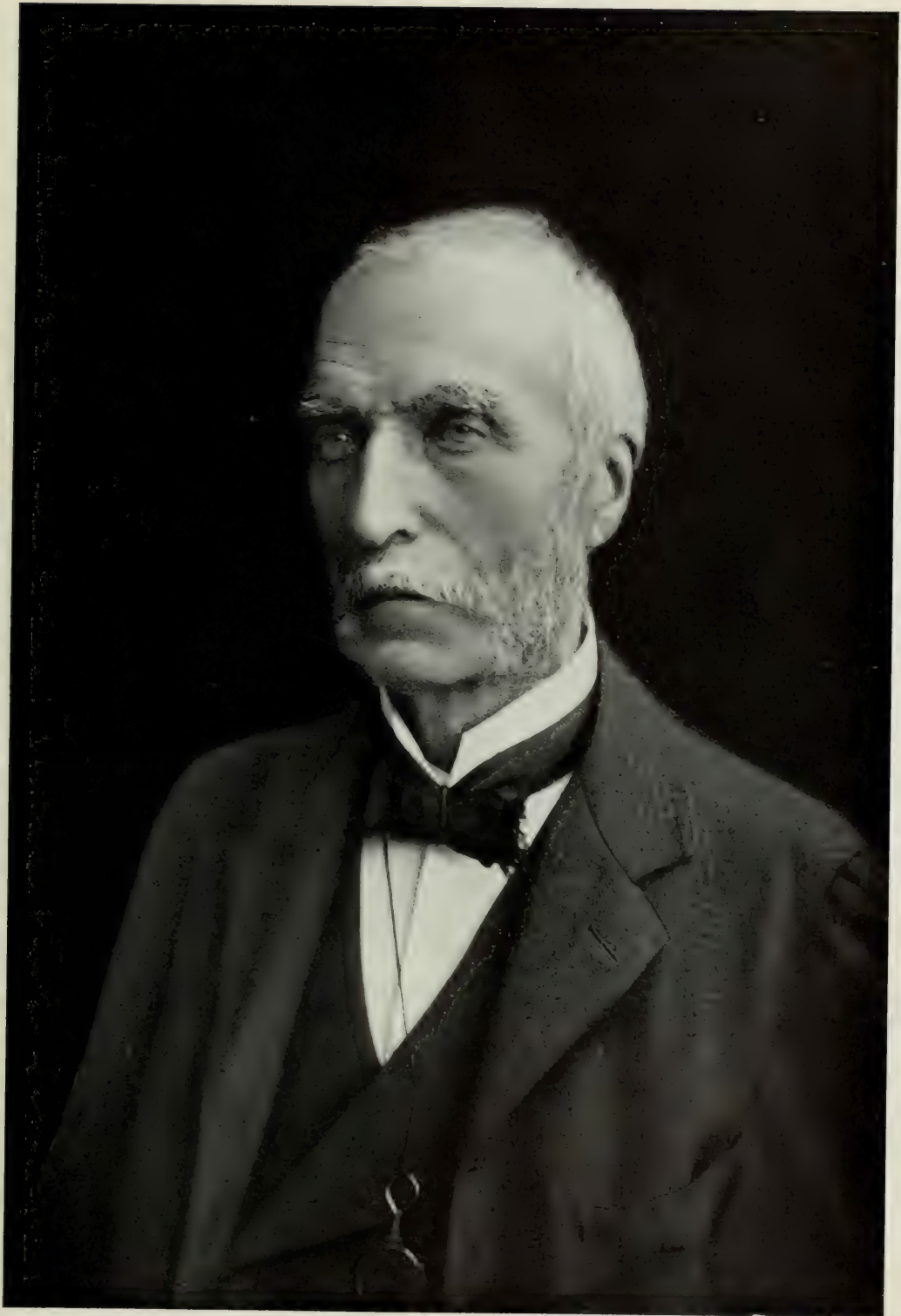


Photographed by Patton

WILLIAM E. COREY

THE NEW PRESIDENT OF THE UNITED STATES STEEL CORPORATION

(See page 4025)



PROFESSOR GOLDWIN SMITH

Photographed by Dixon

(See "The March of Events")

himself among our Secretaries of War and in the history of our military management, and he showed a strength of purpose and an ability to do a hard and complicated task that mark him as one of the noteworthy men of our time.

GOVERNOR TAFT'S PHILIPPINE SUCCESS

MR. TAFT will come from the Governorship of the Philippines to the Secretaryship of War fitly and auspiciously. The vast territory and its millions, whose government he has shaped and directed and in a sense created, will continue to be somewhat within his administrative range. The President's Cabinet will have a man not only of admirable general qualities, but of successful experience in our colonial administration. For this reason, if there were no other, his call to the Cabinet is a wise act of the President.

The close of Mr. Taft's career as Governor of the Philippines ought to fix in the public mind a strong confidence of our success with this difficult problem; for, like almost all other problems in government, it depends on the right choice of men. We may have good intentions and excellent plans, but inefficient men will thwart and change them. We were fortunate to send a man to take up this Philippine burden who has proved equal to it and who has, indeed, made a new chapter in the government of distant dependencies, and demonstrated not only the possibility but the practical certainty of our ultimate success in this new field of government.

If we had failed at the outset to establish civil government there, we should have lost much of the world-influence that we gained when we accepted this responsibility. Other governments and a part of our own people were waiting to see the effort fail. But Governor Taft so won the confidence of the people over whom he ruled as to provoke their loyal protest against his resignation even when he was offered a seat on the Supreme Bench of the United States. He has planted the idea of self-government and of American methods, of order, of industry and of development—of American living and working in general—in an Asiatic country. His has been the most important definite service done in our new departure in government; and correspondingly he has earned the gratitude of the whole country.

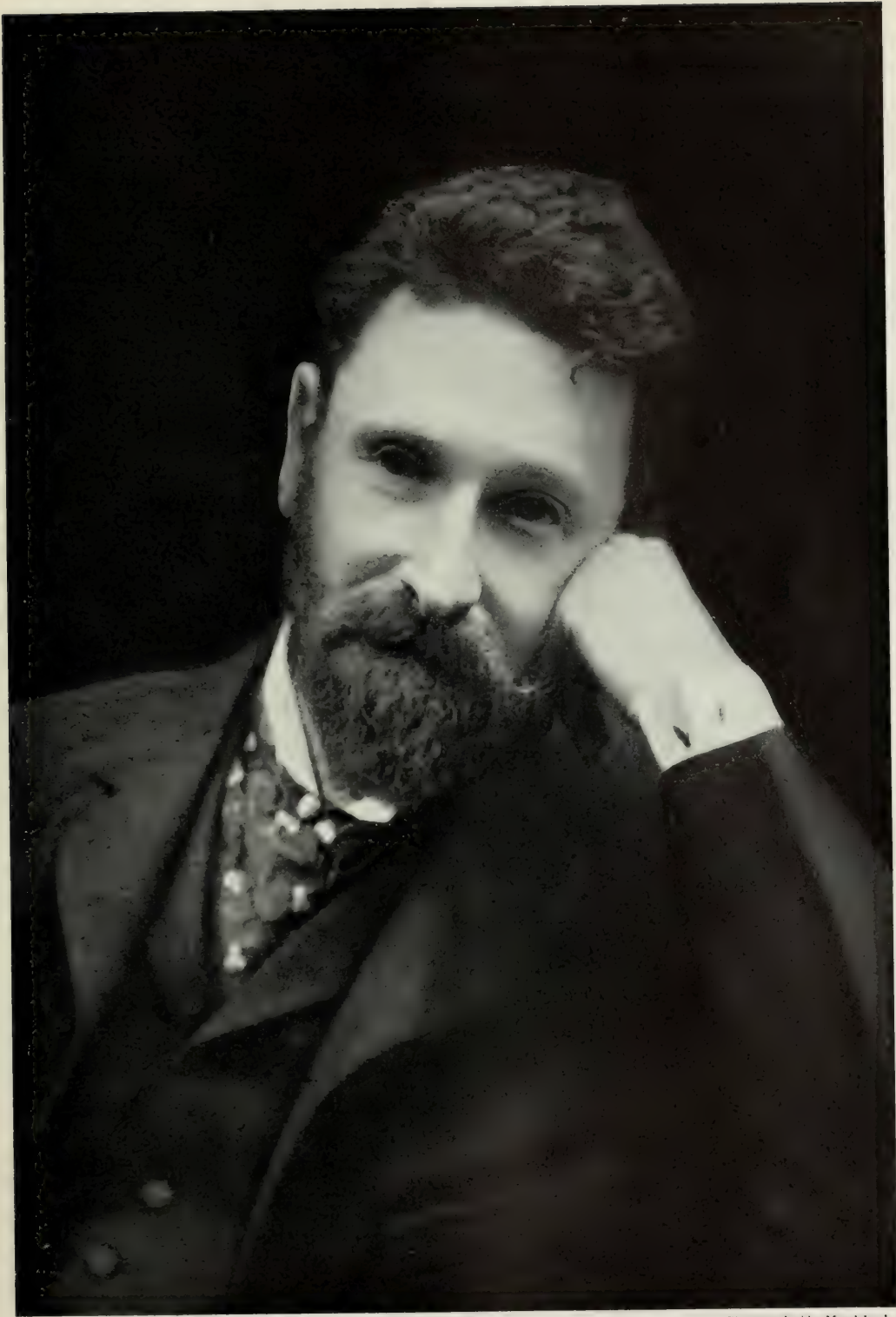
WILL THE DEMOCRATIC PARTY SPLIT IN TWO?

THE fall comes with great quiet in national politics. Mr. Roosevelt has so obviously won the Republican nomination next year that those members of his own party who would like to see him miss it have not been able to range themselves about a candidate or an idea. Sometimes at Washington and sometimes in circles of small professional politicians you may hear grave opinions about his "reckless" speech or his mistakes in political management; and sometimes in the circles of political reformers you may hear how he has departed from his old ideas and built up a party machine; but whenever you hear the voice of the people, especially in his own party, you hear admiration of him and approval of his administration.

Those who privately criticize the President most harshly and those who publicly applaud him most loudly doubtless alike overstate their case, as partizans are likely to do; but his conquest of his party seems so complete and his election so certain that there is yet an almost dense indifference to the Democratic nomination. All talk about it is yet mere speculation. One of the possible movements to win the party leadership may be for Mayor Tom L. Johnson, of Cleveland, now the Democratic candidate for the Governorship of Ohio.

On his gubernational campaign the odds are against him, on account both of the dissatisfaction in his own party and of a constantly increasing Republican majority in recent years.

But Mr. Johnson is an extraordinary man. A disciple of Henry George, a free-trader, a man of wealth, a sound-money man who voted for Bryan, a radical Democrat—some would call him a sort of Socialist. As Mayor of Cleveland he has conducted the city government in an energetic and businesslike way; and his chief efforts have been toward the widening of municipal activities—toward the ownership of street-railways, for example; yet it was out of street-railways that he made his own fortune. Nobody doubts his earnestness, but his political enemies see in his doctrines and in his campaign methods which they regard as sheer demagoguery. His friends approve or excuse his methods as the straightforward, if unconventional, way of impressing the forgotten masses. He has

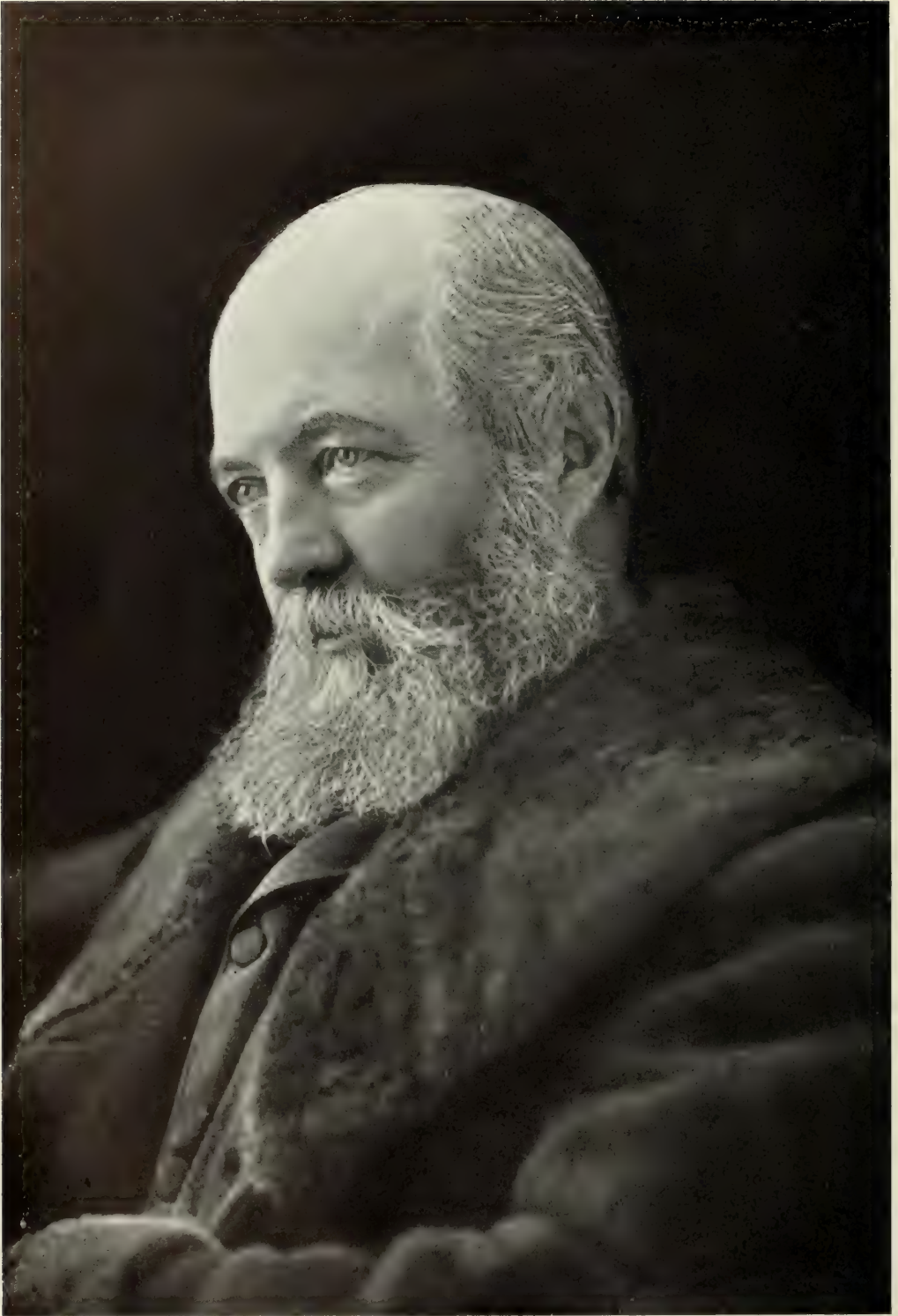


JOSEPH PULITZER

Photographed by Mendelsohn

THE FOUNDER OF THE COLUMBIA SCHOOL OF JOURNALISM, NEW YORK

(See "The March of Events")



THE LATE FREDERICK LAW OLMSTED
THE MOST DISTINGUISHED AMERICAN LANDSCAPE ARCHITECT

(See "The March of Events")

strong convictions, he has courage and he has had much political experience. The danger to him is that the conservative part of the Democratic party would not follow him, but would put up another ticket if he should be chosen as the Democratic presidential candidate.

On the other hand, if such a conservative man as Judge George Gray of Delaware should be nominated, who has always been a sound-money Democrat, and is, therefore, "an Eastern gold-bug" as seen from Nebraska, the Populistic part of the Democratic party might make another nomination. Judge Gray has had a distinguished career as United States Senator, as a member of the Paris Commission that settled the terms of peace between our Government and Spain, as a Judge of the United States Court by President McKinley's appointment, and as Chairman of President Roosevelt's Coal Strike Commission.

The anti-Imperialists have found fault with him because, being opposed to "expansion" when he accepted the appointment as a member of the Peace Commission, he afterward voted for the purchase of the Philippines—"under pressure," they assume—and thereafter accepted a judicial appointment from Mr. McKinley. To an independent mind this criticism seems extremely partizan. An open-minded man who opposed expansion as a mere intellectual proposition would have found overwhelming practical reasons for the purchase of the Philippines when he came face to face with the problem that presented itself to the Commission. It was the only practical way out of the difficulty. If Judge Gray did his duty conscientiously then (and there is no doubt he did), there surely was no reason why he should refuse a judicial appointment later at McKinley's hands. His conduct may have shown not a wavering and pliable disposition, but an open-minded courage. Criticism of him on this score seems distinctly narrow.

If Judge Gray should be nominated in spite of his sound-money opinions and his residence in a small eastern State, he would again give dignity to Democratic leadership and prepare the party for the interesting campaign in 1908, when it may easily be in a position, if it live and act wisely in the meantime, to again come into power.

MR. ROOSEVELT AND THE CRIMINALLY RICH

A LITTLE cloud, noticeable but hardly ominous, on the wide horizon of the President's popularity, floats up from Wall Street. The newspaper spokesmen of the "criminally rich" show a disposition to lecture him. They express the hope that he has now repented of his sins in enforcing the anti-trust law—since a great crash in stocks came.

How serious such pleadings or threats are can yet hardly be known. They may mean that it will be hard next year to collect a large campaign fund. Or they may mean only a suggestion to Mr. Roosevelt that six months of courteous quiet on his part will be highly appreciated. Or they may mean that the new Department of Commerce and Labor ought to be conducted in a noiseless and undisturbing way. Or they may have a still subtler meaning. A little lecturing of the President now may be a way of informing the public that they are hostile to him—with the aim of making him still more popular for the present. If a little later this show of hostility cease, the public may thereby be invited to infer that the President has "surrendered."

But, whatever the meaning of these "nagging" attacks, the public interest in them lies rather in the insight they give into the state of mind of the rich corporations than in their practical bearing on the President's future. Mr. Roosevelt has one quality that shields him very effectively from this method of attack, and that is his frankness. Even those who think that he has made serious mistakes prefer the errors of a candid man to the best judgment of those who work by indirection. Mr. Roosevelt's strength with the people has always been his straightforward way. He is the kind of man that it is hardest to hurt by attacks from behind. One great secret of success in public life is the kind of enemies that the gods sometimes give a public servant.

MR. ROOSEVELT, MR. JEROME AND MR. FOLK

CONSIDERED merely as a working quality, frankness is sometimes worth more in the fortunes of a public man in a democracy than good judgment itself; for the man who deals openly with the people almost always wins them, especially if there be a little dash in his candor.

There are three conspicuous men who have proved the value of this quality. The President is one. For every critic of his manner who complains that he talks too much and too "recklessly," there are hundreds of men who like to hear what he thinks, and who are won by his ways. They would rather he made mistakes than worked in a silence.

Another such man is Mr. Jerome, the District Attorney of New York County. He had friends who were sure that he would ruin everything by his outspoken methods during his campaign two years ago, when he called a spade a spade and told the men of his own social rank that they were worth nothing as citizens. When he broke into gambling-houses, and sat on tables smoking cigarettes while he questioned the prisoners, there were men who were sure that such "direct" methods would bring "reform" into contempt. But Mr. Jerome has steadily gained in popularity as the people have come to understand his earnestness and his straightforward methods. They always know where to find him; and they like him for it.

Of a quieter temperament, but of the same direct, courageous method, is Mr. Folk, the District Attorney in St. Louis, who, by his prosecution of the "boodlers," has probably won the governorship of Missouri. He talks little and never loudly. But he takes the public into his confidence, and he moves on straight lines, not by curves.

No man deserves especial praise for being honest or frank, but the frank and courageous man who can be himself in public has a great advantage over the man who must take on a sort of official tone and manner. The public judges him more generously and forgets and forgives his mistakes. A democracy likes to see and to hear its leaders and its heroes, and it is pleased when they take it into their confidence. Yet this fundamental principle of public success is not a thing that may be adopted at will: it is determined by temperament. The men that are born with it win more easily than the silent bosses, and they win higher success.

SOME FRUITS OF OUR RULE IN THE PHILIPPINES

LIFE in the Philippines is yet necessarily a long way from a satisfactory political, industrial or social state. It may never reach a high stage of development accord-

ing to American or European standards, and for many years the people will need firm and gentle guidance. Among the masses of them anything like a real civilization has yet to be evolved, and this is a slow process. What American control can do is to bring orderliness and training, and to encourage and regulate the development of the country. It is enough for the present if this work goes on in the right spirit and in the right direction.

It has now been five years since the American occupation of Manila, but it has not been two years since civil government was thoroughly established over a large area of Luzon and of the rest of the archipelago. But many significant changes have come to pass during these five years.

Most important of all, the people who under Spanish rule were suspicious of all foreign peoples and influences have become convinced of the straightforward American intentions—at least, the best and most intelligent of them—and they are in a frame of mind that permits development; they take part in their own government; they have a public school system with more than 4,500 teachers and 250,000 children enrolled in the primary grades; roads have been built and more will be, and railroads will follow; the sanitary condition of Manila is improved and will be wholly changed by works that will cost \$4,000,000; the islands have a trans-Pacific cable, and a boat service to formerly practically inaccessible parts of the archipelago; they have 250 post-offices instead of thirteen, as under Spanish rule; and five years ago the total trade with the United States (exports and imports) was less than \$4,000,000, and now it is more than \$15,000,000.

GIVING GOOD CONSULS CAREERS

THERE has been a long agitation by chambers of commerce and similar bodies, and by civil-service reformers, for the application of the merit system of appointment to our consuls. Consulships are yet spoils. They are nearly all filled by favor. American editors, lobbyists, political colonels, writers of campaign literature and defeated candidates for minor offices girdle the earth. Many of them are good officers, too. But their excellence is not due to our system of appointment. It is due to the happy fact that an active American politician in a foreign land

finds it easier to be useful than to be idle; and his common sense, even if he has not had training, stands him in good stead. It is easy to think that our consuls are worse than they are; for many of them are the best in the world. But it would be hard to find a worse way to appoint them than we have, and it would be impossible to find more humiliating misfits than some of them are.

The President has made the announcement that he will hereafter fill the more important consular posts with men who have had experience. In other words, he will keep good men in the service by promotion, and will fill the lower places with men "especially qualified to advance the trade interests of the United States." The consular service ought to give careers to good men—it ought to have an approximation to permanence; and it ought to be as completely divorced from politics as the scientific bureaus are. Such a policy will keep in the service the good men who have now had experience and make careers for them, and the recruits will be of the kind that will add to the efficiency of the service.

HOW THE NEGRO RULES IN MISSISSIPPI

ALL men of liberal opinions in the South agree that the nomination of Major Vardaman as the Democratic candidate for the governorship of Mississippi, which is equivalent to an election, is a long step backward. Governor Longino, the present executive, is a man of liberal opinions, and under his administration the State has gone forward in the development of industry and in the spread of popular education, and has gained enormously in the respect of the whole country. Its public school system is now the best in the South.

Many of the Southern States now have as governors men of courageous liberality. Governor Aycock in North Carolina, Governor Frazier in Tennessee, Governor Montague in Virginia, Governor Heyward in South Carolina and Governor Longino in Mississippi stand out as worthy representatives of the best life and tendencies of their commonwealths. It is doubtful whether the Southern people fully appreciate the great effect on the mind of the whole nation that the character and temperament of these Governors have. They make the South an integral part of the whole country. On convivial

and social occasions we talk about the unity of the country and the rapid progress of these States—both happy commonplaces and both fortunately true. But talk is mere froth on the surface of action, and the thing that counts is the elevation of the right kind of men to places of honor and power.

When, therefore, the dominant party in Mississippi at this time of day returns to the United States Senate a man like Senator Money and puts in its executive chair a man like Major Vardaman the whole country feels discouragement.

Major Vardaman has made a campaign on the Negro question only. Sweet Heaven! is there any originality or progress in that? He would have the school fund divided between the races according to the amount that each race pays in taxes—an impossible proposal without changing the constitution of the State. The paucity of thought and the narrowness of mind that were shown in the campaign are indicated by the report that the President's dealing with the colored postmistress of a Mississippi town a year or more ago was one of the chief subjects of discussion. Grant, if you wish, that the President made a mistake (the nation has wholly forgotten the incident, and no man with serious things to think about can now recall it)—have the people of a great commonwealth nothing more important to discuss than a Negro woman and a country post-office? The post-office incident was a mere excuse, for this very Major Vardaman declaimed against President McKinley, just as he has declaimed against President Roosevelt. The Negro is his subject under any administration. And since the Negro has long been eliminated from politics in Mississippi, what has become of the other political subjects that were going to engage public attention when white opinion should be free to divide on political policies?

The truth is, such a man could never have become Governor of Mississippi if he had not had the Negro to declaim against. He, therefore, really represents a sort of Negro rule. Which is the more honorable—to win power by the votes of ignorant blacks or by denunciation of them? In either case the Negro is the dominant fact, and he rules the thought of Mississippi today. Vardaman is the reaction from the carpet-bagger. The only difference is—one wasted the substance

of the commonwealth and put the bottom rail on top; the other prevents the growth of the commonwealth and lets the whole fence rot.

But it would be a narrow view of Southern life which should see permanent discouragement because of such an incident. The cheerful facts are the remarkable changes wrought by the men of industry, of educational management and of liberal thought, who within recent years have done heroic things in Mississippi. They stand for forces that may suffer temporary opposition, but they can never suffer defeat. Their achievements can the better be appreciated by this reminder of the difficulties against which they have to contend; for the Vardaman type of man is simply one type of the man who has lived in isolated ignorance.

A REST CURE FOR THE RACE PROBLEM

ELSEWHERE than in Mississippi the Negro continues to be the subject, as he has been for a hundred years, of much unbalanced and superfluous exercise of mind. An eloquent southern man—Mr. John Temple Graves, of Georgia—proposes to deport the blacks to the Philippines. The only new idea in this proposition is the Philippines; for there exists a venerable deportation society which has never been able to deport them. One objection to the plan—and it is objection enough—is that they will not go.

Since there is no danger of their going, a society has been organized in the South to oppose their departure, and eloquent reasons are advanced against a movement that does not move. Since the plan of emigration to Liberia has failed, a man of serious mind sends to this magazine an argument to show that Liberia is a most attractive place to the American Negro; and, since the census shows an increase of our colored population from four and a half millions in 1860 to nearly nine millions in 1900, it is argued in a statistical journal that the race is dying out. Since nothing is more absurd than talk of "pensions" for the freedman, Senator Hannia "by request" introduced a bill in the Senate to pay them pensions, and unscrupulous rascals have been collecting money from simple Negroes to advance this measure.

Since "movements" for or about or against the Negro seem inevitable, much might be said in favor of a Society to Suppress

Theories about the Race Problem. A perfectly sane and patient judgment of the whole subject is rare, in the South or in the North; and, when you find such a judgment, you find a man, whether he be white or black, who is silently doing what he can to help both the white man and Negro patiently and justly to work out their destiny—where they are, as they are, under existing conditions, without wild theories or revolutionary plans. A decade or two of silence and just dealing would be worth all the theories and debates that have for a century made the literature of the subject a storehouse of hysterics and wild notions.

THE CAREER OF A LABOR BRIGAND

THE career of Samuel J. Parks, "business agent" of the Housesmiths' and Bridgemen's Union in New York city, shows how crude some labor organizations yet are—how they are yet in their raw, rough, brigand period, far from a state even of orderly or scientific warfare. Parks, who came from Ireland a grown lad about twenty years ago, roamed westward and found himself in the lumber-camps. By physical courage he won his way and made a reputation by his fists. By temperament a bully, he developed qualities of leadership. From the lumber-camps he went to Chicago and became an ironworker, and at this trade he worked in many cities till he found it easier to handle men than to handle iron. He came to New York a stranger seven years ago, and he soon began to consolidate the unions of ironworkers. By uniting them he won the gratitude and the loyalty of the men. He overcame one rival after another, again using his fists when necessary. He has used physical force to maintain himself as a labor leader, as he used it to maintain himself as a lumberman.

Under his energetic and pugnacious management the wages of the men have been forced up from \$2.50 to \$4.50 or \$5 a day. He has probably ordered more strikes than any other two men living, during his seven years' rule. Regarding the conflict simply as war, and since he is a fighter without scruples, he found it natural to insist, when a strike was ended, on payment by the employer for "waiting time." Waiting time is the time the men were on strike. By this method the employer loses, however the

strike be settled. From payment for waiting time to payment to prevent a strike is a short and easy step. Parks thus went from taxation to extortion. His career as a labor brigand lasted a surprisingly long time, for the cowardice of building contractors in New York seems to have been remarkable. But at last he was tried and convicted of extortion and sent to the State prison. Released on "a reasonable doubt," he is under bail till he shall be tried again.

He is ill with tuberculosis, and there is little wonder that many men of his union remain loyal to him. They have profited by his energy; and, having accepted his code, they show the gratitude of its beneficiaries. But it is a melancholy end of an energetic career, and its moral is too obvious to point out. Leadership of this kind does not fit into a civilized community which has a penal code.

A NEW EXPERIMENT IN DEALING WITH LABOR TROUBLES

THE extraordinary and melancholy story of Parks is, luckily, not a typical story. Few labor-unions have such leaders, and the method of "graft" has not been generally adopted. Every man who really knows labor-union life will agree that the experience of the ironworkers and house-smiths in New York is exceptional. But in New York and in Chicago the taking of money by extortion has come somewhat naturally to leaders of many sorts of organizations during the years of corrupt police practice.

But the activity of men of the type of Parks, most of whom have been less daring and reckless than he, has caused a new step to be taken in several cities in the defensive organization of employers. The Chicago Employers' Association, under the management of Mr. Job, recently Labor Commissioner of Illinois, is undertaking a service to the community that may have important results. If an employer, who is a member of the association, has a strike, the association, if it take up his cause, saves him from defeat. Other employers will do his work for him, will fill his contracts for him, and will keep his engagements for him. Nothing less than a universal strike in a trade in a city can cause any employer serious inconvenience; and, in the case of a universal strike, the

employers, if they hold together compactly, will have the advantage of the strikers.

The association has other functions than defense. It undertakes a fair regulation of the labor troubles of its members. It has daily meetings—in its first period of experiment. It advises members. In some cases it recommends an increase of wages. It has had a scientific estimate made of the increased cost of living in Chicago during the last four years, which is sixteen per cent., and it recommends a corresponding increase in wages over the wages of four years ago. It favors "open" shops. It takes up every case as it arises and gives whatever advice or practical help it thinks proper.

The members of the association regard it as a distinct advance over arbitration boards and boards of inquiry and publicity, for it has behind its recommendations a definite fighting power analogous to the fighting power of the federated unions of labor.

The long and hard experience of Chicago may have produced in such an organization a regulating power that will bring peace by doing justice. The success of it, as of most other organizations, will depend on the wisdom of its management.

THE PANAMA CANAL AND THE STATESMEN OF BOGOTA

THE isthmian canal bill, passed by the last Congress, commanded the President to procure the Panama route under certain conditions; or, failing in this, after a reasonable time to take the Nicaragua route. A satisfactory agreement was made with the French Panama company to take its work and franchise for \$40,000,000; and a treaty had to be made with the Government of Colombia. A proposition which our Government considered liberal and a treaty touching the control of the canal and all the questions growing out of it were promptly submitted to Colombia, and they have for some time been before its Senate.

The reports that have come from Bogota have been confusing—that the treaty had been unanimously rejected, that the rejection was a preliminary formality to ratification, and much other such nonsense; that it was an insult to Colombian dignity, that it was contrary to the constitution of the country—contradictory and incomprehensible reports except on one supposition, that the Colombian

Government was indulging in the circumlocution which hints of a demand for more cash. Such a conjecture has been made perfectly clear by the Panama Canal Company which informed our Government early in September that Colombian authorities proposed to the Canal company a division of the \$40,000,000 which it will receive from the United States.

The treaty may yet be ratified by Colombia, but the incident throws light on the Colombian way of doing business. There is nothing in it all to surprise those who know the methods of some of the Central and South American statesmen. But their childish "smartness" is now singularly unhappy; for, if the country should miss this chance and the United States should choose the Nicaragua route, the isthmus at Panama would remain uncut till the end of time. A strip of uncut isthmus after a canal had been cut elsewhere would be as poor an asset as could be found anywhere in the barrens of the world.

The act under which the President proceeds is as follows (in part):

"That should the President be unable to obtain for the United States a satisfactory title to the property of the new Panama Canal Company and the control of the necessary territory of the republic of Colombia, and the rights mentioned within a reasonable time, and upon reasonable terms, then the President, having first obtained for the United States perpetual control by treaty of the necessary territory from Costa Rica and Nicaragua, upon terms which he may consider reasonable, for the construction, perpetual maintenance, operation and protection of a canal connecting the Caribbean Sea with the Pacific Ocean by what is commonly known as the Nicaragua route, shall through the said isthmian canal commission cause to be excavated and constructed a ship canal and waterway."

The President may begin negotiations for the Nicaragua route whenever he pleases, or he may wait for the statesmen of Bogota to come to their senses.

TURKEY AND THE CONSCIENCE OF CHRISTENDOM

THE acute disorders in Macedonia are simply another chapter in an old story. Turkey has lost one European province after another, and the turbulent Macedonians hope to be the next to be rid of oppression.

There is always disorder there. It is

estimated that 60,000 Christian peasants have been driven out or have fled for safety within a dozen years. The Turk deals with them in the Turkish fashion. Since the disturbances became acute in the late summer, we have read of the sacking of villages, the murder of women and children, and of the practical extermination of the population in some settlements; and the usual extortion and outrage go on. The revolutionists themselves punish their countrymen who will not join them; and their leader is a desperado. The fertile land is reputed to be almost a waste, and not less than 30,000 and perhaps 50,000 men, women and children are reported to have been killed in recent months.

This were enough if this were all, but the international complications make the matter worse. The chief business of the semi-independent State of Bulgaria is to foment the Macedonia revolution, for Bulgaria would annex Macedonia. When this summary is written, there is, therefore, more or less danger of open war between Bulgaria and Turkey.

This would be bad enough, if this were all. But the matter extends further. Servia, too, where King Peter holds his uncertain throne by the grace of a most atrocious assassination, is, by her own will or by instigation, apparently willing to join the anti-Turkish side in war.

Nor is this all, nor half, for the great powers have both jealousies and responsibilities. It was they who erected these "buffer" kingdoms between Russia and what is left of European Turkey, to prevent Russia from taking Constantinople. For this reason England took the part of Turkey in the Berlin Congress in 1878, preferring Turkey on the Mediterranean to Russia.

Every great soldier and every diplomat in Europe has predicted that a general war will have to be fought about Constantinople; for the conscience of Christendom will at some time demand the expulsion of the Turk. But the jealousies of the European powers will prevent his expulsion till the conscience of Christendom demand it loudly. In the meantime, the question is whether Turkey can put down this Macedonian insurrection without stirring universal public opinion to action.

The confusion becomes worse confounded still when it is remembered that, if anything can be worse than Macedonia under the

Turk, it would probably be Macedonia joined to Bulgaria. The experience of most of these Balkan States that have achieved freedom or semi-independence is not encouraging. The people are incapable of civilized government. If the Turk were driven away, the atrocities would be fewer, but the whole question of the government of these peoples of many races and many religions would still be an unsettled one. It is the worst governmental problem within the immediate responsibilities of civilization.

HOW THE BRITISH EMPIRE WAS IN PERIL

THE publication of the report of the English Commission of Inquiry into the conduct of the South African war (in three blue books of 1,700 pages) has thrown all England into indignation and shame. The revelations are almost incredible—that there were no field-maps when the war began of the territory where it was fought; that the rifles were wrongly sighted so that a man could not shoot accurately; that 60,000,000 rounds of ammunition were useless; that there were no adequate hospital equipments; that the very cavalry swords were worthless; that there was no plan, no preparation, no exact knowledge of the enemy or of his country. The War Office was unorganized and wholly inefficient. One of the Commissioners has declared that “only an extraordinary combination of fortunate circumstances, external and internal, saved the empire in the early months of 1900.” General Buller told the Commission that if, when the Boers invaded Natal, they had succeeded in reaching the sea, they would have received open aid from a European power. Every high officer bears similarly damaging testimony. General Buller was hampered by the War Office, which failed either to approve his own plans or to give him definite instructions; General Kitchener declares that many of the officers were incompetent; General Wolseley says that he was stripped of real power; and so on indefinitely. Nearly 500,000 troops were engaged, and England itself in 1900 was left almost undefended by any land force. The integrity of the British Empire was in the gravest danger. Even a little untoward event might have happened which would have thrown the whole world out of gear and changed the relative power of the nations.

The political effect also of these revelations is serious, for every member of the Government except Mr. Chamberlain seems to have been involved in criminal negligence.

The fundamental defect in the English Army is the appointment of officers for social and political reasons. Whether any government will be strong enough to remedy this defect in a time of peace seems doubtful.

The English shudder will make us thankful that our little peace army, which also had rusted and was disorganized when our war with Spain began, has now been reorganized and is well equipped.

THE IRISH LAND BILL THAT GIVES HOPE OF PERMANENT PEACE

THE most important contemporary re-adjustment of a people, the lifting of a country from stagnation to progress, will be the inevitable result of the Land Bill passed by the recent British Parliament. It will not be clear for some time how efficiently the measure will work, for in some details it does not suit the Irish tenants; but it cannot fail to be beneficial. The British Government has shown great earnestness in settling this problem at a time when its colonial difficulties have laden it with a staggering burden, and it has shown wisdom in settling it so well. Sir Anthony McDonnell's drafting of the bill and Mr. George Wyndham's piloting of it through the House showed both sense and skill.

The problem was to offer landlords an inducement to sell, and tenants an inducement to buy, the little farms that form the bulk of the agricultural land of Ireland, in order to transform a tenant peasantry into a nation of freeholders. And the change had to be made without too heavy a cost to the British taxpayer.

The plan provides that the Government buy land from the present owners and sell it to the present tenants. By Gladstone's land bill of 1881 the rents of Irish lands were made subject to periodical reductions, one of which is soon to fall due. The rent rate to go into force at this approaching reduction was taken in Mr. Wyndham's bill as the basis for determining the price of lands. A tenant now paying say \$500 a year may acquire his farm, if the landlord will sell, by paying the British Government \$400 a year—the rent he would have to pay after the approaching

reduction. He will pay \$350 of this \$400 for sixty-eight and one-half years; the other \$50 must be paid perpetually; for a clear title is not given. Here is a strong inducement to buy. The farmer can acquire what is to all intents and purposes ownership by paying annually less than his present rent. And what is the inducement to a landlord to sell? The Government will pay the owner at once the rent of \$350 capitalized at $3\frac{1}{4}$ per cent., the \$50 rent capitalized at $2\frac{3}{4}$ per cent., and a bonus on these two sums of 15 per cent.—making in all about \$15,000. Here is the landlord's inducement to sell—cash which can be invested at a higher rate than he is now getting, without the proverbial worry of collecting Irish rents.

The difference between what the Government receives from the tenant and what it pays the landlord is estimated to amount to a burden on British and Irish taxpayers of not more than \$1,950,000 a year, part of which will be saved in economizing the cost of Irish administration. The net cost to taxpayers outside of Ireland will be only a little more than \$600,000 a year. The loan floated to start the scheme and to keep it going will be secured by Irish land and the Irish exchequer. The British Government thus holds a mortgage on Ireland for the money lent.

The Irish objection to the bill has been that the landlords are to be paid too much. On the other hand, there are some landlords who will not sell at the price offered. These facts may somewhat hinder the success of the plan. Moreover, it is extremely probable that bad agricultural years will cause agitation against the payment of installments, for sixty-eight and one-half years is a long time to look ahead, and much may happen in the interim. On the other hand, largely because of the coöperative enterprises started by Mr. Horace Plunkett, the Irish farmers were never before so contented. The Irish, too, though traditionally turbulent, have been turbulent because of their resentment at injustice. There is now a strong feeling that the Land Purchase Act is an effort by the British Government to give Ireland justice at last, and a new Irish attitude is very likely to follow. There will be squabbles in plenty, but there is every probability that Ireland will soon become, like Denmark, a country of small farmholders.

PIUS X. AS POPE

PIUS X. is a line officer elected to the supreme command of an organization that traditionally chooses its head from the staff," is the way a well-known American Catholic prelate sums up the significance of the new Pope's election. Even in the brief term that Pius X. has thus far enjoyed he has appeared the democratic working priest reverently assuming the responsibilities of a great office without abandoning simplicity of life, rather than the ecclesiastical diplomat preparing to put into practice plans long matured in the atmosphere of the Papal Court. And already the feeling has begun to spread through the Catholic Church all over the world that the organization has been drawn perceptibly closer together. A magic influence stiffens an army whose officers and men can feel that their commanding officer is one of themselves. It is no less so with a church. The rank and file feel assured of sympathy and understanding. The first Pope of humble origin in more than a century, Pius X. has already become a force toward the extension of the democratic spirit—which means the American spirit—in the world.

It is hard to overestimate the subtle, far-reaching effect throughout the millions of priests and communicants of the Catholic Church of the little stories of the new Pontiff that come weekly from the Vatican. None of the dignity of ecclesiastical form is omitted in the official ceremonies in which he shares. But privately he meets visitors with an air of simple and affectionate goodfellowship. He walks in the Vatican gardens unattended. It is reported that he continues his old habit of smoking. Evincing no lack of competency, he still carries his high office as if it were a heavy burden. Here is unfeigned modesty. Practicality asserted itself when he began the reorganization of Peter's Pence, the papal revenues. And though many guesses have been made, no sign has yet come from him to indicate what the papal attitude will be toward France and Germany and Italy. Indeed, the Catholic supposition is that, after all, the new papacy will be less interested in political questions than in ameliorating the condition of the great Catholic masses. As priest, as Bishop of Mantua, and as Patriarch of Venice, he made the poor his dearest care. As Pope

he will scarcely change his main Christian interest.

He is reported to be ignorant of the English language, but well informed about American affairs and interested in American ideas. His elevation *per se* is not likely to bring about another American cardinalate, but another red hat for the United States, through his gift, or even two or three more, would only be a consummation that the strength of the Catholic Church here has made for some time a foregone conclusion. It is not so much pomp and splendor of ritual that appeal to the American Catholic imagination, as democratic practicality of administration; and because the new Pope shows every indication of giving this—if his weak health permits the maximum of his activity—his rule will doubtless please the American body of the Church better than would an administration by any one of the three prominent candidates before the recent conclave. The Catholic Church is growing in the United States—it never showed more vitality. Catholics are good citizens. A democratic spirit throughout their church and a mutual sympathy between them and the Vatican will prove a strengthened force toward the unification of humanity.

THE GREATEST TRAGICOMEDY OF HIGH FINANCE

GREATLY to the sorrow of an interested and much amused public, the Humbert trial has at last come to an end. The principals have been sentenced to terms that seem absurdly short to us Americans, and the world has seen the partial unraveling of the greatest hoax and swindle of recent years.

In the late seventies a gypsy girl married Frederic Humbert, the son of an impecunious lawyer who was later to be the Minister of Justice of France. They were poor as church mice until Gustave Humbert, the father, became Minister and a great banking house failed because of something he did. Immediately after this great failure the younger Humberts began to live ostentatiously in a great house on one of the boulevards. There had always been an air of mystery about the money that they had fallen heir to: it came from a rich but eccentric old Portuguese, whose ships were counted by the score, who had great vineyards, and who had three per-

cents.—the best of all things in French eyes. Later an estate was obtained in the wine country by fraud, and the legal actions taken by the defrauded owner disappeared into the waste-paper baskets of the Minister of Justice. Then this place was mortgaged, and with a small part of the money obtained, a great estate just out of Paris was bought on a part payment plan; one payment only was made. So things went, buying on memorandum and selling for cash, until finally the average yearly borrowings amounted to about \$4,000,000. Law suits were constant, and the story of the Portuguese merchant began to be threadbare, so Gustave, the Minister, drew up a document describing a rich American, and a will, and two other legatees, and millions of dollars, and it went through the law courts, thanks to the Ministry; and so established legally the existence of a great American legacy. In France the duties of a lawyer are divided so that it takes two men and sometimes three men to do the same thing, and each has to accept what the other tells him as being true. This involved system gave an opportunity to the Humberts to carry on a legal quarrel with the non-existent Crawford heirs in America that lasted for fifteen or sixteen years. This law case was always in the courts, and was manipulated one way or another as it was deemed most expedient in handling the negotiations with this or the other creditor. One day, however, a wary creditor looked up the Crawfords in America and found that the address given as theirs on Broadway was non-existent, and that no one had ever heard of such a rich man or men. The Humberts were taken unawares before the proper strings in the Ministry could be pulled, and one day they fled to Spain, only to be brought ignominiously back to stand trial and be sentenced to terms of imprisonment.

Much of the interest of this *cause celebre* has centred in the amazing credulity and gullibility of the moneyed men whom the Humberts at one time or another have fleeced to the tune of something like \$30,000,000. We have had our Miller syndicates, our industrial stock flotations, and even our Ferdinand Ward, but a parallel to this swindle we have not had, and it is doubtful if we ever could have. Our moneyed men have not the Frenchman's good-natured and

careless *bonhomme*. Can any one imagine, in this country, a rich man of the type of the creditor jeweler, Roulina? Believing honestly in the Humberts, he had loaned them 1,000,000 francs (\$200,000), and, when questioned in court, after the opening of the famous Crawford safe, he said, shrugging his shoulders, that he still thought that he would be repaid some way at some time. "If not, I shall at any rate have had the satisfaction of serving an amiable woman."

And though this man's easy-going philosophy is not common among the French, his unbounded financial belief is. Looking back over the last twenty-five years of financial history, it seems as if almost all of the great bubbles had been French. The moneyed classes, as well as the small investors in France, are fascinated by the sound of millions, for financial gullibility seems to be one of the typical national failings. The utter collapse of the *Societe de l'Union Generale*, whose shares were selling at 600 with a capitalization of \$30,000,000, and enormous deposits; the failure of the great copper syndicate, the most tremendous gambling speculation of recent times; and the failure of the Panama Canal Company of more recent date, show only the blind faith that the Frenchman, great and small, puts into any enterprise which can dazzle with an imposing array of figures. Intense and unthinking credulity seems to be the ruling trait of the small French investor. We, too, have our credulous public, but it is so small that it is difficult for us to understand how any such thing as the Humbert swindle could have lasted so long and been so successful.

THE COLUMBIA SCHOOL OF JOURNALISM

MR. JOSEPH PULITZER, who has made much money these twenty years out of the *New York World*, has given \$1,000,000 to establish a post-graduate School of Journalism at Columbia University in New York city, and he promises another million later. The old controversy at once began again to rage whether special post-graduate training in such a school will fit a young man for journalism better than the courses that he may now pursue in any good college.

Surely it will, if the course of study be well chosen. Not to go further, two or three years' post-graduate work in well-directed

reading and in the practice of writing will make any capable man a better journalist than he would otherwise be. The technical knowledge that is required in the best newspaper and magazine work is usually supposed to be very much less than the technical knowledge required for the practice of the law or of surgery. But this is not quite true. There is need of more accurate statement and of better form in the writing that goes into newspapers and magazines. To write a well-proportioned article requires much skill and training.

Now, there is no other way to learn to write effectively than by practice, and if the practice be done under competent direction, any young man who proposes to write for his living will get an incalculable benefit from several years of such work. Somehow the teaching of the art of expression that is done in our universities is something aloof from any kind of writing that young men have to do when they get to work, whether they become journalists or not. They seem not to conceive of it as a practical art, at which every educated man ought to have some skill; they regard it rather as something that has to do with "literature." They have fine phrases without a sense of structure. The most difficult thing for every newspaper and magazine editor to get in the practical conduct of his business is writing done with clearness and with a proper sense of proportion.

Mr. Pulitzer has surely done Columbia University a very great service—a far greater service than contemporaneous academic opinion seems aware of, if the school that he has founded be made a practice-school for men who wish to write well. Doubtless there are other things that will fall into the courses of such a post-graduate department of university work; but this is enough to justify its existence and to provoke the heartiest thanks of the editorial craft. It will not be many years before every other important university will have such a school.

MR. GOLDWIN SMITH

MR. GOLDWIN SMITH lately passed his eightieth birthday hale and vigorous. His long and distinguished career, which began as Regius Professor of Modern History in Oxford in 1858, has covered perhaps as wide a range of intellectual activity as the career of any man now living.

During the Civil War he made a visit to the United States; and four years later Cornell University, then just beginning its life under the presidency of Doctor Andrew D White, invited him to its chair of modern history. There he remained till 1872, and then moved to Toronto, where he has since resided. Married to an American lady, he has lived at "The Grange," one of the best preserved colonial houses in America.

Among his best-known books are "The United States: an Outline of Political History, 1492-1871," a brilliant summary, the keynote of which is that slavery almost from the beginning was the chief molding force in our political history; and "The United Kingdom: a Political History"—a similar but larger summary and interpretation; and "Guesses at the Riddle of Existence"—essays on religious subjects. Mr. Smith has brought to his historical and journalistic writing what many regard as the best style written by any living master of our language.

FREDERICK LAW OLMSTED

THE late Mr. Frederick Law Olmsted, the great landscape architect, has more surely left enduring monuments than any other American artist of his time of whatever kind. Central Park in New York city, Prospect Park in Brooklyn, Fairmount Park in Philadelphia, the Metropolitan Park System of Boston, South Park in Chicago, the Golden Gate Park in San Francisco, the approach to the Capitol in Washington—these are by no means all; but these (every one of which presented a different artistic problem from every other one) will link his name, as long as these cities last, with our appreciation of the beauty of our land; and he did more to thoroughly awaken that appreciation than any other man.

Not only was he a great artist—and a practitioner of the art that appeals more strongly than any other to a democracy—but he filled Carlyle's measure of a great man—he could have done anything well. He did do most noble service on the Sanitary Commission during the Civil War—service enough in itself to entitle him to the lasting gratitude of the nation; and he wrote the best books of observation in the South that exist in the whole great volume of literature about antebellum conditions there.

One of the most instructive facts in his

life is that he spent many years doing the practical work of a farmer and a horticulturist; and he walked over much of Europe to study landscape. He was a great man who worked, as all great men work, from the fundamental upward, with infinite patience.

A WORD ABOUT THIS MAGAZINE

THE WORLD'S WORK, with this number, ends its third year. It would not deserve the good fortune that it has had if its staff of editors and writers were not now larger than before (and better, too, it is hoped), and if its plans were not bigger and its aims more ambitious. The growth of its patronage, which continues at a constantly surprising rate, and the growth of the publishing house of which it is a part, have made necessary every year the extension of its offices, till now a considerable building, constructed by Messrs. Doubleday, Page & Company, is going up at Nos. 133-135-137 East Sixteenth Street, New York, and within a few months it will be occupied by them.

Mention is here made of this physical growth only as a way of expressing to the readers of this magazine the appreciation of its owners and of acknowledging the greater obligation that its success has brought.

For THE WORLD'S WORK has now become an institution. It has long passed the status of a mere personal enterprise. The public has accepted it; to use a commercial phrase, the public demands it; to use an educational phrase, the public has endowed it: it is the public's, as every other institution for the public service is; and those who have the privilege of conducting it so regard it.

The conduct of an independent and successful journal of serious aim is a public trust, and the more successful it is the greater the obligation to make it ring true in purpose and in thought. Merely to write the truth, as one sees it, requires only a negative courage. But truthfully to interpret American activity and aspiration in their manifold forms requires the active courage that gives freedom from prejudice and preconceived opinions; it requires the courage of open-mindedness, as well as the art of knowing the right places for emphasis. If it is a useful achievement to have established such an institution, it is an even higher duty rightly to develop and guide it.

THE SOUTH BECOMING A SEABOARD GATEWAY OF THE WEST

[THE WORLD'S WORK publishes every month an article in which some timely and vital subject of the financial world is taken up]

A FEW weeks ago an eminent financier estimated that \$300,000,000 had been added to the wealth of the South in the last two years. At this time, when there is so much talk of the possibility of a trade reaction in the North and West, such an increase in prosperity is of the largest significance.

There have been two or three recent incidents that again bring that section of the Union strikingly before the business world. A little while ago Mr. W. P. Brown, leader of the traders who have conducted the most successful corner in cotton ever known, stood in the New Orleans Cotton Exchange and bid thirteen cents a pound for 10,000 bales.

About the same time a delegation of New Orleans merchants visited New York to secure information that would be valuable to them in the establishment of a produce exchange in their city.

Just at the time when the recent depression in the stock market was most pronounced, and men were wondering whether prices would ever touch bottom, Wall Street was surprised to learn that a group of capitalists identified with the St. Louis & San Francisco Railroad had secured control of the Seaboard Air Line, a great southern system. A long-continued fall in prices of stocks nearly always results in some change in the railroad map, and this change was accomplished with the smallest possible outlay of capital.

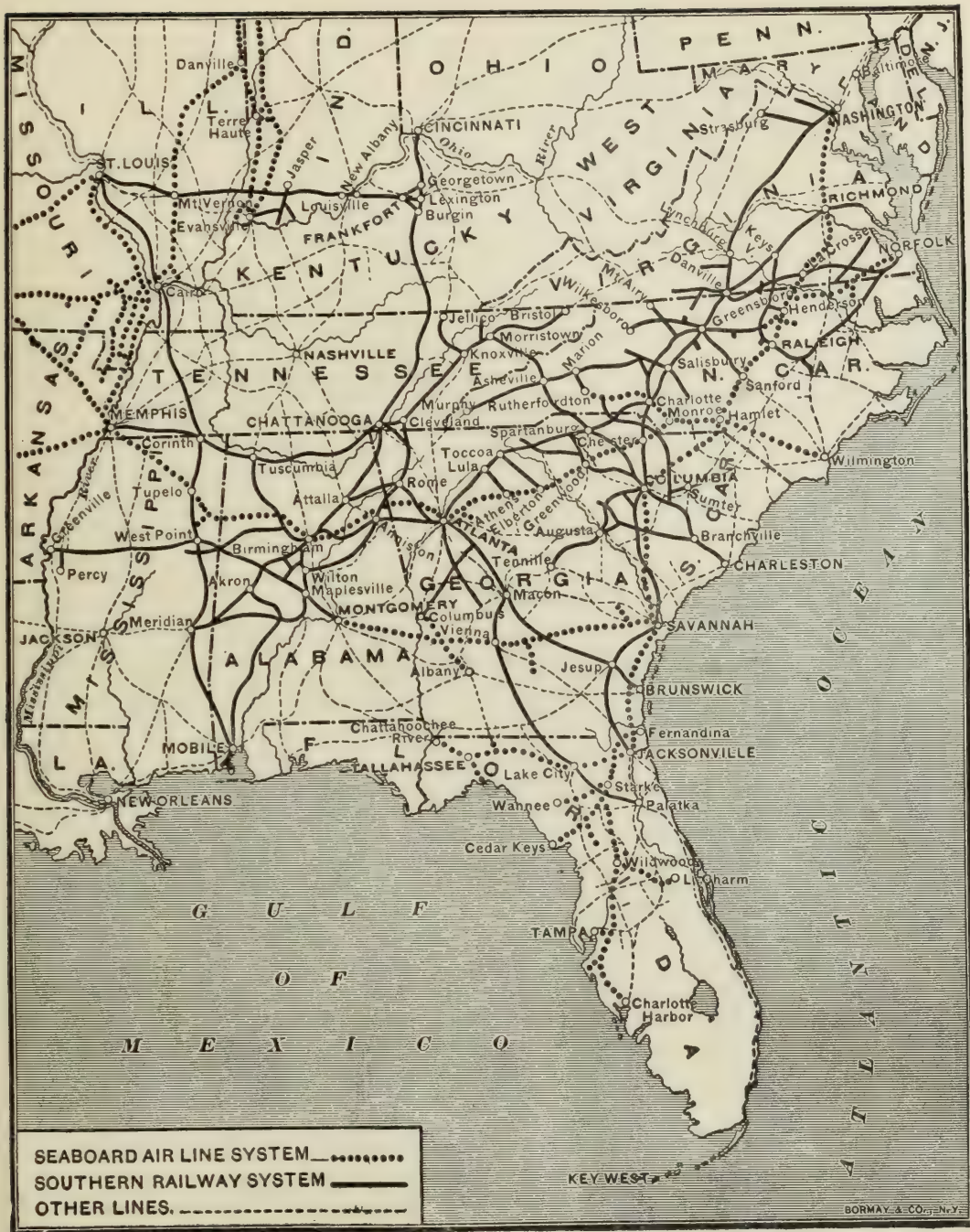
These three incidents have no seeming connection, and yet there is, broadly speaking, a close relation between them. For one thing, they speak loudly of the rapid development of the South, the growth of her cotton production and cotton mills, the expansion of her iron industry, the diversion of a large part of the grain trade to the Gulf ports, and the important changes in the control and destiny of her leading lines of railroads.

It may be interesting to briefly review these changes.

The reorganization, about ten years ago, of the bankrupt Richmond and Danville system by Mr. J. Pierpont Morgan, into what is now the Southern Railway, may be taken as a starting point. Not to follow a strict chronological order, later come the entrance of Pennsylvania Railroad interests into the Boards of Directors of the Chesapeake & Ohio, the Norfolk & Western and the Baltimore & Ohio, the New York Central sharing with the Pennsylvania the control of the Chesapeake & Ohio. These changes were made necessary to secure that community of interests between the trunk lines reaching to the Atlantic seaboard which is essential to the maintenance of railroad peace and the stability of rates. These changes, with others that have taken place in systems outside the southern States, have put the trunk line territory in command of the Pennsylvania and the New York Central and capitalists allied with them. There is a complete community of interests. President Stryker, of Hamilton College, has said that "the community of the interests is not the interests of the community," but this particular community has, on the whole, been to the large advantage of the country.

Threatening it, however, are the steps taken by Mr. George J. Gould to secure an entrance to Atlantic tide-water for his great system of western and southwestern railroads. These steps have been the buying of the control of the Wheeling & Lake Erie Railroad for the Wabash line, with an entrance into Pittsburg and connection with the Western Maryland and West Virginia Central, which have passed under his control. But not content with reaching tide-water at Baltimore, Mr. Gould is credited with an ambition to reach New York.

The most sensational incident of Wall Street speculation, last year, was John W.



THE RAILROAD SYSTEMS OF THE SOUTH SINCE THE RECENT CONSOLIDATIONS

The Seaboard Air Line and its connections in dotted lines. The Southern Railway System in heavy lines. Other systems, including the Atlantic Coast Line and the Louisville & Nashville, in broken lines

Gates's celebrated coup in buying the Louisville & Nashville Railroad in a few days of remarkable trading in its stock. He took control of the property out of the hands of old and conservative banking interests closely identified with the Rothschilds. But having bought the railroad, the question that confronted Mr. Gates and disturbed the whole railroad world was what he should do with it. The problem was solved for Mr. Gates, and very satisfactorily for the country, by Mr. J. Pierpont Morgan taking it off his hands. In October, 1902, Mr. Morgan transferred the control, though not the independent operation, of the Louisville & Nashville to the Atlantic Coast Line Company, a corporation formed under the laws of Connecticut, and owning the big Plant system of southern railroads. The Southern Railway and the Atlantic Coast Line Railroad, though not united, have certain interests in common.

Here, then, we find the Baltimore & Ohio, the Chesapeake & Ohio, the Norfolk & Western, the Southern Railway, the Louisville & Nashville and the Atlantic Coast Line—six powerful southern railroads—held not, indeed, by entirely identical interests, but by interests identical in one purpose, that of keeping the railroad territory east of Chicago under close, firm and profitable control.

But there have been other developments in the Southwest. Mr. E. H. Harriman, through the Southern Pacific, the Illinois Central and the Yazoo & Mississippi, and Mr. George J. Gould through the Missouri Pacific, the Texas Pacific, the St. Louis Southern and the Iron Mountain lines, have been striving to build up the business of the principal Gulf of Mexico ports, Galveston and New Orleans.

And now it is impossible to relate, in the space of this article, the wonderful story of the evolution of the Rock Island system since it dropped out of the hands of the late Mr. R. P. Flower into those of Mr. William H. Moore and the little clique of capitalists identified with him, whose operations make one of the great romances of American business, and which have astonished even Wall Street, accustomed to sensations as it is. When these men took the Rock Island it had a mileage of 3,800. Today, with its alliances, it makes a system of 18,372 miles, though this includes 1,804 miles of traffic

rights or road half owned. In quick succession there have been added to the system the Burlington, Cedar Rapids & Northern, the Choctaw, Oklahoma & Gulf, the St. Louis, Kansas City & Colorado and the St. Louis & San Francisco.

The St. Louis & San Francisco road—commonly called "The 'Frisco System," was formerly a part of the Atchison, but became independent several years ago, and under the able management of the late Mr. Daniel B. Robinson began a career of development that would have been deemed wonderful but for more recent sensational combinations. Mr. Robinson's successor, Mr. B. F. Yoakum, struck out in various directions, the one most pertinent to the purpose of this article being his entry into southern territory. With the acquisition of the 'Frisco system by the Rock Island it is the latter which now takes the centre of the stage. In pursuance of the policy of development in the Southwest, the Rock Island in February of this year secured joint rights with the Southern Pacific in the Houston & Texas Central.

And now, as its latest feat of expansion, it obtains control, through Mr. Yoakum and other 'Frisco capitalists, of the Seaboard Air Line. The two systems connect at Birmingham, Alabama, which is the centre of the growing iron trade of the South, and the connection puts practically under one control and policy lines of railroads which now or soon will unite Norfolk, Virginia, Wilmington, North Carolina, Charleston, South Carolina, Savannah, Georgia, Jacksonville, Florida, New Orleans, Galveston, Atlanta, Memphis and Birmingham—great cities of the South—with Chicago, St. Louis, Kansas City, St. Paul, Denver and El Paso. Within a year the 'Frisco will operate trains into New Orleans. The Rock Island, through its purchases of half interests in Texas, now operates a direct line south of Kansas City into Galveston, and it is practically in control of the Mallory Line of steamers running into Galveston.

Those who like to trace the personal element in all transactions, and especially to note the connections between one big capitalist and another, will be interested in knowing that Mr. J. P. Morgan, the organizer of the Southern Railway and the deliverer of the Louisville & Nashville, and Mr. William H. Moore, the head of the Rock

Island system, are fellow-directors in the First National Bank of New York, the leading bank in Mr. Morgan's great chain of banking institutions. Through the St. Louis & San Francisco the Rock Island is sharing with the Southern Railway extensive terminal and dock facilities purchased in New Orleans.

The Rock Island system is thus not only opening up a field for itself in the Southwest and entering Galveston and New Orleans, but through the Seaboard Air Line it crosses the entire southern territory and reaches the Atlantic seaboard.

Two significant things stand out prominently from the background of these facts. First, the closer union of leading southern railroads with the controlling trunk line systems of the North; second, the closer connection between the South, and especially the Southwest, and the West, the Northwest and the Pacific. It is also to be noted that ambitious western systems which are unable to obtain independent outlets to the Atlantic through the North are doing so through the South, where the lines of resistance are least.

All this, of course, is in accord with the prevailing tendency toward concentration of railroad control into a few hands. It was written a year ago that Messrs. W. K. Vanderbilt, A. J. Cassatt, George J. Gould, J. Pierpont Morgan, James J. Hill and E. H. Harriman represented the control of railroad systems having a total issue of \$6,750,000,000 of stocks and bonds. To these names should now be added that of Mr. William H. Moore, with his great Rock Island system. Moreover, Mr. Moore is the inventor of a new device in railroad financing, a device which enables the capitalist to solve that hitherto unsolved problem—how to eat a cake and have it, too; in other words, to insure his permanent control of a railroad without the necessity of locking up his capital in the actual ownership of a majority of its stock. The control of the magnificent Rock Island system, which covers seventeen States and Territories, is held through a majority of the preferred stock equal to about \$27,000,000. The common stock has no voting power. This is even better than the device of "the voting trust," which is limited to a term of years. It is through a change in the voting trust of the Seaboard Air Line that its control is practically secured.

We no longer speak of lines of railroads,

but of "systems." Whatever may be the threatening dangers of combinations, these systems, at least, possess the supreme advantage of imparting greater stability to railroad rates, and also, through their closer connections and improved facilities of transportation, of bringing nearer together the different sections of the country. It does not seem too much to say that the evil of "sectionalism" cannot long survive the complete development of the railroad systems of the United States.

The railroad evolution in the South is a natural result of its agricultural and industrial development. Cotton is king yet, and it was never more royal than it is today. The world's consumption is increasing; the South must continue to be the main source of supply, and with the opening doors of the Orient the outlook is for an immense development as the years go on. The southern cotton acreage has increased more than 100 per cent. in two decades. In the last three years the South has grown 31,884,000 bales, the average export price of the three years having been 8.7 cents a pound, bringing at a rough calculation nearly \$1,400,000,000. While it seems improbable that the next crop can be marketed on the basis of the "corner" prices, there seems to be no doubt that the southern planters will make a large profit out of the crop, which should be worth more than \$500,000,000. Moreover, the South's continued growth in the manufacture of cotton is indefinite. Already more than \$100,000,000 is invested in southern cotton mills which contain more than one-third of all the spindles in the United States, the total number in this country being one-fifth of those in the world. If there is any danger in this expansion it may possibly be in the too rapid growth in southern mills on money borrowed from the banks, but there is no sign of this.

In addition to the South's growing agricultural wealth in other crops than cotton, the development of the iron and steel industry has been most notable. It is estimated that its output of pig-iron this year at Birmingham will be \$300,000,000, against \$270,000,000 last year. There are fifty-five blast furnaces in and about the Birmingham district. About \$800,000,000 is invested in southern ore lands, coal properties and furnaces.

It is not strange that with this growth in

productive enterprises the railroads have made a noteworthy growth. Since 1894 the Southern Railway has increased its mileage from 4,159 to 6,750 and its gross earnings from \$16,643,000 to \$42,354,000. The Louisville & Nashville in the same period has increased its mileage from 2,673 to 3,500 and its earnings from \$18,974,000 to \$35,415,000. The Norfolk & Western has gained in mileage from 1,327 to 1,716 and in earnings from \$10,440,000 to \$21,160,000. The united earnings of these three systems have more than doubled in nine years.

But this review of southern railway development would be incomplete without further reference to what is probably its most significant phase—the movement to make New Orleans and Galveston the export outlets for the grain-growing territory of the West.

As long ago as 1883 the beginning of this movement was noted by Mr. Cleveland, who was then Governor of New York, in a speech on November 26th, at the banquet of the New York Chamber of Commerce. "I have lately seen," he said, "a statement by which it appears that for the year ending August 31, 1882, there were shipped from New Orleans to fifteen foreign ports 2,744,581 bushels of wheat and 639,342 bushels of corn. This was transported in sixty-one steamers and two sailing vessels. But for the year ending August 31, 1883, there were shipped from the same city to twenty-nine foreign ports 5,529,847 bushels of wheat and 7,161,166 bushels of corn, and this was transported in 278 steamers and twenty-four sailing vessels." Mr. Cleveland then argued for strenuous measures on the part of New York merchants to prevent the further diversion of the grain trade to New Orleans.

During the twenty years since Mr. Cleveland spoke thus the wheat shipments from New Orleans have increased to 15,643,745 bushels a year. The corn movement in 1902 was no fair test, but in 1901 the New Orleans exports were 12,832,139 bushels. The wheat exports from New Orleans and Galveston in 1902 were 26,725,071 bushels, while the total from New York was 27,136,272 bushels. Both New Orleans and Galveston have been making rapid progress this year. The statistics show that New York is steadily losing in grain exports to Montreal on the North and the Gulf ports on the South.

Now why this movement of grain to New Orleans and Galveston, which the Harriman, Gould and Moore systems of railroads are doing their utmost to facilitate? The answer, of course, is plain. It is a matter of geography. These ports are within a thousand miles of the great grain territory of Kansas and Missouri. The Rock Island system, which is entering both ports with costly terminals, advertises itself as the outlet of "the granary of the world." The distance between Chicago and New Orleans and between Chicago and New York is nearly equal, but St. Louis is 334 miles nearer to New Orleans than to New York. It is only 800 miles from Kansas City to New Orleans, but 1,300 to New York. Denver is 576 miles and Sioux Falls 181 miles nearer New Orleans than New York. It is not strange that large quantities of grain raised in Kansas and Missouri and Nebraska, and even the Dakotas, go to Galveston and New Orleans. In 1902 the rate of freight for wheat from St. Louis to New Orleans was less than one-half the rate from St. Louis to New York. The building of the Panama Canal promises to expand still further the importance of the Gulf ports. New Orleans merchants are not by any means too ambitious in their purpose to establish a produce exchange to deal in grain.

This development of the Gulf ports is not to be deplored, even by New York, although that great metropolis may well vote for the enlargement of the Erie Canal in order to protect her commerce. The rivalry between the ports is the nation's gain. The country is big enough to supply all with ample business. More is to be feared from the competition of Montreal, for Montreal is not of our territory.

Henry Ward Beecher expressed the proper attitude toward the development of the South when he said:

"New Orleans is taking rapid strides in the transportation of grain from the great western valley. Did you ever go along the line of the Northern Pacific Railroad and see the fields? It takes almost the omniscience of God Almighty to form any idea of the wheat fields of the West. Do you suppose you are going to be ousted and ruined because New Orleans is draining out the lower territories."



Photographed by Miles Brothers

THE RICH EMPIRE IN THE NORTH

RAILROADS FOLLOWING THE MINERS, AND SETTLERS THE RAILROADS, INTO THE NEW NORTH—CITIES SPRINGING UP IN ALASKA WITH PAVED STREETS, ELECTRIC LIGHTS, BANKS, CHURCHES AND SCHOOLS—GRAIN AND VEGETABLES GROWN NORTH OF THE ARCTIC CIRCLE—HOW THE RAILROADS ARE OPENING EVEN THE HUDSON BAY COUNTRY

BY

WILLIAM R. STEWART

(Illustrated in part with photographs by Miles Brothers)

NO longer is Alaska, even in popular conception, the lone land of ice and snows which fiction and tradition long presented it. Northward within the last five years, swift on the heels of the gold-seeking pioneers, have gone railroad builders and telegraph linemen, engineers, capitalists, bankers, teachers, and settlers, until not only Alaska but the whole vast stretch of the Far Northwest is repeating California's marvelous story of development. Steamers, many of them palatial in their fittings, now navigate the Alaskan rivers; towns with organized systems of government are growing fast, with schools and banks and churches, and streets lighted by electricity, and paved. The telegraph and the telephone connect the principal settlements, and railroads are being

built which in a year or two will traverse the peninsula almost from end to end.

Yet the new Alaska, which has become so important a reality, is, in a measure, but a startling revival of the commercial Alaska of sixty years ago. Then Sitka—a thousand miles north from Seattle, Washington—was the industrial capital of the Pacific Coast of America, and San Francisco but a gathering place for indolent rancheros, who bought their plowshares, hoes and hatchets from the industrious workmen of the Far North. From the shipyards of Sitka went forth the first steamships built on the Pacific, and the bells which still chime from many a Catholic mission-house were cast there. No better equipped naval station existed than that at the Alaskan capital, nor busier brass



Photographed by Miles Brothers

DESERTED WHITE PASS CITY. WHERE THE GREAT RUSH STARTED FOR THE KLONDIKE IN '96 AND '97



AN ICE LOCOMOTIVE

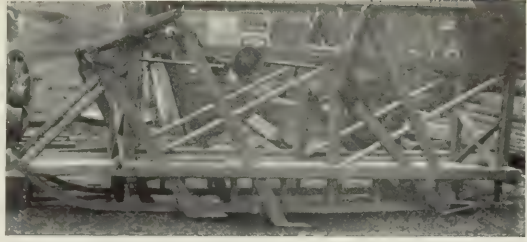
Spikes in the large wheel give the engine a grip on the ice

and iron foundries and machine-shops. The California "Forty-Niner" worked with a pick and shovel made at Sitka; the woolen-stuff clothing which he wore came from Sitka; the salt fish he ate and the lumber with which he built were also the product of far-away Alaska, carried in Sitkan-built vessels, manned by Sitka sailors.

But the military managers of the Russian-American Company were not captains of industry. Vast sums were squandered in impracticable experiments, in mining valueless coal, in extracting iron from inferior ore, in making bricks and woodenware for which no market existed. Thus the trade of Sitka languished, and in time the catching of fish and furs became the only occupation of the Alaskans. Even the purchase of the country by the United States failed for many years to add a stimulus to its lapsed industry.

The New North which has arisen may not

again dominate the trade of the Pacific Coast, but it has attained an intrinsic importance of which the Russian owners of Alaska never dreamed, not merely through its wealth of minerals, its furs, and its fisheries, but also in considerable measure through its possibilities in agriculture. Fields of grain and gardens stocked with every variety of vegetable are now familiar sights on the outskirts of a hundred thriving settlements. From end to end of the Yukon, mightiest of the rivers of the world, the traveler may wander during four months of the year and never see snow. Instead, there will be a tangle of rich vegetation, of great forests, of grass that grows as high as a man's shoulder, and endless fields of beautiful plant life. Wild berries in great variety—raspberries,



KLONDIKE GO-DEVIL FOR USE ON THE ICE

currants, huckleberries, blackberries, cranberries, etc.—beautiful ferns waving in the soft breezes, great beds of the purple lupine and the red columbine, wild celery and wild parsnip growing many feet high, ponds on which float great yellow lilies, with the purple iris bordering their banks, are everywhere.



Photographed by Miles Brothers

HAWKINS POINT, ON THE WHITE PASS AND YUKON RAILROAD

The first railroad into Alaska and the most expensive per mile in the world



UNLOADING SHIPS AT DAWSON



FERRYING FREIGHT CARS IN BRITISH COLUMBIA

When Alaska was purchased by the United States in 1867 its value was lightly regarded. The price paid—\$7,000,000—was thought to be excessive, and there was much popular opposition to the terms. Yet in thirty-six years the Government has received back in revenues not only the sum expended, but \$2,000,000 more. During the same period Alaska and the adjoining Canadian Yukon territory have supplied fish, furs, and mine products amounting in value, at a conservative estimate, to \$375,000,000. Goods worth about \$40,000,000 a year are now sent back in return, and the amount of American, English, and Canadian capital invested there is probably not less than \$125,000,000.

Of the future of the New North, President Roosevelt, addressing an audience at Seattle, Washington, on May 24th last, made this significant prophecy:

"The men of my age who are in this great audience will not be old men before they



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THREE-TON COPPER NUGGET AT NUGGET CREEK



UNLOADING ALASKA SALMON



SALMON NETS AT LOW TIDE

see one of the greatest and most populous States of the entire Union in Alaska. . . . I predict that Alaska, within the next century, will support as large a population as does the entire Scandinavian peninsula of Europe, the people of which by their brains and energies have left their mark on the face

western portion of the continent—for many hundred miles beyond the international boundary—is undergoing a marvelous development. Ten thousand miles of railroad are already under construction or definitely projected in territory farther north than is now touched by any existing completed line;



PROSPECTORS IN THE FOURTH OF JULY PASS

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of Europe. I predict that you will see Alaska, with her enormous resources of mineral, her fisheries, and her possibilities that almost exceed belief, produce as hardy and vigorous a race as any part of America.”

Not only Alaska, but the entire north-

a greater mileage than that of the Union Pacific, the Northern Pacific, and the Erie systems combined.

A glance at the line in the accompanying map which marks the northern limit of cereal production in America will indicate a reason

for this railroad construction. Gold and furs alone could not have brought it about. Were the great Western North the bleak counterpart of "pitiless Labrador" the miner and hunter there would still pack his treasures of mineral and fur over weary wastes of snow by dog train. But, whereas in the East the extreme limit of cereal-growing territory

still undeveloped, the North received but scanty attention. At intervals, it is true, had come reports of great natural wealth which existed there, and now and then the outcropping of a boundary dispute had lent ephemeral interest to the country. But the gold finds of 1896 in the Canadian Yukon and of 1898 near Nome came when the



THE SMALL GROWTH AND BOGS WHICH IMPEDE TRAVEL IN THE COPPER RIVER COUNTRY

is reached in latitude 49°, at a point a little north of Rimouski, on the St. Lawrence River, in the West the limit is Norton Sound, beyond St. Michael's, more than twelve hundred miles nearer the pole. So far north as that are grains now grown.

As long as the States to the south were

western States were beginning to be filled up. Thousands of American farmers had already moved northward into the Canadian provinces of Manitoba, Assiniboia, and Alberta, beginning a movement which has since assumed enormous proportions. The gold thus hastened a natural development.



Photographed by Miles Brothers

A PART OF THE WHITE CITY WHICH ROSE IN FIVE WEEKS TO SHELTER 30,000 PEOPLE AT NOME

Prevailing fallacies regarding the climate of the new land disappeared. In south-eastern Alaska, which is tempered by the warming airs from the Japan current, the thermometer rarely falls to zero, and the

changes from midwinter to midsummer do not exceed twenty-five degrees. Even at St. Michael's, north of the mouth of the Yukon River, the mean summer temperature is 50° Fahrenheit. In the interior the



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PACK TRAIN CROSSING THE GOVERNMENT BRIDGE OVER TIEKEL RIVER



THE OLD METHOD OF GOLD MINING—"ROCKING" IN AN ALASKAN CREEK

climate is more severe, but not so bitter as is commonly believed. Daily observations during five summers in the Klondike region show that on the average the temperature there rises to 70° or higher on forty-six days, and to 80° on fourteen days; 90° was recorded in Dawson in June, 1900, and 95° in July of the same year.

Great hardships were undergone by the

gold miners of three, four, and five years ago, but these were due to abnormal conditions. The gold fever had carried a great swarm of fortune hunters into an unknown country of vast distances. Confusion, suffering, and even starvation were the natural outcome. An incident in the construction of the White Pass and Yukon Railway well illustrates the conditions which then prevailed.



THE NEW METHOD—MINING WITH HYDRAULIC POWER



MINING IN THE SANDS AT NOME

Photographed by Miles Brothers

On the morning of one June day in 1899 there were two thousand men at work along the line of the new road—doctors, lawyers, teachers, and college men, in a motley crowd with Chinese laborers, and rough prospectors who could not write their names.



Photographed by Miles Brothers

A BIG BLAST IN THE GLORY HOLE, TREADWELL MINE, DAWSON ISLAND



THE NEW TOWN SITE OF VALDEZ. S



KINNECOTT VALLEY, 10

The figure on the right sitting on a pin



WHERE STREETS ARE LAID OUT

Copyright, 1903, by Miles Brothers



COPPER DEPOSITS

ite which is almost pure copper

Copyright, 1903, by Miles Brothers



Photographed by Miles Brothers

YAGER'S CELEBRATED ROADHOUSE AT TONSINA CITY, 78 MILES FROM VALDEZ



Photographed by Miles Brothers

THE FIRE DEPARTMENT AT CIRCLE CITY, A SHIP'S TRIANGLE SERVES AS AN ALARM



Photographed by Miles Brothers

NEWS OF PRESIDENT McKINLEY'S DEATH REACHING CIRCLE CITY 24 DAYS AFTER THE EVENT

That afternoon came the news of a big discovery of gold near Atlin, and in the evening there were but six hundred men in camp. The other fourteen hundred had plunged into the wilderness, carrying with them the company's picks and shovels,



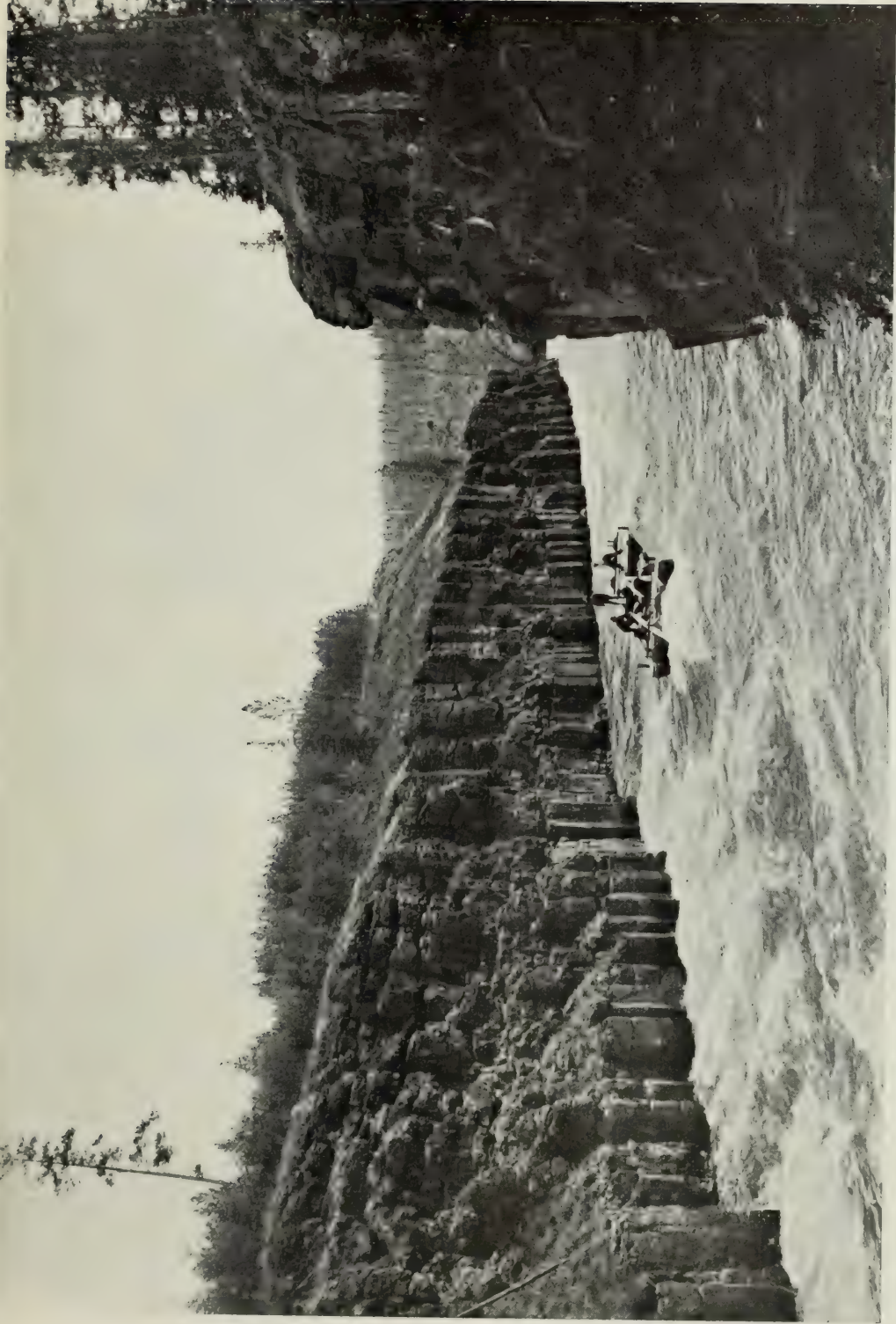
Photographed by Miles Brothers

BILL OF FARE AT GRAND FORKS, 14 MILES FROM DAWSON



Photographed by Miles Brothers

BIRD'S-EYE VIEW OF DAWSON



Photographed by Miles Brothers

MILES CAÑON IN THE UPPER YUKON RIVER, WHERE MANY LIVES AND HUNDREDS OF THOUSANDS OF DOLLARS' WORTH OF SUPPLIES WERE LOST IN THE STAMPEDE OF '96 AND '97 TO THE KLONDIKE



Photographed by Miles Brothers

PATHFINDER POWELL AND ONE OF THE MAIL STATIONS HE ESTABLISHED BETWEEN VALDEZ AND EAGLE



Photographed by Miles Brothers

TELEPHONE EXCHANGE AT VALDEZ

The German flower and vegetable garden in flourishing condition a thousand miles north of Seattle



THE CITY OF NOME

Photographed by Miles Brothers

but leaving behind a half-week's pay at ten dollars a day. Such was the spirit of recklessness in which the gold-seekers invaded the new country.

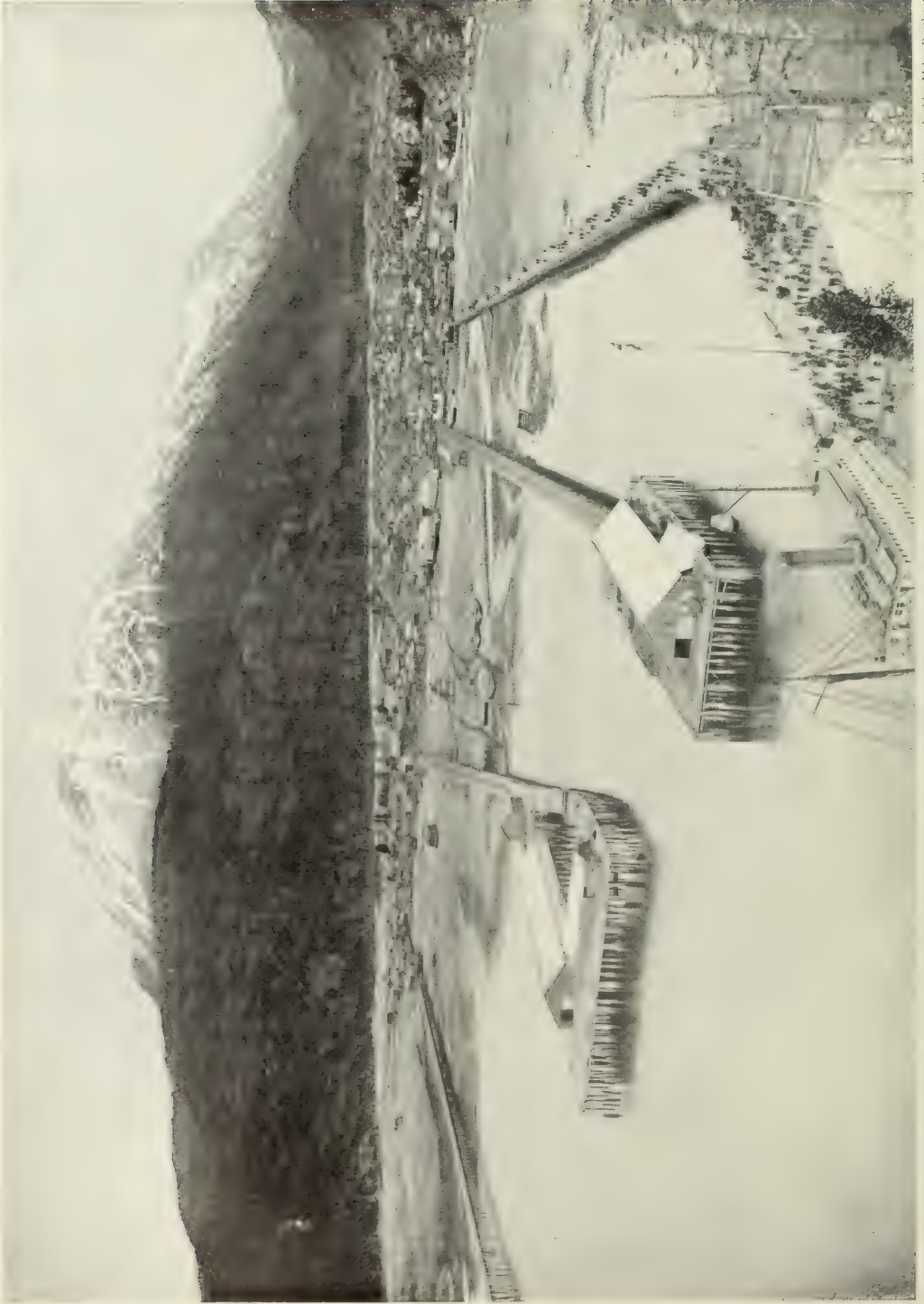
Scenes similar to those which marked the rush to the Klondike were repeated at Nome. The latter place is without a natural harbor, and passengers and supplies had to be landed through the surf. In the months of June and July this is accomplished with little

difficulty, but later in the season storms prevail, and the landing is then attended with considerable peril. Vessels were forced to anchor from half a mile to two miles from the shallow beach, and their cargoes removed in lighters, which were frequently lost in the surf. Wrecks of schooners, barges, steam launches, boats, and stern-wheel steamers littered the beach at Nome every year, and pumps, donkey boilers and engines, dredging



THE POST-OFFICE AT STAR CITY ON THE YUKON

Photographed by Miles Brothers



Photographed by Milis Brothers

THE DOCKS AT SKAGWAY



Photographed by Mues Brothers

CHEECHAWKO HILL AT THE JUNCTION OF BONANZA AND ELJORADO CREEKS NEAR DAWSON

Where the first rich strikes of gold were made in the Klondike



SUNSET ON THE YUKON

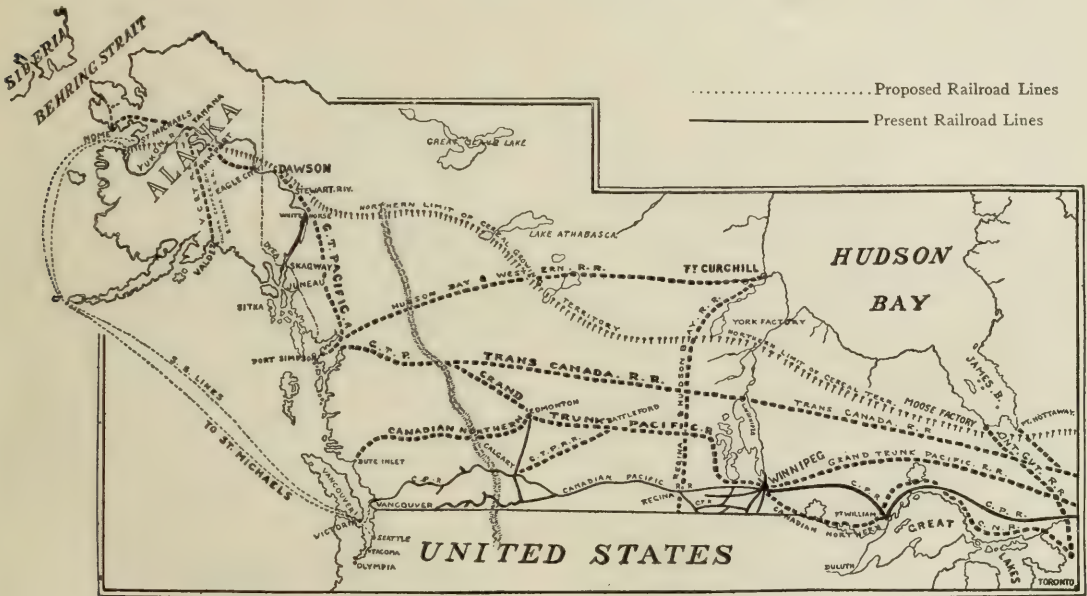
Photographed by Miles Brothers

machinery and damaged provisions were strewn along the shore.

The first discovery of gold at Nome was made by a United States soldier who was digging a well, and the first to profit by it was an old prospector from Idaho, who was ill and not able to reach the gulches farther inland. In twenty days the man from Idaho took out three thousand dollars' worth of gold with a rocker. With the news of the find a wild frenzy to dig in the beach seized people everywhere, and during the height of the excitement nearly two thousand men were burrowing like moles in the sand. Every man at Nome—physician, lawyer, carpenter,

will remove the last of the transportation difficulties of its inhabitants. In the past the only means of forwarding freight from the city to interior points not reached by the Yukon River steamers was by men wading in the shallow streams and pushing flat-bottomed boats ahead of them. The cost was about three hundred dollars a ton for fifty miles, and from eight to fifteen days were required to make that distance, according to the conditions of the weather.

Nome is the western terminus of the railroad development of northwestern Alaska, whose roads are the farthest north of all in the world, extending almost within the Arctic



THE GREAT NORTHWEST AND ITS PROJECTED TRANSPORTATION FACILITIES, SHOWING ALSO THE NORTHERN LIMIT OF CEREAL GROWTH

clerk, or whatever else his vocation—abandoned his ordinary work and took up the shovel and rocker. The price of labor went up to fifteen dollars a day, but even at that rate working hands were hard to secure. When the army of miners stopped work in the fall the beach for fifteen miles presented a huge rampart of piled-up sand, giving to the city the appearance of having been fortified against invasion.

Nome is now a city of 25,000 population, and the building of two new railroads, which are under way, and the improvement of the harbors at Port Clarence and at Solomon,

Circle. The city is about two hundred and fifty miles southeast of Cape Prince of Wales, the point at which Alaska most nearly approaches Asia, and is reached by steamers from the western coast of the United States by passing through the Aleutian chain, past Unalaska, as well as by rail from Skagway and steamboat down the Yukon River. Nome boasts good hotels, large stores, daily newspapers, banks, electric lights, telegraph and telephone systems, and the other usual adjuncts of civilization in more southern climes. It is connected with St. Michael's by cable and by telegraph with

Dawson and Skagway. Handsome private residences are being built by men who have made their money there and who have settled down to make the city their home. Well-kept lawns and flower gardens add to the wonderful metamorphosis which has overtaken the sandy beach.

Seward Peninsula, on which Nome is situated, is being rapidly "gridironed" by the various railroads built to communicate with the principal gold mines and with the other towns in that part of Alaska. The Alaska Central Railroad, the latest transportation enterprise, will run from Valdez, the most northerly port in Alaska, which is open all the year round, to Tanana, a distance of four hundred and thirty miles, and will open up the mineral and agricultural districts of the Copper, Tanana and Yukon valleys. Construction has already begun on this line, the route lying through a country which is heavily timbered, with tributary territory rich in gold, copper and coal. With a railroad projected, as a part of the Grand Trunk Pacific System, from Port Simpson to Dawson, with a hundred-mile line soon to be built from Dawson north, and with the Alaska Central coming east to Eagle City and west to connect with the Nome and Solomon City Railroad, it remains but a question of time when there will be all-rail communication from New York to Norton Sound, a few miles across Bering Strait from the continent of Asia. A northern spur from the Trans-Siberian Railway would then realize the once lightly regarded dream of "New York to Paris by rail."

The first railroad undertaking in the Far North was begun in southern Alaska and the British Yukon in 1898. In June of that year work was begun by a syndicate of English capitalists on what is now the White Pass and Yukon Railway, extending from Skagway, in Alaska, to White Horse, Yukon Territory, a distance of one hundred and twelve miles. It was constructed primarily to afford access to the gold fields of the Canadian Yukon, but has since been made a link in the continuous rail and river route to northwestern Alaska and Seward Peninsula. The road was completed to White Horse in June, 1900, at places the cost of construction exceeding \$250,000 a mile. The route had been used for pack-horses in the fall of 1897, but the trail was almost impass-

able, and immense numbers of the animals had died in their tracks. Two thousand had to be collected and burned with kerosene before the work could be undertaken. In attempting to lower Lake St. Louis about three feet, the entire lake washed away, causing widespread damage. The total cost of the White Pass Railroad was about \$5,000,000; but it paid nearly \$2,000,000 profits during its first two years' operations.

From White Horse to Dawson—which has a population of twelve hundred—a distance of three hundred and thirty miles, connection is now made by modern steamers in summer and by four-horse sleighs in winter. The stages used in winter cover the distance, under ordinary conditions of weather, in three and a half days, or at a rate of about ninety miles a day. A railroad was built last summer from West Dawson to Stewart River, a distance of eighty-two miles, tapping the rich mining districts in that direction. A number of other railroads leading to different gold centres are now being constructed, and in a few years Dawson will be connected with its outlying districts in every direction, and even, it is projected, with the transcontinental lines to the south.

Dawson enjoys almost as many municipal advantages as any place of its size in the United States. It has a splendid system of water-works, a local telephone system and long-distance connections with the principal mines, telegraphic communication with the world, churches of every denomination, large Federal and municipal buildings, and good schools. There are a number of clubs and lodges, as well as theatres and other places of amusement, and three banks. The personal and realty assessment of the city exceeded \$11,000,000 last year, and post-office orders to the value of \$1,800,500 were sold. The streets are all thoroughly lighted by electricity. Lines of steamboats along the wharves, loading and unloading, and steam dredges at work in the river, give an animated aspect to the water-front. More than \$5,000,000 is about to be spent by a private company in installing a huge water-supply and pumping plant to furnish water for consumption and for mining purposes, in working the deposits that line the side-bars of the neighboring streams.

Three years ago the inhabitants of Dawson lived principally on dried and canned meats

and German sliced evaporated potatoes. Today fresh meat is brought in, frozen in winter and in refrigerator cars to White Horse in summer, and all vegetables are grown in market gardens nearby. Nothing pleases the Dawson citizen more than to entertain a skeptical visitor from the south at table with lettuce, asparagus, green peas, or celery, cauliflower, cabbage, and carrots, according to the season, grown in his own rear yard; and the same civic pride has led the Dawson Chamber of Commerce to display some very fine specimens of barley and oats grown in that section. Moreover, throughout the Klondike country live stock can find sufficient feed to sustain life outdoors even in winter.

From Dawson to St. Michael's, by the Yukon River, is sixteen hundred miles, and during the open season of navigation—from the middle of May till the middle of October—about forty stern-wheel steamboats run between the two points in from nine to twelve days. The Yukon is easy to navigate, being without snags and with shores alongside of which boats can run and tie up at almost any desired spot. Between its mouth and the Tanana it flows with an easy current of about three miles an hour, the stream varying in width from a mile to a mile and a half. The rest of the river, below Dawson, flows variously through mountainous regions and wide flats, attaining at places a width of ten miles, with many channels and numerous small islands.

The winter trade begins as soon as the ice has formed in sufficient thickness to sustain teams of dogs and loaded sleighs, and continues until the break-up in the spring. The trail having once been marked by some venturesome first traveler, running as nearly as possible over the smooth ice near the shore, is generally followed thereafter. Although the temperature sometimes falls to fifty degrees below zero, such occasions are rare, and even then the air is dry and uniform and accompanied by little wind. At no part of the route is the traveler out of telegraphic communication with the world.

At Eagle, the first American town beyond Dawson, four large trading companies maintain well-stocked stores, and Fort Egbert, located there, has a garrison of two hundred soldiers, with barracks, stables, hospital, and officers' houses. There are two sawmills, and the town is the headquarters of the United

States Weather Service for the interior of Alaska. Several large gardens supply an abundance of vegetables—potatoes, carrots, peas, beans, lettuce, radishes, cauliflower, etc.—and barley and oats are raised in steadily increasing quantities. Grass grows luxuriantly from the fertile soil, and there are large natural meadows in the vicinity from which heavy crops are cut. Mowing machines and other hay-making tools are frequent sights along the bank of the river all the way to St. Michael's.

The railroads of Alaska and of the Canadian Yukon are being built primarily because of the enormous mineral wealth to be tapped. Those projected for the Hudson Bay, North Saskatchewan and Peace River districts have another reason for their inception. Agriculture and lumber are the great natural resources of that vast stretch of little-known territory, and minerals and furs play but subordinate parts.

Almost a thousand miles north of the boundary between the United States and the Canadian Northwest territories, in the valley of the Peace River, wheat, barley, and oats are grown in quantities limited only by the number of the agriculturists; and a hundred-barrel roller-process flour mill, the most northerly mill on the continent, has just been completed at Vermilion. Two other water-power stone mills, owned respectively by a private firm and by the Roman Catholic mission, have been running for the past two years, and have been offered more grain than they have been able to handle. Two steam sawmills are also in continuous operation, while cattle and hogs are raised by the settlers and find a ready market among the traders. The town is lighted by electricity, derived from the water-power of Vermilion Falls.

The wheat which was awarded the first prize at the Centennial Exhibition at Philadelphia in 1876 came from the Peace River country. Farther east, on the south side of Lesser Slave Lake, a wild meadow, thirty to forty miles in extent, from which three tons of grass to the acre are obtained, gives evidence of the richness of the soil there, while the land on the opposite side is excellently adapted to mixed farming, consisting of open prairie interspersed with tracts of cottonwood timber. Doctor Dawson, of the Canadian Geological Survey,

estimates the Peace River country to contain 15,140,000 acres of good arable soil.

The Hudson Bay and Western Railway, the bill incorporating which was passed at the last session of the Canadian Parliament, will connect Port Simpson, on the Pacific, with Fort Churchill, on Hudson Bay, a distance of fifteen hundred miles, passing through Vermilion and running south of Lake Athabasca and north of Reindeer Lake. Athabasca Lake is connected with Great Slave Lake by the Slave River, and, with the exception of a break about twenty miles long, steamboat navigation between the two is uninterrupted. From Great Slave Lake the Mackenzie River affords a clear course to the Arctic Ocean. For years past steamboats have been plying on the Athabasca and the McKenzie, and with the Hudson Bay and Western Railway completed it will be possible for a passenger to buy his ticket in New York—or in any other city, for that matter—for the Arctic Ocean, and proceed there with almost as great comfort as if he were booked for the Adirondacks.

Still another railroad—running from North Dakota—will have Fort Churchill as its northeastern terminus. The bill incorporating the construction company was passed by the Canadian Parliament at its last session. Apart from agriculture, the southeastern Hudson Bay district is said to be rich in minerals of all kinds. The fisheries of the bay are also valuable, and whalers from New Bedford even now find it profitable to go there, notwithstanding that it takes them two years to make a catch. Cod, trout, and white fish in large numbers are found in both Hudson and James Bay. At Moose Factory there are several large gardens, in which all kinds of vegetables and fruits are grown, and cattle find excellent pasturage on the natural meadows, where the wild grass grows in great luxuriance.

The timber wealth of all this section is naturally great, the forests of spruce, pine, and poplar having as yet been scarcely touched by the ax of the woodsman. Unrivalled water-power is furnished by the innumerable streams and rivers, and the transportation of sawn lumber is counted upon to furnish no inconsiderable source of revenue to the railroads. A species of large poplar called "liard," or balm of Gilead, which is much sought for by cabinet-makers,

is said to grow very extensively in the McKinsean Valley, and tamarack for railway construction is found in the entire region. The greater part of the territory, also, is the natural home of pulp-wood, where, it is declared, is a perennial crop to be harvested unsurpassed in the world. The average annual snowfall at Moose Factory, taken for a period of five years, is eighty inches, as compared with one hundred and seventy-seven inches during the same period at Montreal.

But railroads are only one phase of the increasing activity in the North. The telegraph has far outdistanced the iron horse, and remote corners, as yet long distances removed from any line of railroad, can flash their intelligence around the world. Since 1901 the Signal Corps of the United States Army has put in working order in Alaska more than fifteen hundred miles of land telegraph lines and submarine cables, and in the Canadian territories of the Yukon and North British Columbia the Dominion Government has displayed an equal activity. About two thousand miles of Canadian Government telegraph lines have been built from the international boundary, beyond Dawson, south to Port Simpson and Quesnelle. At the latter point connection is made with the regular commercial lines. Well-equipped telephone services have also been established between the towns, and scarcely a place of five hundred inhabitants in the mining country has not its local and long-distance telephone system.

On the Pacific Coast daily mails leave by all the principal steamship lines and are forwarded from Sitka, Skagway, Nome, and other distributing points by steamer, rail, wagon, and carrier. Where ordinary means of distribution fail, the Russian reindeer, domesticated in Alaska, carry the sacks over the frozen lakes and snow-mantled uplands, traversing a vast distance in an incredibly short time. The highest salaried postal official in the world is in Alaska. He receives \$25,000 a year for carrying the mail, twice a month the year around, to Fort Yukon, providing his own dogs and sleds for the purpose. There are now upward of one hundred post-offices in Alaska, and mails are delivered regularly beyond the Arctic Circle.

The development of Alaskan oil-fields

promises to establish an industry the extent of which cannot be yet foretold. Last fall an immense oil gusher—Alaska's first—was struck at Cotella, near Kayak, thirty miles south from Copper City. Oil was thrown one hundred and fifty feet into the air, carrying away everything in its course and being capped with great difficulty. Experts were at once sent to the scene by the officials of the Standard Oil Company, but a Canadian and English syndicate had acted more quickly, and the announcement was recently made that they had secured control of the larger part of the Kayak fields, comprising 40,000 acres of land which had been leased to the Alaska Development Company. The British capitalists have chartered two steamships to convey north from Tacoma, Washington, a great quantity of pipes and machinery obtained from Pittsburg, Pennsylvania, together with other supplies. A hundred men are at present employed in sinking an additional well, and \$500,000 will be spent in development work, which will include the erection of an experimental refinery.

The fisheries of Alaska are among the richest in the world. More than half the entire salmon product of the United States comes from Alaskan waters. It is the opinion of competent authorities that the cod banks exceed in wealth those of Newfoundland. The cod industry, however, is as yet only in its infancy—if, indeed, it can be said to have attained even that primitive stage of development. There are about 15,000 persons engaged in the salmon fisheries, and the market value of last season's output was a little more than \$7,000,000, which is exactly what we paid for Alaska. The packing industry is conducted at sixty canneries and fifteen salteries. The total number of salmon of all varieties taken last year was about 33,000,000. The companies engaged in this industry have a capitalization of about \$25,000,000, and their plants, including vessels, are valued at \$15,000,000. The amount which they pay in wages exceeds \$2,500,000 annually, and the yearly expenditure for tin plate is about \$1,100,000. In the shipping of the fisheries last year there were employed one hundred and fifteen steamers, fifty-seven sailing vessels, and one hundred boats and lighters. The codfishing firms permanently located in Alaska have

vessels, plying only in Alaska, valued at \$60,000. According to estimates of the United States Fish Commission, there are not less than 125,000 miles of codfishing along the Alaskan coast.

The special features of Alaska—its furs, fisheries, and gold mines—have been so frequently exploited by writers that an entirely erroneous idea has been conveyed as to the country's other diversified sources of wealth. That a grain-growing soil could be found so far north, with summers sufficiently long to bring wheat to maturity, has not been supposed possible. Yet, as I have already said, not only has wheat been grown and successfully harvested wherever the experiment has been made, but even so far north as Fort Yukon, within the Arctic Circle, oats, rye, and barley are now grown regularly. The winters of Alaska are more hospitable than those of the great plains of Wyoming, Montana, and some parts of Nevada, and in the dead of winter horses and cattle can be worked without fear of being frozen. The temperature frequently is very cold, but there are no storms.

Except on the coast of Bering Sea, all the hardy vegetables are grown with marked success throughout Alaska and the Canadian Yukon south of the Arctic Circle. No finer potatoes, cauliflower, cabbage, kale, peas, lettuce, and radishes could be found anywhere in the United States than samples which I have seen grown at the government experiment stations at Sitka and Kenai, and I have been told by a friend that at Holy Cross Mission he had eaten new potatoes, cauliflower, and other late vegetables in the month of July. At Rampart, in latitude 65°, winter rye, seeded there in August, lived through the winter perfectly, and matured grain by August of the following year. Barley seeded in May was ripe by the middle of August.

The great river valleys of Alaska and the Canadian North embrace cultivable areas large enough to form several good-sized States. All through the interior, in fact, there are to be found extensive tracts of grass lands, the growths from which, could there be found a market for them, would exceed in value the products of all the gold mines. Along the route surveyed for the Alaska Central Railroad, from Valdez to Eagle, many large meadows, on which the

grass was waving waist high, were traversed by the party of engineers. A number of horses were seen which had run at large in this region for two years.

Stock-raising is becoming an important Alaskan industry—within a very few years it is probable that regular shipments of cattle for export will be made. The extensive areas of rich growths of grass and the absence of storms in the winter make many sections of the country ideal places for ranching. The present summer is seeing an important step being taken in this connection. Several large stock-growers of Washington State are planning to convert the Aleutian Islands into vast cattle and sheep ranges, which will surpass in extent the rapidly diminishing ranges of Montana and Texas. One company has already begun the shipment of 25,000 sheep and 5,000 head of cattle to the Aleutians, a first consignment of 8,000 head of sheep having recently been sent from San Francisco. The company had previously demonstrated that sheep will thrive there, living throughout the winter solely on the grass of the islands, by having landed 1,000 head there about a year and a half ago.

The rapidly increasing importance of the North has made the United States Government decide to establish a coaling station at Dutch Harbor, the present end of the cable from Seattle.

In 1892 the total foreign trade of Alaska—by which is meant imports and exports of merchandise—amounted to but \$28,366, of which the larger part were imports. In 1900 the total trade was less than a million: \$72,462 were the exact figures. For the fiscal year ending June 30, 1903, Alaska's foreign trade reached a total of more than \$22,000,000, of which the exports were about \$13,000,000. With the gold and silver added the exports would have exceeded \$26,000,000, making the total foreign trade \$35,000,000. The importation of iron and steel products into the Territory during the year exceeded in value \$2,000,000.

And yet the development of the North has only begun. Its immense wealth of fisheries and of timber has been but little exploited; its possibilities for agriculture have not even been attempted. Only the industry in furs and its gold mines have received general recognition. When the cod banks of the coast have been exploited; the salmon

industry placed on a more systematic basis; the deposits of gold, iron, nickel, copper, and coal worked by adequate modern machinery; the vast tracts of fertile land brought under cultivation, and the railroads briefly indicated in the foregoing sketch have been completed, the great North will be no longer the lone *terra incognita* of the past, but will throb with an active and productive civilization.

In the steady stream of population northward there is nothing known of the limits of nationality. There are more of American birth in Dawson than there are Canadians. Even in the great wheat lands of Manitoba the farmers from Dakota, Montana, and the other States of the North and West almost equal in numbers those of Canadian origin. The explanation is simple. With its population of 90,000,000 the United States can send forth its pioneers in the ratio of thirteen to one from the provinces of the Dominion. Loyalty to British connection will not prevent the spread of American influence and the growth of American ideals of government. The entire Canadian Northwest is already more American than British in its administrative systems.

Shut off, industrially, from the east of Canada by the uninhabited and not very cultivable strip north of Lake Superior and Georgian Bay, northwestern Canada must make its commerce with the northwestern States and with Alaska. From south, west, and north, therefore, the influences will be wholly American, while within its boundaries American capital and American settlers will spread the leaven of the genius of American institutions. A few years ago it was the custom to laugh at the purchase of Alaska as having been, somewhat politely, forced upon the United States by Russia as a return for her supposed friendship during the Civil War. The laugh is no longer appropriate. Larger in area than the combined States of Alabama, Connecticut, Delaware, Indiana, Indian Territory, Kentucky, Louisiana, Maine, Maryland, Mississippi, Rhode Island, New Jersey, New York, Pennsylvania, South Carolina, Tennessee, Vermont, Virginia, and West Virginia, or than the British Isles, France, Germany, Portugal, and Belgium together, Alaska, already an important part of the United States, will contribute largely to a social and commercial, if not a political, union of two nations.

THE HUMAN LEGACY OF JONATHAN EDWARDS

FOURTEEN HUNDRED DESCENDANTS WITH A WONDERFUL HISTORY—THREE YALE PRESIDENTS IN THE LIST, AND SOLDIERS, PUBLIC MEN, PROFESSORS, DOCTORS, AND MINISTERS—THE PROGENITOR'S CHARACTERISTICS REPRODUCED IN SUCCESSIVE GENERATIONS, MAINTAINING A CONSTANT HIGH LEVEL

BY

EDITH A. WINSHIP

IN October will be celebrated the bi-centennial of the birth of Jonathan Edwards—preacher, theologian, metaphysician, and mighty historical figure. With his contemporaries he exerted a direct personal influence such as few men can parallel. Today his teachings excite no more than a passing interest, and his writings are read only by students of literary history. And yet this man's human influence, as perpetuated through his descendants, has shown so great vitality that Jonathan Edwards's effect upon the American community has been nothing short of marvelous. What he bequeathed to his lineal descendants is shown by the striking story of what they have done. In every part of the United States are found men and women who owe to Jonathan Edwards a vigor of intellect and character that makes them noteworthy. Through six generations his intellectual and moral force has projected itself, and each successive generation has used this inheritance grandly.

The remarkable record of this family is shown by a study of the descendants of Jonathan Edwards to the number of 1,400, down to the present generation. Whatever the family has done it has done ably and nobly. As public officials, business men, writers and preachers, physicians, lawyers, judges, college professors and presidents, these descendants have been men of mark. And the family has never lost tone through marriage, for its members have chosen men and women of like character and capacity.

The famous Dwight family of Yale is in direct line from Edwards's daughter Mary. Timothy Dwight was president of Yale from 1794 to 1817; Theodore Dwight Woolsey

held that office 1846-71, and Timothy Dwight 1886-97. Doctor Theodore W. Dwight organized the Columbia Law School and was its head for thirty-three years. Other educational institutions which have taken their presidents from the Edwards family are Princeton, Hamilton, Union, Amherst, Johns Hopkins, the Litchfield (Connecticut) Law School, Andover Theological Seminary, the University of Tennessee, and the University of California; and one could count a hundred and more college professors who trace their ancestry to Jonathan Edwards. Amherst has had its full share of this family in President Merrill E. Gates and Professors Mather, Todd, W. S. Tyler, and John M. Tyler. Doctor Daniel C. Gilman, the distinguished president of the Carnegie Institution, also is a descendant of Edwards. It happens naturally that a large number of the family have had college training, and their names are listed among the alumni of forty-five American and foreign colleges.

The clergymen who are descended from Jonathan Edwards have made prominent many churches in Portland, Boston, New Haven, and other New England cities, and in the middle and western States. They have been missionaries in Asia Minor, Africa, India, China, Hawaii, and the South Sea islands. Edwards A. Park, identified with Andover Theological Seminary during forty-six years, reproduced noticeably some of the characteristics of the great theologian. And so we might continue through a hundred names in this line of work.

From this family have come twenty-five officers in the army and navy, and other members have served in our wars as chaplains

and surgeons. One patriotic woman of the family, having no husband to send to the Civil War, paid the regulation bounty to keep a man in the service three years. Other descendants have established periodicals, edited magazines, and written books of merit. They have been superintendents of hospitals and insane asylums; and sixty of the family have been eminent physicians in our large cities. More than a hundred lawyers, thirty judges, and prominent city attorneys of New York, Philadelphia, and Chicago have given evidence of the grand intellectual legacy left by their great progenitor.

The activities of these descendants have been widespread in thirty-three different States and in many foreign countries. They have had an influential part in the management of fifteen American railway systems and the Pacific Mail Steamship Line, of banks, and insurance companies; they have owned and worked valuable coal mines in Pennsylvania and West Virginia, and silver mines in Nevada, also large iron plants and oil interests in Pennsylvania. Some eighty men of the family have held high public offices—as mayors of Cleveland, Troy, and New Haven; governors of Connecticut, South Carolina, and Ohio; United States representatives and senators; and ambassadors to foreign courts.

The high standard of service and distinction maintained so ably by this family was set in the first generation by the sons and daughters of Jonathan Edwards. These eleven children suffered many disadvantages in their childhood. They grew up in a lonely frontier village with Indians as their companions, and during the formative years had no social or cultivated associations outside of their own home. They were left orphans when six of the children were under twenty-one, and were dependent for their support on a meagre property, consisting chiefly of some live stock, a slave valued at one hundred and fifty dollars, and a library. The inheritance on which was founded their success in life was entirely one of keen intellect and fine moral character. Their best equipment was an excellent home training, due to the mother, a woman of beauty, charming nature, and great good sense.

The three sons were graduated from Princeton, and five of the daughters married

college graduates—three men from Yale, one from Princeton, and one from Harvard. These eight sons and sons-in-law of Jonathan Edwards filled many positions of influence and honor. Two were members of the Continental Congress, three were officers in the Revolution, and one was in the Constitutional Convention of 1787; one was a member of the Governor's Council in Massachusetts, one was a State senator, and another was President of the Connecticut House of Representatives; one was president of Princeton and another of Union College; one was an eminent preacher in New Haven, and four, as judges, conducted noted trials. The sons married women who were worthy of the high qualities of the Edwardses, and the daughters were in each case fit companions to their distinguished husbands. They were long-lived people, and they reared large families to extend the Edwards name.

Timothy, the oldest son of Jonathan Edwards, at the age of twenty took the responsibility for the care of seven younger children. He seems, however, to have been undaunted by this task. By 1775 he had become one of the wealthy men of western Massachusetts, but the Revolution ruined him financially. At the sacrifice of his business, he gave his time to serving in the Massachusetts Legislature, as colonel in the militia, as commissary to supply the army with provisions, and in other ways. He let the Government have \$5,000 in good money and fifty tons of flour, taking in return the paper money that was of little worth. After the war came a period of distress, but with the usual energy of the Edwardses he managed to keep his family of thirteen children in comfort.

William Edwards, son of Timothy, showed, like his father, the persistency that brings success despite reverses. Beginning as a tanner's apprentice at thirteen, he started a tannery of his own before he was twenty. His difficulties were many, but by dint of studying out certain improvements in the process of tanning he made his tannery the most important in the country. Then came the war troubles of 1812-13. He failed in business, lost his patents, and at the age of forty-five was forced to go to work in a factory at day wages. Although released from all obligations by the courts, he cleared entirely his debt of \$25,924, even though it

took him until he was seventy-five years old. In spite of these hardships, the sons of William Edwards became prosperous and eminent men.

This representative array of the descendants of Jonathan Edwards goes to show the vigor, the intellectual power, and the high moral standing that have uniformly been characteristic of the family, and it argues a grand heritage from their common ancestor.

Out of all the multitude of descendants, the solitary "black sheep" of the Edwards family is Aaron Burr, grandson of Jonathan Edwards.

Jonathan Edwards himself is commonly known in the forbidding aspect of the preacher who could drive his congregation into hysterics by his vivid picturing of hell torments. That he was a gracious, kindly gentleman, refined, tender, and noble, is a matter oftenest lost sight of. Yet, in his own time, he was revered as much for his personality as for his intellect. This mighty intellect was, to be sure, the dominating feature of his life and character. As a college youth he regulated all the details of his daily life with a view to acquiring the greatest power of thinking clearly and studying constantly. He selected his goal deliberately and then strained every force to attain it. Whenever a mental problem presented itself, he gave his whole thought to solving it, never satisfied with another man's verdict or a half-way solution. He was absolutely independent in his thinking, and thorough. The terrific doctrines that he preached were the natural result of his logic and his sincerity. Given the principles on which his theology was based—and they were principles which held the faith of a host of people—abstract, logical reasoning must bring one to some such extreme conclusions as Edwards reached. Other men assented to the principles, but they did not face the consequences so unflinchingly.

The son who was born in the home of Reverend Timothy Edwards at East Windsor, Connecticut, two centuries ago October 5th, came into an inheritance of intellect and refinement. He entered Yale at twelve years, when the college had no home and numbered fifty graduates all told. After studying there six years he preached some months in New York City and then returned to Yale to win credit as an excellent tutor

and "the glory of the college." His twenty-fourth year saw him married and settled over the country church at Northampton, Massachusetts; and in the course of the next quarter-century he made this the best-known Protestant church in the world, and the most influential. The sermons preached there were read in England and Scotland at a time when those countries were not prone to see any superior thing in the American colonies. From this church went forth a religious awakening that moved profoundly the congregations in New England and throughout the colonies, and stirred even the mother country.

It was the spirit of the reformer and the purity of his nature that brought trouble upon this successful preacher. His open criticism of the habits and the immoral reading of young people in the town involved many prominent families, and the consequent wrath brought about his sudden and harsh dismissal from the church. An ecclesiastical dispute contributed also to this action, and in this controversy Edwards maintained a doctrine that soon became a vital principle of the Puritan churches. Thus it happened that Jonathan Edwards found himself, at the age of forty-seven, with no means of support for his family of eleven children. They were ostracized in the town, but Mrs. Edwards was able to get a little money by taking in work. Six months later Edwards took charge of a mission church in the village of Stockbridge, numbering twelve white families and a hundred and fifty Indian families. Indian wars were a reality in 1750, and Stockbridge, in the colony of Massachusetts, was on the outskirts of civilization. Almost immediately Edwards set himself to exposing and punishing men who misappropriated the Indian funds; and he succeeded. He found abundant leisure here to write his treatise on "The Freedom of the Will"—"a classic in metaphysics"—and one of the few great books in English theology. Through this and other writings the man who had been disgraced and banished more than regained his ascendancy; his former parishioners were repentant and apologetic, and his reputation as a thinker and theologian grew apace. Seven years he spent in seclusion, and then he went to Princeton College as its president. Scarcely two months after, at the age of fifty-four, he died. "From the days of

Plato," said a writer in the *Westminster Review*, "there has been no life of more simple and imposing grandeur than his."

He had been a dominant figure in New England through many years, and had left the imprint of his thought on the Puritan churches. His writings long held supreme authority; and in Europe, as well as in America, he was ranked among the great thinkers of the world. These achievements

alone might well make a man memorable. But they are as nothing when compared with the power for good which he has exercised through his posterity. The theology of Jonathan Edwards may be dead, and his books unread, but the man was greater than the theologian. In leaving to his children and his children's children the legacy that he gave, he did the best a man can do for the world.

"READING FOR TEACHERS"

MISDIRECTED ATTEMPTS TO "ELEVATE" TEACHERS—REQUIRED LECTURES OF LITTLE VALUE—RECOMMENDED PERIODICALS WHICH APPEAL CHIEFLY TO A SENSE OF HUMOR

BY

ADELE MARIE SHAW

Three are three kinds of people—men, women and teachers.—*Gail Hamilton.*

THE observing skimmer of the public prints must sometimes wonder at the painstaking efforts made by "Boards," and even by private philanthropists, to educate the teacher. Everywhere and always it is taken for granted that she "labors under early disadvantages."

The energy expended in supplying the deficiencies in her "culture" assumes a monotonous similarity of form. She is driven to lectures by the tacit threat of dismissal if she does not show a grateful interest in the means provided for her "elevation." Edifying and frequent is the spectacle of the teacher, a specialist and a Ph.D. of parts, listening, polite but pained, to the lucubrations of a lecturer whose bachelor's degree emanates from a "college" hardly on a par with a good high school, whose elementary and "popular" knowledge is couched in language unpleasantly ambitious, and whose "platform presence" is as magnetic as a bar of soap.

It is, to the Board, a matter of no importance that they reimprison their tried servant in chalky schoolrooms. What benefit could the uneducated country air possibly give her that would weigh against the "opportunity" of the lecture?

The Committee, the Trustees, the busy Boards, however, are not contented with

the uplifting influence of the lecture. Now and then they put forth a detaining hand and say, not, "What do you read?" but, "Do you read educational publications?" And with one voice the honest who fear not starvation, neither regard they the frown of the mighty, reply, "We do not."

The outspoken are not the many. Most teachers, men and women alike, have some one dependent for daily bread upon their work. One can starve oneself with comparative cheer, but one cannot risk the starving of a mother, a wife, or even an aged aunt or an orphaned niece, without some qualms. So, having surrendered the holiday to lectures, the patient employee of a big city or of a small town variously evades the question, or substitutes the views of the county superintendent and the story by the district schoolmistress of Apple Corner for *Scribner's* and *The Harper's*, *The Century* and the *Atlantic*, or plods carefully through a pseudo-psychologic treatise on the child-mind, when sympathy, tolerance and knowledge would come faster by way of "Marm Lisa," "Tom Brown," "Little Toomai," or "Boyville."

That as a schoolmarm she can bend to these perpetual recommendings and preserve her resiliency at all proves that, as a race, she dies hard.

If she is to give the best work, her sources

of inspiration should be the best. It is axiomatic that she must receive, or she can not give. Although, in a city, the name of her principal or her superintendent frequently appears upon the text-book, she does not always agree with the conclusions within. If she has resource and initiative she will have reasons for faith and unfaith; she will be original, not opinionated, capable of setting forth more sides of a question than her own, vigorous to maintain at the same time a decent respect for authority and a reverence for the truth. To the right teacher the text-book is a mere starting-point—a concrete something on which the student may plant his feet while he views the landscape. She must create the landscape. All this requires poise and force combined. What she needs is not so much a model as a condition. The “literature” recommended furnishes little to produce the condition. First Aid to the Uncomprehending as furnished in “The Teachers’ Assistant” gives the model in this fashion:

Teacher. What does Brutus say to the Romans?

Pupil. To show the turbulent Roman populace that his motives have been unimpeachable, Brutus informs them that he has loved Cæsar as ardently as they.

In real life, even though the suppositious pupil’s orations have been conned by the class, the dialogue would go something like this:

Teacher. What does Brutus say to the Romans? (Pupil silent, shakes her head.)

Teacher. Think, Mary. Don’t waggle your head at me like a Chinese mandarin in a shop window—(Teacher smiles; Mary grins) but speak clearly, whether you know or not.

Mary. I d’no, ma’am.

Teacher. “Ma’am!”

Mary. I d’no, Miss Bates.

Teacher. Good. That’s better than saying nothing. You, John, please.

John. I fergit the question.

Teacher. (After “dealing” with John) Lizetta Wollaby.

Lizetta. Brutus said he loved Cæsar as arduous as they. But they didn’t believe a word he said. He was silly, I think—because the people didn’t really want any republic anyway—and to go a-stabbing his best friend—I shouldn’t think anybody would believe him—would you, Miss Bates?”

Now, Lizetta is worth a dozen of the Johnnies and Lucys of the printed dialogue, and with her diction amended and the wrinkles

cursorily smoothed from her grammar, the first object is attained; the connection between the play and the pupil has been established. To bring about such a result the “aid” is about as valuable as the questions in a Sunday-school quarterly.

A careful examination of a dozen copies of one of the better periodicals from which the teacher is supposed to derive stimulus and refreshment yielded an interesting anecdote by “H. S. A.,” good articles by Marion Melius and Mr. Buehler, and another worth the searching for by Caroline B. Le Row. Apart from these, nothing discoverable arose above the level of any trade magazine. One may find better reading, more ideas, in the periodicals of department stores, of clothiers, of hardware dealers, of the shoe business.

There surely is poetry better worth even a minute of an active day than these lines that occupy a conspicuous place in one issue of a “teacher” paper:

“Faithful and constant be;
Godward your ship at sea;
Strong in the right. So luck shall
bless your sight.”

Articles on *The Dog* that begin—

“The dog is in many respects a very remarkable animal. It possesses great sagacity, quickness, endurance, and an instinct so highly developed as to seem like the reason in man,”

are not calculated to rouse in either the teacher or the child an uncontrollable enthusiasm.

An improving exercise on Cuba, where much from-the-cyclopedia-obtained information is embodied in the form of thirty-four speeches to be learned by heart and recited from the school platform, has this finale (Number thirty-four is speaking.):

“It is no wonder they have rebelled. We are glad they have, and we hope they will succeed. It does not matter whether we like the Cubans or not. This is a question of justice, and we, who have so long enjoyed the priceless boon of freedom, should be the first to extend to them, in the name of a common brotherhood, our sympathy and our prayers.”

Whole school sings (tune “America”)—

“So say we all of us,
So say we all of us,
So say we all, etc.

“Our fathers’ God, to Thee,”
(through the stanza, adapted).

The man or woman who could not give a talk on Cuba to be repeated, written, reproduced, added to, or forgotten, that would be worth more in lessons of tolerance, chivalry, and loving kindness than the memorizing of dates, figures, and commonplace periods of the compendium, should be put to some other task than teaching.

In this same vein of stereotyped stupidity column follows column. The travels of the school pilgrim personally conducted by the schoolmaster are introduced by "It was a day never to be forgotten," and enlivened with repetitions of the conductor's airy persiflage. O, he is a merry dog, your schoolmaster—of the educational weekly, fortnightly, and monthly! The foolish are not the many who read John Muir and go from "Our National Parks" to the classroom thrilling with the eloquence, life, and vigor of real companionship, but the few whose starving minds are content with "A Day in the Yosemite," by "Instructor," and "Europe in Three Weeks," by "Pedagogus."

Poetry and information are but a small part of the educational offerings of these magazines. Illuminating "suggestions" fill yards and furlongs of the generous space. For every exigency they abound. The instructor in composition finds that Miss Wisely of Far Vale has successfully employed subjects like "A Pleasant Outing." Why not "The Story of a Penny," "The History of an Umbrella," "A Leaf from a Summer Diary"?

Reviews of current magazines occur with more than lunar regularity in other places, but the editors of the teacher's aid are prepared even here to guide her untutored steps.

"Every paragraph," says the critic, "of the *Jenness-Miller Monthly* glows with something of permanent interest to women. The November number has an article on 'The Reduction of Obesity' that will prove of value everywhere." The schoolmistress coming unexpectedly upon this light in darkness must glance involuntarily at the thin and work-worn bodies of her associates and give the writer whatever is the womanly equivalent for the "loud ha-ha."

Example is not, by the "aid," considered so important as precept. "English cannot be taught equally well by any one [!] any more than can any other subject," exclaims an earnest contributor.

Near at hand are both the precept and the sad example of the editor-in-chief.

"Then, again, we have developed an age of misuse of English by making a natural error as criminal as one that is unnatural.

"It is quite a different matter to spell *skilful* with one *l* than [observe] it is *privilege* with a *d*. To say 'between you and I' is not a heinous offense. The use of 'you' in the objective case gives the natural suggestion that it is nominative and 'I' agreed with it. There is no cause for alarm or anxiety if in speech you follow the line of least resistance and use the word most natural. One instinctively assumes that 'you' is nominative, and so says 'between you and I.' 'Upon you and I will come the responsibility' indicates no lack of grammatical knowledge, but merely that one follows a natural tendency.

"Unless the schools within ten years can make it easy to use the nominative with the predicate forms of the verb 'to be,' we may expect to see the grammarians abandon the insistence that we should say 'It is I.'"

Appreciation of a noble game blinds the sporting editor whose work appears on the front page of one of these pedagogical magazines. His repetitions alone would cost a pupil heavily.

"Mr. James P. Reed, of Pittsburg, Pa., is probably one of the most remarkable checker *players* the world has produced. He is not only one of the most brilliant chess-board *players*, but he delights in *playing* a dozen or more *games* simultaneously, either by passing along the *boards* and *moving* the men on his side, or else sitting off in the quiet corner of another room, and having the *moves* on each *board* repeated to him and to which he replies by naming the numbers showing his *moves*. It is nothing uncommon for him to play ten *games* simultaneously and never see a *board* till the last *game* is finished."

"Mr. James P. Reed" is more interesting than the other famous men whose biographies "in a nutshell" are given elsewhere in the paper. He is new to most of the teachers, and the grammatical slip was no doubt classified by editor and proofreader as among the "natural" group.

"A Modern Midsummer Night's Dream" would sadden the heart of a gargoyle. Wick-edness could devise no swifter method by which to lower a child's mental standard.

"The verses," says the preface, "explain themselves. The first part is recited, and as the characters come in appropriately

costumed, the recitation alternates with the quotations (*sic!*), which are given with suitable action.”

The “piece” is long. Here is a bit that follows the prelude.

“First came our Antonio, the prince of mankind,
With Jaques and his pleasantries ambling behind.
‘My ships are all lost, my bond goes by forfeit,’
‘The world’s all a stage, men and women act on it.’
Lord Timon then follows mumbling: ‘Feast—
friends, time flies.’

“Now Ophelia softly looks, starts, and then cries:
‘Here’s rue, and rosemary for remembrance laid.’
‘Sweets to the sweet,’ farewell, dear, dead maid.
Next Lady Macbeth came with sorrowful mien,
Walking ever and saying: ‘Will these hands ne’er
be clean?’

“Then Iago, the paragon, the noble, the true,
‘Steal my purse, but leave that which enriches
not you,
‘Good name, dear my Lord, in woman and man,
‘Of their souls is the jewels, so keep it who can.’”

Sandwiched among extraordinarily suggestive advertisements of cough medicine, and whole paragraphs of Mrs. Winslow’s soothing syrup, are educational witticisms:

Miss Gushington. O, it was grand! When we arrived at the Falls I was quite taken back with astonishment and admiration!

Uncle John. H’m! And had all your journey for nothing? You ought to sue the railroad company.

This may be but one of the many scintillations suggested to the personal conductor of the teachers’ party at Niagara. The poor old man whose words were limited to “Neat, ain’t it?” would surely be the better companion.

It would make for edification if one could reproduce another front-page story where the admirable lesson is “Beware of ruts.” This is the beginning and the ending of the tale.

“What is all this?” I asked of Miss Schmitzger, as I saw, hanging on the wall of her primary school-room in Michigan, a vast array of skins of squirrels, muskrats, rabbits, woodchucks, and kindred animals.

Miss Schmitzger laughed in her playfully provoking way and said, “Wouldn’t you like to know the story of those furs?”

“Whether I ever know it will depend upon your mood, I suppose.”

“Now you put it in such a way that if I don’t tell about these furs you will make it out that I’m moody.”

“You couldn’t be hired not to tell.”

“Couldn’t I? You can afford to hire me to tell. What’ll you give for my best story?”

The price paid is unimportant to the reader, but the story is worth while.

When Miss Schmitzger and Mr. E. were at last alone, the teacher said, “I’m beat for sure now. I don’t know what to do with Paulouski. He knows too much.”

“And too much for me,” said Mr. E.

The real teacher reads what others do, and what that is depends, as it does with all the rest of the world, upon her home and her training, and is restricted only by her natural disabilities and “previous condition of servitude.”

The best teacher has no time for the usual teachers’ paper and teachers’ magazine. Their subjects are better handled in quarterlies and scientific reviews of established reputation. She cares exceedingly little for pictures of supervisors and of bare school buildings (whose viciously crowded interiors she knows too well). The reported words of the man to whom a place on the Board was worth “a thousand down” (even though his coal, sold through a middle man, warms the air she breathes in many a period of stress) fail to exhilarate.

The real teacher gives lavishly and with her might. Her hours of actual labor are often longer than those of a mason or a coal-heaver. Outside of those hours it is her business to restore her diminished vitality, to regain the dynamic power without which no “masterpiece” was ever re-created for a class.

She must flee the very thought of school-rooms, study what she best loves, and wrestle with problems definitely removed from the elementary. She must live. “Never sink the woman in the teacher” was the best advice ever given at a “normal” school.

The real teacher is so busy living, or making the effort to survive, that she has no more inclination to talk shop at inopportune moments than a music-loving merchant has to interrupt a song with details of buying and selling. If, as a traveler, she shows no alacrity in announcing her calling, it is because she would thankfully escape the imbecile who, mindful of Gail Hamilton’s classification, adapts himself to her supposed limitations. A butcher need not always talk of round and rump, leg of lamb and loin of

beef; the conversation of the duke is not confined to tenants and the House of Lords; even a clergyman, unmistakable in cloth and band, may be permitted a wider reach of topics than is grasped by his parish life, but the teacher must keep within borders.

She must "love her work." She must murmur rapt nothings over its "wonderful opportunities," over "its serious responsibilities," over "these little ones entrusted to our care." The more profoundly she feels all three the more rarely will she take the casual stranger into her confidence. No one expects the carpenter, the clerk, the singer, the actor, to sigh forth upon every wind his devotion to his chosen labor, nor is a

man overpleased to have a stranger pounce upon him with, "You, I suppose, are a book-keeper." But everybody, everywhere, feels at liberty to demand, "Are you a teacher?"

What every teacher needs is a sense of humor. (And this is just as true as if it had not been said before.) The more complex and valuable a member of the organism she is, the more she needs it.

But if she feed upon the dead pabulum provided exclusively for her reluctant palate she may in the end own with simple truth—

"I am neither man nor woman,
I am neither brute nor human—
I'm a ghoul."

CLEVELAND—A CITY "FINDING ITSELF"

THE POLITICAL MAKE-UP OF THE SHEFFIELD OF AMERICA—
HOW MAYOR JOHNSON'S INNOVATIONS HAVE BEEN RECEIVED—
THE ORGANIZATION OF THE CITY—ITS CIVIC EFFECTIVENESS

BY

FREDERIC C. HOWE

ILLUSTRATED WITH PHOTOGRAPHS BY A. L. NEWMAN

THE average community is deficient in the coöperative spirit. Politically, our cities are still looked upon as places in which to live and make a living. Probably Cleveland has come nearer to "finding itself" than any other large city on the continent. It is becoming organized. It is acquiring a capacity for political sacrifice. It is learning to think as a municipality. It has come into possession of belief in itself wholly aside from the spirit which delights in large figures, increased bank clearances, and splendid tonnage. It has already developed powers of defense. As time goes on this power will become aggressive as well.

Cleveland has been termed "The Sheffield of America." It is a manufacturing city *par excellence*. It is a centre of the Great Lakes trade. Some years ago Mr. Carnegie pointed out that the region about the southern shore of Lake Erie was the point of the cheapest iron and steel production in the world. Here iron and fuel can be assembled more cheaply than at any place else on the globe. And here the wealth of nature that is making America great as an industrial

force is seen in its richest development. It is no idle prophecy that the Cleveland and Pittsburg district is bound to be the centre of the iron and steel industry of the world, and with it will come all those elements of high civilization that have previously made the Italian and Hanseatic cities, Holland, and London, centres of art, culture, and refinement.

The city is Puritan in its social and ethical consciousness, and almost as foreign as Chicago in its ethnic make-up. A composite photograph of its population would show German, Irish, Bohemian, Hungarian, and Polish settlements imposed upon the pure Anglo-Saxon stock which took up the Western Reserve in the closing days of the last century. Out of a total population of 381,000 in 1900, nearly one-third, or 124,631, were persons of foreign birth. It is this foreign infusion which disturbs Anglo-Saxon traditions. It has come in response to an industrial demand, and has brought with it foreign ideas of individual liberty and hygiene. But the contributions of these several races to the civic life of the community

are very dissimilar. The German and the Bohemian are probably the most independent in political thought. They are thrifty, intelligent, and substantial. The Irish have large powers in social organization and political cohesion. In politics they are a force. And an examination of the election returns shows many reassuring things regarding foreign voters of a large city. They are inclined to vote a split ticket. Moreover, they possess what the Anglo-Saxon does not—a social sense in politics. Ofttimes they organize for spoils. They appreciate the force of team play. This the Anglo-Saxon lacks. His individualism frequently leads to indifferentism. He stays away from the polls. At a recent local election 20,000 citizens who registered failed to vote, and a large portion of these came from the better-to-do class in the community.

The segregation of the foreign immigrant into districts has led to the development of the "ward boss." He is found in Cleveland as elsewhere. He makes a business of politics and works for the candidate who pays him best. He dictates nominations and dominates elections in his ward. Possibly he cannot read or write, yet he is influential as a police court lawyer. He can personally marshal more votes at an election than any other man in the city. And these votes are cast irrespective of merit in the candidates. This is one side of the shield. It is the popular conception of the boss. But wherein lies his power? By what means does he exercise his dominion? If we accept the traditional idea, we are forced to admit that evil is the most potent force in his personal contact with politics. But the other side of the shield qualifies this impression. Possibly his virtues are not of an Anglo-Saxon sort, but they are social and political ones. The leading "ward boss" in Cleveland is constantly engaged in works of what would otherwise be conceded to be personal charity.

He greets the immigrant when he arrives in the city. He finds him a temporary lodging place and assists him in securing a home. He advances him money to enable him to start in business as a huckster or a pedler. He exacts usury, it may be, but he at least makes the loan, and a loan on any terms is at times a kindness. When prosperity comes he presides over the wedding. When adversity and disaster appear his is

the kindly hand which furnishes coal and the undertaker. He leads the newcomer to naturalization and aids him when in trouble with the law. He goes his bond in the police court and finds him a job on the city streets. In a country where those who should be the governing class are often too busy to go to the polls, the man who does these things is bound to be a force. By the eternal law of compensation he should be a force. As a matter of fact, were it not for this type of man, the foreigner coming to our shores would remain a stranger to our life and to our institutions. This is one of the problems that free naturalization creates. This is one of the burdens that improved municipal administration has to face.

And Cleveland is a centre of political and industrial unrest. It has been looked upon as a Republican centre. It is now a Democratic one. For years the Democratic party was moribund. Two years ago Mr. Johnson became a candidate for Mayor and was elected. His two-years' term of office ending May 4, 1903, was one of the most strenuous in the annals of American cities. He is not only a Democrat, but probably the leading exponent in America of the philosophy of Henry George. Further than this, he is an advocate of the public ownership of all public utilities, local, state, and national, and would include in the programme not only street-railway, gas and electric lighting properties, but steam railroad service as well. He has conducted a campaign for the taxation of such utilities at their franchise value, according to the principles of the Ford Franchise Tax enacted by New York while President Roosevelt was its Governor. He has also sought to introduce competing street-railway lines on a three-cent-fare basis. Further than this, he has aimed to secure, through legislative action, a larger degree of home rule in municipalities, making the city the unit and giving it power to formulate its own charter and to determine its own activities. True, none of these things have been accomplished, but the hands of the city were tied by *quo warranto* proceedings, which destroyed the charter of the city and incidentally brought down to ruin every other city in Ohio. Thirteen injunctions were brought against the actions of the administration, by which tax reforms, street-railway legislation, and many other similar changes

were prevented, and local government was for the time being paralyzed.

As a final check to such activities, a scheme of municipal government was "jammed" through a special session of the Legislature against the protests of nearly all the independent bodies of the State. This plan substituted for the chaos of municipal charters a uniform one of divided responsibility, consisting of commissions, boards, and elective officials, so designed as to distribute executive power and render the Mayor powerless, and a "boss" outside of the machine a natural product. But, as is usual in any attempt to restrain a free people, the Democratic party came back into power with almost the identical majority of two years before.

In the last campaign no word appeared in either party platform, speech, or editorial comment bearing upon national issues. The contest was confined to local affairs. Neither the tariff, the Philippine policy, nor the necessity of sustaining the President was referred to. For the first time in recent history, emphasis was centred upon the city, and its needs have been treated as of paramount importance.

Further than this, there has come about within the past two years an interest in taxation as a question higher than expediency. It is not only a question which touches the purse; it is a matter of public concern that the State be just in the assessment and collection of its revenues. Thus far the controversy has been confined to an attempt to place all railroads, gas and electric lighting companies on the tax duplicate on the same basis as other property—i. e., measured by their value in the market. Coupled with this has been an endeavor to reappraise real property by a scientific method which would eliminate existing inequalities.

It is a significant thing that in Chicago, Cleveland, and Detroit, wherever politics have been shaken down, the dominant note in campaign after campaign has been the relation of the city to the public service corporations. Wherever this is true, wherever these corporations are subject to the scrutiny of the public year after year and are made the issue in recurring municipal campaigns, it is safe to say that any adjustment which is not right will not stand, and that the only possible solution of the situation outside of municipal ownership is one that

satisfies the people as to its fairness and honesty. And in Cleveland, as elsewhere, there is one issue that does not change. There is a third unknown party that is always active. Sometimes it works with one of the regular parties, sometimes with the other. It stands for private interests, against the public. Were the element of public franchise removed from local affairs, honest administration would be a much easier thing. The petty "grafts" of contracts, spoils, and partizan advantage would sink before the innate sense of honesty and the growing desire for municipal reform were it not for the privileges worth millions of dollars which are to be had through machine organization, campaign contributions, the election of dishonest men, and the subversion of the city to private ends. And the insistent and growing belief in municipal ownership is largely due to the conviction that honest government is well nigh impossible because of the profits to be made through corruption in public grants.

Mr. Johnson has approached the street-railway issue in a new way. Instead of attempting to regulate or reduce charges by legislative action, he has sought to bring about the same result by inviting competition. New street-railway routes have been laid out and bids asked for a competing line on a three-cent-fare basis. These advertisements brought forward last year a bidder willing to construct and operate at this rate. But the city was not permitted to make use of its highways for this purpose. Injunctions and *quo warranto* proceedings were used to prevent it: for nearly a year the city was not permitted to move.

Cleveland enjoys a seventy-five-cent rate per thousand for artificial gas, and a thirty-cent rate on natural gas which is brought to the city from West Virginia and is largely used for fuel. At the same time, vigorous action is being taken by the city to erect a municipal electric plant to light the streets and furnish light and power for private use.

As a matter of fact, the question of municipal ownership has had for more than a generation a practical demonstration in the Cleveland water works, which has been owned by the city since 1856. At the present time the system is valued at \$10,000,000 and has a bonded indebtedness of only \$3,250,000. From this source the city enjoyed a revenue in 1902 of \$858,780 in addition to free water

for all public departments. It yielded a net revenue, after the payment of all operating expenses and fixed charges, of \$483,900, which, if added to the free water-supply, would show an annual net earning capacity of \$683,900. During the past two years the department has been free from politics and has been conducted on a merit basis. As a measure of reform, the administration has undertaken the universal metering of the city, by means of which all will pay according to their consumption instead of according to their waste.

The political organization of the city of Cleveland prior to the destruction of its charter was unique. It was an attempt to adjust English parliamentary forms to the administration of city affairs, with the aim of securing centralized responsibility and efficiency in administration. The charter was worked out as early as 1891 by a committee

Charities and Corrections, and Accounts, were appointed by him. With the Mayor, these officials constituted the Board of Control, who devoted their entire time to public affairs, sat as an upper chamber or senate, and passed upon legislation. While primarily an executive body, the Board of Control enjoyed legislative power. The Mayor exercised the veto, subject to being overruled by a two-thirds vote of the Council. The Council itself was a small body of twenty-two members chosen by districts. The bi-cameral plan thus existed in substance, but not in reality. The Board of Control was not unlike the well-paid, trained Board of Aldermen of the German city. As a paper plan, the charter of Cleveland was an almost ideal one. In practice it worked very well. It resulted in the Council becoming largely a registering or protesting body. It initiated but little legislation. It made up



THE SITE FOR THE NEW PUBLIC BUILDINGS OF CLEVELAND OVERLOOKING LAKE ERIE

of the Chamber of Commerce. It was known as the federal plan. Prior to that time the city government was chaotic. It consisted of a Council and a Mayor, the inefficiency of whose administration was sought to be corrected by boards or commissions created in various ways. Irresponsibility was the result. Inefficiency could not be located. Each official shifted the burden to his neighbor, while the public aimlessly sought relief by still further legislation. By the federal plan the Mayor and chief executive officers or heads of the five departments became the repository of all administrative functions. They were given a seat and a voice in the Council Chamber, but no vote. This is probably the only instance in America where the ministry or executive officials enjoy this privilege. The Mayor was chosen by popular vote, and the heads of the departments of Law, Public Works, Police, Fire,

the budget, it is true—on estimates furnished by the departments. Its information was *ex-parte*, and came from the executive heads. Almost all of its acts emanated from the administrative chiefs, and the patronage reposed in the heads of departments led to the subversion of the legislative branch.

On the whole, however, Cleveland is and has been, relatively speaking, a well-governed city. It has an inadequate police and health force, and is blackened with smoke. It has made some engineering mistakes, is governed by the spoils rather than the merit system, and is far from being a finished product. But its appropriations for these purposes are inadequate, and public service of an efficient sort requires large expenditures. The lives, property, health, and well-being of a community of 400,000 people cannot be adequately safeguarded at \$16.75 per head. Little or no complaint is heard of police

blackmail, so prevalent an evil in other cities.

The Fire Department occupies a position of unquestioned efficiency, and is conducted on a strictly business basis. Admission to the Police and Fire departments is by competitive examination, and the members are protected by civil service rules. These rules protect the official rather than the community. Removals can be made only upon charges and after a trial. The result is that discipline is impaired, owing to the feeling of security which the men enjoy in their positions. This is probably the worst feature of the merit system. A department may be loaded up with dead timber, incapable through age or other reasons of performing its duties, and removal is next to impossible. In municipal affairs, where activity and energy are required, provision should be made for rigid examination upon entrance to the service, with perfect freedom of removal for any cause. Present methods sacrifice the community to the office-holder.

Scandals of one sort or another have arisen from time to time in Cleveland's administration. They have grown chiefly out of the granting of franchises, although occasional disclosures have been made in the matter of public contracts. It has been suggested that this indicated a bad condition of affairs as compared with other cities where such scandals have not been disclosed. In a sense, at least, it indicates a degree of municipal intolerance of such evils, which has brought them to light.

The chief objection raised to the federal plan was that it enabled a machine to be created at the hands of the Mayor. He enjoyed, through the executive departments, a large patronage, and disposed of some twenty-five hundred jobs. By this means the "boss" of the machine was the Mayor, and ten years' experience demonstrated that this condition almost inevitably arose under a plan of centralized responsibility with the spoils system. But there is one advantage in the plan. The "boss" is an elective official. He cannot be an outsider, as is the case in other cities. Under the federal plan he is a responsible boss, for he has to give an account of his stewardship every two years to the people, and the people of Cleveland have been able to dethrone the Mayor whenever he became objectionable or too powerful.

On the first of May of this year the plan described above, which has been in successful operation for ten years, passed away, and a mixed product, which is in effect a return to the old and discredited board plan, was substituted in its stead. Under a decision of the Supreme Court, all the charters of the State were declared unconstitutional because of special legislation. A new plan to satisfy the needs of more than fifty municipalities had to be formulated. For some years a special commission, appointed by the Governor, had been at work upon a uniform code. The State Bar Association had appointed a special committee for the same purpose. These bodies, together with other voluntary associations, united in recommending a plan similar to that in vogue in Cleveland for all the cities of the State. In addition to this, the State Board of Commerce advocated a simple plan of home rule, by which all cities should be permitted to draft their own charters, much as a State constitution is drafted by a constitutional convention. No such opportunity has recently come to any State. Unfortunately, however, the recommendations of these bodies were ignored, and a plan devised with the twofold object of placating the Republican "boss" of Cincinnati and of curbing the power of Mayor Johnson, of Cleveland, was adopted. As applied to Cleveland, the code provides for a Council of thirty-two members, a Mayor, a Board of Public Service of three members, a City Solicitor, City Auditor, and Treasurer, all elected by the people, and a Board of Public Safety appointed by the Mayor. The Board of Public Service has charge of all contracts and enjoys great administrative powers.

This scheme was not adopted because of its merit, but because it met the approval of those who saw in it a plan for ridding the large cities of troublesome executives, who, through the use of executive power, were disturbing party supremacy in the State, and were interfering with public franchises and privileges.

As an outline of government it has little to commend it, and is in reality a return to a form discarded after experience in almost every large city in America.

The new government went into effect May 4th. The first session of the Council was signaled by a resolution providing for



Photograph by Newman

THE SOLDIERS' MONUMENT AND CAPTURED SPANISH CANNON IN THE PUBLIC SQUARE OF CLEVELAND



THE DISTINCTIVE BEAUTY OF CLEVELAND'S RESIDENCE STREETS

a municipal electric lighting plant, to cost \$400,000, as well as new lines of street railways to be conducted on a three-cent-fare basis.

Cleveland has also entered upon a policy in the treatment of petty offenders which is unique. A Juvenile Court was provided for by the last Legislature. Under the new

arrangement, juvenile delinquents have been removed from the police jail to the custody of the new court. Instead of being incarcerated in the jail, with all sorts of male and female offenders, children are placed under the jurisdiction of the judge, who is aided by hundreds of men and women probation officers who have volunteered in this work.



THE WIDE BUSINESS STREETS OF CLEVELAND

Juvenile offenses consist chiefly of truancy, vagrancy, destruction of property, and petty misdemeanors. The aim of the Juvenile Court has been not to punish the child, but to investigate its home surroundings, from which the child is either removed and placed in some private home or institution, or, where possible, the home life has been toned up and the child left under the care of its parents. In either instance, the child is paroled to an "official father," to whom regular reports are made. Through this instrumentality "de gang" is being destroyed and the leaders, whose ambition and energy are diverted into new channels, are being turned into good citizens. Within a year's time the commitments to reformatory institutions have decreased more than sixty per cent. as compared with the old system, while the expense to the county and State will ultimately be reduced by the conversion of these children into self-respecting, instead of criminal, members of the community.

Supplemental to the Juvenile Court is the Boys' Farm School. Through this institution the city aims to care for the most recalcitrant of the children. The school will be more like a country home than a prison, with industrial and educational advantages added. The aim will be to create a sense of responsibility, which keeps the child in touch with its future work in the world and re-creates its impaired self-respect. The school will probably be conducted on the basis of the George Junior Republic, and will be free from any suggestion of the penal institution. The boy will not leave it as a criminal, but as a graduate from a school.

The same humane policy has been adopted by the Charities and Correction Department, under the direction of Harris R. Cooley, toward adults whose offenses are of the lesser order rather than the criminal sort. Heretofore, the workhouse has been filled with commitments for drunkenness, vagrancy, and others guilty of misdemeanors, or suspicious persons, many of whom were detained there for nonpayment of fines. This was denominated "imprisonment for debt," and in two years' time there have been pardoned and paroled more than eleven hundred offenders, of whom but fourteen per cent. have been recommitted. During the previous two years there had been but eighty-four pardons granted, of whom twenty-



THE BUILDINGS OF ADELBERT COLLEGE

five per cent. were returned. The underlying motive of the city's policy has been to save self-respect wherever possible and to help the offender to an opportunity of living a normal life. The old system started hundreds of men and women toward the penitentiary; the new offers them a helping hand from the State to regain their position.

Washington, New York, Chicago, Cleveland and San Francisco are all contemplating the importance of rendering their cities more presentable. In line with this spirit, Cleveland has undertaken a systematic development of civic architecture on a splendid scale. Although an industrial city *par excellence*, Cleveland's public and semi-public organizations have taken hold of the arrangement of public buildings for the purpose of working out a grouping plan on an extensive scale. The Federal Building, County Court House, City Hall and Public Library are all shortly to be constructed. The idea was conceived to group these



THE SPECIAL CHILDREN'S DAY IN THE PARKS

buildings about a common centre. The lake front of the city has been chosen as the site for these structures. Legislation was secured from Columbus authorizing the city to employ three expert architects, with full veto power over the erection, style and character of all public buildings. Messrs. Burnham, the architect for the World's Fair at Chicago; John M. Carrère, the architect for the Buffalo Exposition; and Arnold W. Brunner, architect of the Federal Building, Cleveland, were selected as a commission for this purpose. The completed plan involves the expenditure of from \$10,000,000 to \$14,000,000, and will give the city of Cleveland a collection of magnificent public structures and create a civic centre fronting upon Lake Erie, in close conjunction with a splendid park, mall, and public recreation ground. Adjacent to these public buildings is the Chamber of Commerce, the Lakeside Hospital, the Central Armory, and other semi-public buildings, while it is designed to bring the new union railway

station into the plan, making it the gateway to the city.

Side by side with the regular political life of a city are certain lines of voluntary activity that have always relieved the inefficiency of municipal administration. And Cleveland has always been distinguished for the organized sense displayed in such lines. The Cleveland Chamber of Commerce is only incidentally a commercial organization. Its work in municipal, state, and federal matters is identified with legislation of a commanding sort, while during the past few years it has maintained committees on industrial betterment, for the improvement of factory conditions, and on housing for the correction of tenement-house life, while occasional committees on public franchises have protected the city from improvident grants.

As has been indicated, Cleveland is essentially independent in local elections. It is coming to esteem city before party.



THE WELL-TO-DO RESIDENCES OF CLEVELAND



WHERE THE CITY TOUCHES THE LAKE

Showing the artificial harbor made by breakwaters

And this spirit is the growth of a very few years. It has been largely promoted by the Municipal Association, an organization composed of professional and business men organized for the betterment of local politics. It is controlled by an executive committee of ten, of which Mr. Harry A. Garfield is president. It issues bulletins on candidates at the primaries and at election time, and engages in many forms of local investigation and the promotion of needed legislation during the interim. It has succeeded in defeating many inefficient men for office, and has substantially improved the *personnel* in local politics. Maintained by voluntary subscription, it is a constant menace to the bad official, and a source of encouragement to him who receives its support.

It will probably be a long time before the people of America are convinced that municipal administration can be honest and efficient. There is such an accumulation of evidence against such an hypothesis. And yet, when one considers the array of forces against good government, the wonder is not that it is so bad, but that it is so good. And many departments of Cleveland's life are conducted as honestly and efficiently as any business concern. This is now unquestionably true of the schools; it is and has been true of the libraries. The Treasurer's and Auditor's departments are beyond reproach. The Water Works is on a merit basis, and earns annually one-fourth as much as the total revenue from direct taxation. The Fire Department is efficient; the streets

are now clean and well lighted. The parks are conducted to secure a maximum of enjoyment to the people, and small playgrounds and public baths are bringing the opportunity for healthful recreation to all the people. The police force has been reorganized; blackmail is almost unheard of, if it exists.

And the cost is lower than almost any large city in America. The per capita expenditure for all purposes was but \$16.68 in 1900. For New York in the same year it was \$30.35, and for Boston \$45.37. Cleveland stands seventh in size in American cities, and is somewhat below the average of the ten largest American cities in its net per capita debt.

It is not to be inferred from this that Cleveland has solved the problem of municipal administration. But it is a striving city, seeking by conscious action to correct one evil after another, and to enlarge the sphere of human life by offering greater opportunities for comfort and happiness. It is filled with an alert political and industrial sense, is aided by an independent press, and gives promise of being one of the great centres of the world from an architectural and industrial point of view. And in the matter of those great economic and political reforms centering about taxation, municipal ownership, and home rule, it is likely to lead the way in demonstrating the possibilities of local cooperative political action, even at the point where American institutions seem to have most completely broken down.



HOW THE ORE IS AUTOMATICALLY



THE GREAT ORE DOCKS AT THE MOUTH OF THE CUYAHOGA RIVER



LOADED AT THE CLEVELAND DOCKS

Photographed by Detroit Photographic Co.



AT CLEVELAND, THE LARGEST ORE DOCKS IN THE WORLD

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THE BLOCK BEAUTIFUL

MAKING CITY HOUSES ATTRACTIVE—HOW A MOVEMENT TO BEAUTIFY A SINGLE BLOCK IN BROOKLYN WAS CARRIED ON—THE PREPARATION OF WINDOW-BOXES—POSSIBILITIES IN NATURAL DECORATION

BY

ZELLA MILHAU

TO start on a small scale giving new attractiveness to a single square of houses—an average, ordinary, prosperous city block—by window-boxes, newly set-out trees, stoop jars of flowers and plants—that was the idea of the "Block Beautiful" begun in the borough of Brooklyn, New York, just a year ago. The "block" has now overflowed its bounds. This year—its second—it is the "Heights Beautiful," the term covering practically all Brooklyn Heights for many blocks around.

What brought out the original idea of the "Block Beautiful" could have been little short of inspiration. A conference of the Municipal Art Society of New York had drifted into a discussion of ways to relieve and beautify the dull monotony of even the handsomest of New York streets. Up to the winter of

1902 it had worked almost entirely for the future, and its best plans called for the expenditure of hundreds of thousands of dollars on the part of the municipality.

Then the idea came to the members of the society to begin in some small way to lead the people to join the movement of their own accord. From this the plan of the "Block Beautiful" sprang, suggested by memories of the streets of some Continental cities where even the dingiest houses are given charm by flowering window-boxes, climbing vines, plants, shrubs in pots, all in full view from the streets, and small trees in front. Remembering that in New York houses adorned in this way are an unaccustomed delight to the eye, the thought came to take at first one block of residences of well-to-do householders and experiment



A TILED WINDOW-BOX



A "BLOCK BEAUTIFUL" DOORWAY

with it, to line its sidewalks with trees, and to have every dwelling whose owner could be induced to come into the movement display window-boxes and boxes over doorways, and plants and shrubs upon the stoops.

Brooklyn, as a city of householders, seemed a good field for the experimental "block." The plan, once started, brought interest from the entire country. But it was not until long after the block was approved of in other cities, and letters were coming in from all over the country about it, that it was possible to "get the block together"—to interest people and induce them to act, to set out trees, to have boxes made, put up, and filled—to work in concert. That the plan was a good one no one doubted, but it was a different matter to get every one who approved of it to act. Nobody wanted to be first, and resident after resident said:

"I'll come in next year. I like the idea, but I don't know exactly what I want. Let me see what Mr. B—— and Mrs. A—— are going to do."

Today we have passed that stage. As the representative of the Municipal Art Society I now have our tree-planter, our window-box makers, our florist. We have models of a dozen different styles and fashions of window- and front-door boxes, photographs of florally decorated houses and of artistic

back yards, the latter being no insignificant detail. In Philadelphia, in Brooklyn, and this spring in New York City itself, I have had exhibitions of these model boxes and



POTTED FERNS BEHIND AN EXTENSION WINDOW-GUARD



THE BLOCK BEFORE THE MOVEMENT BEGAN

doorways, all in miniature, together with adjoining portions of miniature house fronts, showing how properly designed window- and door-boxes look. These exhibitions, especially that in New York at the National Arts Club this spring, aroused very considerable interest.

But to begin with we had nothing of this sort to show. After inducing two or three families to join with us, we found that it took mechanics of more than ordinary ability to make the boxes as we wanted them. Boxes to meet every contingency are now designed,

municipal importance to the city at large and to its citizens as an object-lesson, how it would delight the eye, and how it could not help but advance the price of real estate by making this block more desirable than ever.

This was the welding of the block together as a "Block Beautiful." Then came our "stranding" with carpenters and florists, the impossibility for a long while of getting things done properly. Next arose our flower problems—just what might best be put in the boxes. Simultaneously we campaigned



A HOUSE WHICH HAS JOINED THE "BLOCK BEAUTIFUL" MOVEMENT AND ONE WHICH HAS NOT

and it is simply a matter of copying models or of following specifications. But at first they were difficult to plan, as the floral decoration of each house presented a separate problem. And more than one of the early boxes proved an absolute failure.

It resolved itself at last into a house-to-house canvass. I saw my neighbors individually and got them to realize just what they were required to do—how this exterior adornment of their houses would be of

for trees and vines, for back and side yards, often without much immediate accomplishment, but with the fixed idea that if we could not get a man to do one thing we might interest him in another.

The florists said that it was a great deal of trouble for very little money, and that they did not know where to get the boxes. The carpenters grumbled and said it was not worth while, and the florists wanted too much of the profits. The wrought-iron men,

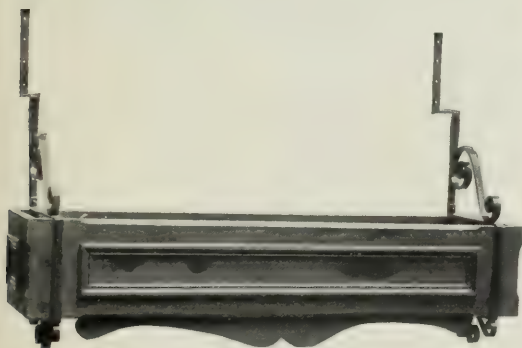


A HANGING BOX AT A WINDOW

who were to make us brackets, took a hasty moment from their contracts to say that they could not take small jobs. Each shop we visited looked for orders for hundreds, and I came to them with orders for pairs.

The original idea of importing had almost immediately to be laid aside. What suits one country does not suit another. Abroad there are window-boxes in plenty, but abroad the windows have deep ledges and seem to have been made for window-boxes. We found that an American "Block Beautiful" needs an especial kind of box—a zinc box within an ornamental cover, the latter taking whatever drip there is, and the whole carried on ornamental brackets below the shutters.

In our first year we set out some fifty trees, none of which have died. We saw before the end of the season at least five beautiful back and side yards; and more than thirty householders aided the movement by either window- or door-boxes, training vines over their houses, or by orna-



A WINDOW-BOX TO BE HUNG BELOW BLINDS

mental vases or jars filled with green or brilliant blossoms.

The prospect grows constantly greater. This year we shall first of all plant trees along the streets. The demand for pretty window-boxes is not lessening, but the interest in back yards is growing greater. More especially with our Brooklyn "Block Beautiful" this is to be a tree and a back yard year.

For two months at the start this Brooklyn movement took all of one woman's time, the answering of hundreds of personal



A MODEL VINE-CLAD DOORWAY

letters, the making of innumerable visits, the overseeing of mechanics and gardeners. But for others many of these labors may be avoided. The worst of the experimenting is over, for in the possession of the Municipal Art Society of New York are numerous data, many models, the records of a hard year of experience, and not least important the chapters of "How It Should Not Be Done."

We learned, for example, that a florist is not necessarily a gardener, and that unless he understands gardening thoroughly he will be of little use with the window-boxes; that a window-box not conforming to the general style of a house makes a poor appearance, and that its effect in the place for which it is intended should be carefully studied; that too many window-boxes on a house make a house overloaded—as serious an artistic error as overdressing for a woman.

bending over it, and also that no window-garden appears the same the first few days after it is set out as it will later when in full cultivation. More than one of us planted our first boxes so that they made a famous show viewed from our own windows, and all the while were ineffective and inartistic as seen from below. Box after box was quietly rearranged when this was realized. Unconsciously at this time we were learning a little lesson in altruism and unselfishness—that our



A BACK YARD WITH UNDEVELOPED POSSIBILITIES

We learned, too, that the color of a box should be governed by the color of the house. Green, contrary to our expectations, proved the least satisfactory. An imitation of brownstone established itself, upon experiment, as the color that harmonized best with house, plants, and vines.

Another lesson that came to us by experience was that a box does not look the same from the street as it does to the owner

boxes, our stoops, and our vines were not for ourselves alone, but for the entire block and for the passer-by.

We figured the cost to householders for a window-box filled and placed in position at from \$2.50 to \$15—the higher figures for boxes surfaced with handsome tiles. We arranged during the summer to have a florist water and care for boxes for \$3 a month per box while families were away

in the country. We had vines supplied at an average of thirty-five cents apiece (with a small charge for planting), and furnished trees for from \$5 to \$6, with a charge of \$1.25 an hour for setting out. People in the other cities can meet these figures, if, indeed, they cannot lower them.

The standby of all inexperienced gardeners is the geranium. It is such a hardy plant that it will weather all the amateur storms, a drought of forgetfulness followed by a deluge

box and gives a larger mass of green for the eye to rest upon.

An interesting way of planting is to mingle a few seeds in the box in among the plants. Thus you get an element of change and mystery that is delightful. Nasturtium seeds, for example, might be put in a box of white geraniums. The newly growing flowers would make your box doubly interesting.

One doorway box of this first "Block Beautiful" that was most pleasing to the eye



A BACK YARD THAT HAS BEEN IMPROVED

of water and lavish care. Luckily it comes in many colors, as well as in several varieties. It is a good foundation for any window-box. A very satisfactory effect for this same geranium could be made by backing it with foliage or daisies, or else using the geranium itself as the background and sowing low-growing flowers, such as lobelia, in front. The use of vines—any good vine—is particularly desirable, as it breaks the severe lines of a

had two small fir trees, one at each end, with red geraniums and green vines in between. This doorway pointed up in the middle, and the box was built to fit it. The effect of the two fir trees at the ends gave just the points of green that emphasized the pointed doorway and lent character to the box and what it contained.

A window-garden can be kept beautiful the whole year round with three distinct



A RUSTIC WINDOW-BOX



DETAIL OF A "BLOCK BEAUTIFUL" WINDOW

plantings. The first of these is in the early spring—tulips, crocuses, pansies, and hyacinths. Late in May the second or summer planting is due—geraniums, daisies, nasturtiums, and other plants that flower in June, July, and August. Begonias and fuchsias do well where there is little sun. In the fall, after frost, change again, using hardy shrubs, box, and fir trees.

The possibilities of winter window gardening in the city have never been realized. An excellent effect can be made with boxes

and yards green and beautiful with hardy shrubs, fir and pine trees outside in their boxes, and in pots and tubs on their stoops all winter long.

In vines we had our greatest success with the *Ampelopsis* (the Boston ivy). In trees we took maples, oaks, lindens, elms, Japanese ginkgos, poplars. In more than one instance I managed to persuade a householder to plant a tree, and after he had started in to view it with satisfaction make that tree lead to window-boxes and stoop adornment.



A WINDOW OF HARDY SHRUBS

HOW THE ARMY IS NOW ORGANIZED

A SMALL ARMY ON ITS PEACE FOOTING WHICH MAY BE EFFICIENTLY RAISED TO LARGE WAR PROPORTIONS—ADVANCED SCHOOLS FOR THE OFFICERS OF ALL BRANCHES OF THE SERVICE—THE NEW AND PRACTICAL GENERAL STAFF—THE MILITIA QUESTION

BY

FRANCIS E. LEUPP

WHEN war with Spain was declared in the spring of 1898 it found the United States deplorably unprepared. Our army numbered only about 26,000 men, and its organization, inherited with few modifications from the fathers of the Revolution, was wholly inelastic, seriously defective in some details, obsolete in others. By extraordinary measures it was strengthened numerically for the purposes of a summer campaign, so that at one period we had had almost 275,000 soldiers, including volunteers, under arms. Our later adventures in the Philippines indicated that we were liable in the future to need a large army at one time, and a small one at another, even without a menace of war grave enough to call for action by Congress. So a law was enacted giving the President, under sundry conditions, discretion to increase or reduce the army between fixed limits, which may be roughly stated as a maximum of 100,000 and a minimum of 60,000 men. The latter figure, known as the peace footing, is what we have today.

More accurately, the present enlisted strength of the army is 58,000 men, distributed between fifteen regiments of cavalry, an artillery corps, and thirty regiments of infantry. Each regiment of cavalry, besides its quota of commissioned and non-commissioned officers, its band, etc., contains 516 privates, divided into twelve troops.

The artillery corps is made up of thirty batteries of field artillery for general use in campaigning and 126 batteries for manning the forts on the seaboard. Each battery contains as many men as the Secretary of War believes are needed. The law allows the corps two years yet in which, by gradual additions from the other arms of the service as the soldiers can be trained and spared,

to attain its full enlisted strength of 18,920. The corps takes the place of the five regiments which existed under the old organization, for no fort among our seacoast defenses has either need or room for a whole regiment; hence it was the custom to assign one battery to one fort and another to another, merely seeing to it that enough men were in each place to work the guns there properly. But the country was carved, for military purposes, into twelve departments, each under command of a different general officer. The colonel of a badly scattered artillery regiment, therefore, was liable to have one of his batteries in the Department of the East, another in the Department of California, a third in the Department of the Lakes, a fourth in the Department of Texas, and so on. Although he was nominally in command of all these batteries, some other officer would in every instance have one of them under his authority, while he might himself have to report to a fifth. In other words, there could be no satisfactory co-operation between or discipline over all the scattered parts of the regiment. The new organization gets rid of this difficulty by making the battery the unit, and the ranking officer in charge of each battery responsible directly to the Chief of Artillery, who is at the head of the whole corps.

The thirty regiments of infantry consist of twelve companies each, with forty-eight privates in every company.

The commissioned officers, and sundry enlisted men of staff departments and corps which will be mentioned later, though constituting a small army in themselves, are not counted in the minimum already mentioned. With the non-commissioned officers, and the musicians, blacksmiths and other supernumeraries, they bring the grand

total of the military establishment as now organized up to 68,000. But the law contains a provision for raising this peace footing to a war footing "without disorder or confusion . . . by the mere scratch of a pen and the magic wand of money"—to quote a phrase of General Sherman's. The President has but to discern the need and write the order, the doors of the recruiting stations fly open, and we raise the number of privates in every company of infantry to 127 and in every troop of cavalry to seventy-six, with a proportional increase of non-commissioned officers. The commissioned officers are already at hand and waiting; and lo! an effective army with an enlisted strength of 100,000 men is ready for the field.

It will be noted that this scheme of expansion makes no change in the artillery, and in the cavalry less than in the infantry. The explanation is that, in making a civilian into a soldier, the hardest job is to train an artilleryman, and next a cavalry trooper. Hence the two more difficult arms of the service are kept, in the peace footing, one at its maximum strength and the other nearly so, while the wide opening for the raw recruit is into the infantry. These facts will account also for the way the artillery is now recruiting—from the other arms, and not from outside. The most highly developed type of private soldier is found in the artilleryist who was broken in by the infantry, added horselore to his accomplishments by a term in the cavalry, and graduated thence into his present corps; for he may be called upon to ride an artillery horse into battle, dismount and train a cannon on the enemy, and finally seize a rifle and show his skill as an infantryman in a close-quarters fight to repel an assault on his battery.

THE GENESIS OF ARMY REFORM

These statistics of increase show us only one phase of the change that has come over the army since the dawn of 1898. The whole military machinery of the United States has undergone renovation. It would be unfair, however, to say that the present organization is the product of only five years: it is really the culmination of a generation's work and waiting. For the genius that planned it we are indebted to the late General Emory Upton; for the force that perfected

the plan and carried it into execution, to Elihu Root, the present Secretary of War.

General Upton, an officer of the first rank and the author of a notable work on tactics, was sent abroad in 1874 for a tour of observation among foreign armies. On his return he made an elaborate report, which the Department laid away in its archives to gather dust and be forgotten. He had faith enough in it, however, to have it published at his private expense. In that form, military authorities and statesmen have drawn upon it from time to time for inspiration: but it remained for Mr. Root to put its ideas into practical shape and keep Congress interested in them till what he threw into the hopper as advice came out of the trough as law. The chief reforms urged by Upton may be summarized as follows:

- (1) The three-battalion formation for cavalry and infantry regiments;
- (2) A general and systematic extension of military education;
- (3) Examination as a condition to promotion;
- (4) Interchangeable service in staff and line, as opposed to permanent staff appointments;
- (5) The establishment of a general staff.

Every one of these features is now incorporated in our system. We may, for convenience, take them up in the order stated.

THE BATTALION QUESTION

A battalion may be roughly defined as any body of troops which is to be handled as one mass in battle. A three-battalion organization means the division of every regiment into three equal parts, each of these under immediate command of a major. This system has prevailed in the cavalry and artillery a good while, but was not legally adopted for the infantry till the outbreak of the war with Spain, though much more needed there than in the other arms. Grant, Sheridan, and most of our leading army officers, as well as several Secretaries of War, had persistently urged it upon Congress; and Sherman considered it of such commanding importance that he made it the only recommendation in his last report as General of the Army. Meanwhile every foreign power of consequence had adopted it, so that for years Persia and China were the only companions of the United States in ignoring it.

Any other organization for the infantry is bound to be radically defective. The development of modern arms in range, rapidity and accuracy of fire calls for a small and flexible battalion. Celerity in handling troops on the field has become a prime necessity. Hence it was long ago discovered that a solid body of ten companies, such as constituted the old regiment, or of even five, as when a regiment was experimentally broken into two battalions, was unwieldy, and incapable of making or meeting an attack satisfactorily under the new conditions; and every fresh improvement in arms has made the situation worse by compelling a greater deployment of troops: that is, most of the field fighting now is done in "extended order," or with the men spread apart so that as much as possible of the fire of the enemy will be wasted by passing between them. In a charge upon a concealed enemy, especially in these days of smokeless powder, when there is no tracing the source of the missiles, and when the men must be prepared individually to take advantage of every stump or stone that offers protection, it would be both foolhardy and inhuman to keep the ranks close, as of old. But spreading them makes the same number of men cover a great deal more ground than they did in close order, and, of course, makes them more difficult to handle as a mass.

As the regular army in peace is, after all, only the skeleton for a volunteer army in war, it is most important to have a correct and modern organization which can be expanded without radical change when necessary. Moreover, the regular officers detailed to instruct the militia and the students at colleges must follow the system adopted by law for the army, and no military body in any State can have a higher standard of organization than the Federal Government offers as a model.

THE EDUCATION OF OFFICERS

Before the war with Spain there were a few places besides the Military Academy at West Point, New York, where military officers could be trained in certain specialties. The artillery school at Fortress Monroe, Virginia, was next to the Academy in age, having been founded in 1824; but it had never prospered beyond being housed in an abandoned ordnance shop. The rest dated from

1885 onward. The infantry and cavalry school at Fort Leavenworth, Kansas, was founded by General Sherman, and the artillery and cavalry school at Fort Riley, Kansas, recommended by General Sheridan, because places were needed for the instruction of officers transferred from the volunteer to the regular army at the close of the Civil War, and who, though brave and patriotic men, were badly hampered by their lack of an early education. All the schools had expanded by degrees, and were doing some fair though sporadic work, but no master hand had ever attempted to weld their courses into one comprehensive whole.

They were closed, of course, during the war with Spain because every officer was needed at the front. When they reopened it was to face a flood of new students who had entered the army from civil life. Indeed, the reorganization of the military establishment found more than one-third of the officers of the army destitute of any martial education except the empirical sort they had picked up in the field. Included, therefore, in the reform programme mapped out by Secretary Root was a general scheme of instruction, embracing an artillery school, improved, enlarged and better housed and equipped, at Fortress Monroe; an engineer school of application on Greenleaf's Point in Washington, District of Columbia; a school of submarine defense at Fort Totten, New York; a school of application for cavalry and field artillery at Fort Riley; an army medical school at Washington; a general service and staff college at Fort Leavenworth; and a war college for the most advanced instruction at Washington, sharing space on Greenleaf's Point with the engineer school.

The War College is to be directed by a board of five officers detailed from the army at large and the Chief of Engineers, the Chief of Artillery, and the Commandant of the Leavenworth college. This board is to have general supervision of all the schools, and is charged with the maintenance through them of a complete system of military education, in which each school is to perform its proper part. In Mr. Root's order establishing the board, its members are reminded that the "ultimate aim of all this preparatory work is to train officers to command men in war," and that "theory must not, therefore, be

allowed to displace practical application." The Leavenworth college, and an elementary officers' school which is to be established at each military post, will be open for instruction to the officers of the National Guard of the several States, to former officers of volunteers, and to graduates of military schools and colleges which have had army officers as instructors. The special service schools, also, will be open to those National Guard and former volunteer officers who can furnish evidence to the War Department of such preliminary education as would enable them to benefit by the courses of instruction. All this is in the line of a plan of Mr. Root's to cultivate for emergency use whatever military talent may be latent in the civilian community. A register has been opened at the War Department for the names and records of any outsiders admitted to the schools who may show special aptitude for military service, with a note in every case as to what kind of work the man can do best.

The Leavenworth college is to be the chief sieve and feeder for the War College at Washington. Only the brightest young officers will attend it, and at the close of each year the students who have especially distinguished themselves will be sent to the War College for further instruction. The War College will draw also upon certain outside officers of the rank of captain and higher, designated for special reasons by the War Department. In general it is the desire that the training of an officer who begins at a post school shall be carried up by a series of educational promotions, if he prove worthy of it, till he emerges as a graduate of the War College. His record will be carefully kept at each stage of his progress, "in order that the nation may have at all times a highly trained body of officers, and may know who they are."

EXAMINATION FOR PROMOTION

For many years the statutes have provided for the examination, prior to promotion, of all officers of the Engineer, Medical and Ordnance departments below the rank of major, but it was not till 1890 that this rule was applied generally through the army. The law authorizes the President to prescribe the system of mental and physical examination. If any officer fails, the next

officer below who has passed receives the promotion; but any officer who fails in his physical examination because of a disability contracted in the line of duty, is retired with the rank to which his seniority entitles him to be promoted. Failure for any other reason causes an officer's suspension from promotion for twelve months; he is then reexamined, and if he fails again he is honorably discharged with an extra year's salary.

Officers appointed from civil life, and those who came into the regular army through service as volunteer or militia officers or enlisted men during the Civil War, are to be examined by boards composed of officers of their own classes. The examination is to relate to the candidates' fitness for practical service, and not to their technical and scientific knowledge. Those who fail at a reexamination are to be retired. This shows a disposition to deal gently with officers having such origins, both because of their especial nearness to "the people," and in order to testify the nation's appreciation of the spirit which impelled them to leave their civil livelihoods and come to the support of the Government in an emergency.

Besides the conventional examination, other tests of fitness are applied. Secretary Proctor inaugurated a system for keeping a record of the services, efficiency and special qualifications of all officers below the rank of colonel, including the condition of their respective commands. Written reports by and on each one were to show whether he had engaged in any professional study or special course of reading or investigation additional to his regular duties, and whether he had had any business training or experience. The higher officers were required to testify as to the lower in their commands, on such points as their diligence, exemplary conduct and temperate habits, how they cared for the welfare and discipline of their men, and what peculiar adaptation they showed for college, recruiting, or other honorable detail. Wherever a higher officer made an unfavorable report, it was to be shown to the subordinate criticized, who was then to be allowed to file a written explanation.

This system was further developed and perfected by Secretary Lamont, who made the reports an annual feature, thus keeping the Department's information always abreast of the times.

THE STAFF AND ITS TROUBLES

The army is composed of line and staff, the line being the fighting force. The staff, as its name implies, supports the line. It furnishes the fighters with food, clothing, shelter, ammunition, transportation, information, plans, etc. The modern general staff had its origin in Germany about a century ago; since then it has been adopted by all the great powers of Europe and by Japan. Wherever the scheme has penetrated it has been based on the Prussian model, but modified to meet the individual needs of the power employing it. Until very recently the United States Army was without it, getting along with a staff split into three main parts: an administrative corps consisting of the Adjutant-General's and Inspector-General's departments; a supply corps composed of the Quartermaster's, Subsistence and Pay departments; and a corps, partly supply and partly technical, formed of the Ordnance, Engineer, Medical and Signal services.

The Quartermaster's Department furnishes clothing, equipage, tents, transportation, flags, fuel, lights and forage, constructs barracks for enlisted men and quarters for officers, and performs a great variety of other similar duties. The Subsistence Department furnishes rations for the enlisted men. The Engineer Department, in addition to all river and harbor work, builds fortifications and emplacements for seacoast guns, draws maps, throws bridges over streams, etc. The Ordnance Department manufactures all kinds of arms and munitions of war, and furnishes artillery and cavalry equipments. The Signal Corps trains men in signaling, furnishes and operates telephones and telegraphs, and maintains communication generally for the army in the field. The duties of the Medical and Pay departments are indicated by their designations. The Adjutant General's office transmits orders, plans, information and the like, and has an eye to the *personnel* at large. The Inspector General's force investigates the condition and equipment of the army, and reports on everything that goes to make or mar its efficiency as a fighting machine.

Under the old system a staff officer was very often a civilian selected through politics or personal favoritism, because it was assumed that anybody could do staff work

without special training for it. The appointment was for life. Hence even a line officer transferred to the staff, unless he was a man of unusual force of character, was apt to settle down into his place with a sense that his hard work was over for the rest of his career. By a law enacted in February, 1901, however, all this was changed. Not only are the staff positions hereafter to be filled by details of officers from the line wherever that is possible, but the term of a staff detail is limited to four years, and a second detail cannot be had till an officer has gone back and served two years with the line. The logic underlying this change is that an officer who spends his whole life at a desk loses touch with his brethren in the field. He has no experimental knowledge of their changing needs, no real standard by which to judge of the efficiency of the work in his own office, no special spur to the invention of improved material or methods. During the war with Spain the cavalry sent to Santiago complained of the kind of pistols furnished them; the Ordnance officers, though making pistols, had never occasion to use any, and therefore were in no position to discriminate between the various types.

But take an officer fresh from the field and set him to furnishing supplies or inspecting them, and he knows, often from bitter experience, what particular faults to look out for. After he has had his four years' drill at a desk or in a warehouse, back he goes into the field again, and with him goes a knowledge of the processes of work at staff headquarters which will make him vastly more helpful to the fighting force. Moreover, if another war comes suddenly upon us, and the duties of the staff departments expand to keep pace with the army, we shall not have to depend upon a lot of raw men to fill the staff positions, but can call in as many trained hands as are needed from the line, choosing those who, during their four-year details, have shown the greatest aptitude.

THE GENERAL STAFF

The temporary detail system relieved only half the trouble in this domain. The rest was due to the utter lack of coördination—of "team work"—among the staff departments. The independence of each made it seem, at least, indifferent to the interests of

the others. Controversies between the staff branches were not infrequent, and what this meant in an emergency may be judged from the fact that it took three departments to feed a soldier in the field: the Subsistence Department furnished his food, the Quartermaster's sent it to him, and the Ordnance gave him the knife and fork with which he ate it; if either failed to connect with the others, so much the worse for the soldier. The Subsistence Department furnished the food for the cavalryman, the Quartermaster's for his horse; but what would be the comparative fighting value of a well-fed trooper on a starving steed, or of a famished trooper well-mounted? Even to carry a wounded soldier to the hospital, the Quartermaster's Department furnished the horse, the Medical the ambulance, and the Ordnance the harness. Were these three departments to fall into one of their familiar wrangles, the sufferer might die before they could reach a compromise.

The General Staff is expected to do away with all this red tape, confusion and friction by binding the several staff branches into one compact organism, of which each department will be only a contributing member on an equal footing with the others. Responsibility for the whole army will be concentrated in one officer—the Chief of Staff, instead of being diffused among several. The Chief of Staff will be, as it were, the eyes, ears, mouth, hands of the President as the Commander-in-Chief of the Army acting through the Secretary of War. There will no longer be a so-called General Commanding the Army, who commanded nothing, but must either efface himself and watch others do the work and gain the glory, or else attempt to exercise functions that were bound to provoke a clash with the constitutional commander in the White House. The Chief of Staff will simply take the President's orders and be held accountable for the way he carries them out. The General Staff, in case of war, will resolve itself into a war board, for planning and directing campaigns. It will be the "brains of the army."

Let us see how this system would have worked in the Spanish war. The President decides, after a council with his advisers, that an expedition must be sent to capture Havana. In order to act on this decision

intelligently, the Chief of Staff must know how Havana is fortified and what troops of the enemy are there or accessible; what other harbors line the Cuban coast, how deep each is and how defended; what roads lead from each to Havana, and how these are protected; what climate our army must be prepared to face at that season of the year, including the chances of droughts or torrential storms; what facilities for transportation will be found in the part of the island invaded, and whether the troops can subsist to some extent on the country or must carry with them all their food supplies; what local diseases are to be feared, etc. For these and many other apparently unrelated data he must draw upon a half-dozen sources of information embraced in his General Staff. Then, looking at the situation at home, he must know what troops we have to send on such an expedition, whence they are to be taken, and what points in this country must not be left undefended; what relative proportions of artillery and cavalry will be needed to make the invading force most effective; what supplies of arms, ammunition, clothing, horses, mules, wagons, medical stores, lighters, barges, pontoons, must be sent along. If there are deficiencies in the Government's stock of any of these necessities, he must know just where to go for fresh supplies and how long it will take to get them.

All these things he must know, and know at once, or he cannot either advise the President wisely in council or execute his orders later with success. Having before him the problem to be solved and his own solution figured out on paper, he must be able to transmute that written solution into action by making the Ordnance Department put down its cannon and its shells, its rifles and its cartridges at a certain port on a certain date; by making the Quartermaster's Department have the transports there, ready to load without delay, and put its own stores aboard; by making the Surgeon General assemble the medical officers and instruments and medicines, and the Subsistence Department its rations, and the Pay Department the men with the money-chests, and the Signal Corps its wires and batteries and operators, at the spot where the troops are to embark; and everything must be simultaneously arranged, so that there can be

no excuse for delays at destination, no needless hunger and thirst for the soldiers, no sickness or wounds without relief for the sufferers, no fighting without adequate means of defense and attack.

No one man could of his own resources accumulate all this knowledge, or unassisted set in motion this machinery for utilizing it. The Chief of Staff must depend upon a group of officers carefully selected from the several branches of both staff and line, who shall be relieved of every other duty so as to be able to devote their exclusive attention to this. The branches represented are the same that have always existed; but by the new organization they have ceased to be so many independent satrapies, and become mere agents of one complete and perfectly articulated system. In short, the basic principle of successful management in a great private business enterprise has now for the first time been applied to the handling of the American army.

A NATIONAL VOLUNTEER RESERVE

Having thus noted the fulfilment of five great army reforms which Upton advocated a quarter-century ago, we should be remiss if we failed to consider a sixth which remains still to be accomplished—the organization of a National Volunteer Reserve.

The theory of our Government from its very foundation has been to have only a small standing or regular army, its main reliance being placed upon the militia. But under the Constitution the militia can be called out for only three purposes: to repel invasion, to suppress rebellion, and to execute the laws of the United States. Our militia, speaking broadly, embraces every able-bodied male citizen, actual or prospective, between eighteen and forty-five years of age. The militia law enacted by the last Congress divided it into two classes: the organized militia and the reserve militia. The organized militia consists of the National Guard of the several States and Territories; the reserve militia takes in all the rest.

The members of the National Guard, as a rule, enlist to serve at their homes, or at all events within their own States. But no body of citizen soldiery recruited with the notion of being mere home-guards, and handicapped by the existing constitutional limitations, could possibly be as responsive

to Federal authority as the volunteer army upon which we must always place our main reliance in case of war. Therefore it is important that we should have available at all times a nucleus of some sort for a volunteer army. The new militia act originally contained provisions for a National Volunteer Reserve, or force of trained men ready for immediate service wherever needed. The Secretary of War was authorized to enroll 100,000 men who had served either in the regular or volunteer armies of the United States or in the organized militia. They were to be prepared to respond whenever called forth by the President, and to serve wherever ordered, either within or without the territory of the United States for nine months. They were to report for drill, inspection or instruction on order of the Secretary of War, and during such service were to be subject to the same discipline as regular troops as far as practicable, and receive certain pay and allowances. Whenever a volunteer force should be called for, and any militia organizations should enlist bodily in the volunteer army, such companies, troops, batteries, etc., were to be received as the first organizations of the volunteer force. If they did not number enough, the National Volunteer Reserve was to be recognized next.

The clause containing these provisions passed the House of Representatives, but was stricken out by the Committee on Military Affairs in the Senate.

NATIONALIZATION OF THE MILITIA

Much as the new militia law leaves yet to be desired, it is a long step in the right direction. Until it was enacted, in January, 1903, we were working under a law the bulk of which was passed in 1792, and signed by George Washington, President! As an illustration of its adaptation to modern times, this passage from it will appeal even to the reader who is least conversant with military matters at large:

Every citizen shall, after notice of his enrolment, be constantly provided with a good musket or firelock, of a bore sufficient for balls of the eighteenth part of a pound, a sufficient bayonet and belt, two spare flints, and a knapsack, a pouch with a box therein to contain not less than twenty-four cartridges, suited to the bore of his musket or firelock, each cartridge to contain a proper quantity of

powder and ball; or with a good rifle, knapsack, shot-pouch and powder horn, twenty balls suited to the bore of his rifle, and a quarter of a pound of powder, and shall appear so armed, accoutered and provided when called out to exercise or into service, except that when called out on company days to exercise only he may appear without knapsack, and all arms, ammunition and accouterments so provided and required shall be held exempted from all suits, distresses, executions or sales for debt or for the payment of taxes. Each commissioned officer shall be armed with a sword or hanger and spontoon.

The present strength of the organized militia is about 109,000 enlisted men and 9,000 officers. The local organizations have grown up to supply local needs, and in default of a national militia organization it has been the policy of Secretary Root to do what was practicable to nationalize these. Although Congress has for nearly a century recognized the National Guard in the several States by contributing \$200,000 a year toward arming and equipping it, its relations to the Federal Government have never been defined till recently. The confusion and bad blood liable to result from this uncertain status have manifested themselves most disagreeably in sundry crises, as in the controversy over the action taken by the Seventh Regiment of New York at the outbreak of the war with Spain. A story of one of our Indian wars describes Andrew Jackson as threatening to hang a whole regiment of militia for refusing to go outside of their State. They went; but the unwilling soldier does not make the best fighter, and the Jacksons are few.

In presenting to Congress his original bill for the improvement of the militia and the creation of a National Volunteer Reserve, Secretary Root made a pretty full statement of his policy, which has been received with so much favor that it will doubtless prevail entire at a later date. He wished to build up an organized force that would respond as such to the call of the President for volunteers for general military purposes, and be at all times a great school for the volunteer soldier, of which the whole country would get the benefit when any National Guardsmen responded individually to a call for volunteers. For this reason it was most desirable to conform the organization, armament and discipline of the guard to those of the regular army, to establish closer rela-

tions and better coöperation between the guard and the army, and to promote the efficiency and dignity of the guard as a responsible part of the military system of the United States. This would in due time enable the Federal Government, though maintaining a standing army only 60,000 strong, to put into the field, instantly on a declaration of war, a force of at least 250,000 well-armed and well-trained men, all at a cost much less than keeping up even a few extra regiments of regulars.

The military force of the United States would then be:

(1) A regular army capable of enlargement by the President, when he sees war coming, to 100,000 men.

(2) A National Guard which can be called out for nine months to repel invasion.

(3) A first Volunteer Reserve, composed of such National Guard organizations as offer themselves in a body, with all their officers and men.

(4) A second Volunteer Reserve, composed of men already enrolled as having previous military training, and commanded by officers of ascertained fitness; and

(5) Such further volunteers as it may be necessary to call from the several States by quota, commanded by regimental officers appointed by the Governors. The number of this fifth class, not included in the quarter-million estimate of the emergency force, need have no limit except the Government's resources for their transportation and supplies.

Pending the authorization of a Volunteer Reserve, Congress is trying to treat the National Guard most generously. Beginning with 1887, its annual appropriation for arming and equipping the militia had been increased to \$400,000, and with 1890 it went up to \$1,000,000; but the last Congress appropriated, in addition to this sum, an independent fund of \$2,000,000, to provide all the State organizations with the same armament and equipment that is provided for corresponding organizations of the regular army. Besides this, it authorized the Secretary of War to furnish the guard with the service magazine rifle—popularly known as the Krag-Jorgensen—with bayonet, scabbard, gun-sling, belt, and all the regular accouterments, receiving in return the Guard's unserviceable or obsolete guns, and exchanging ammunition, round for round, new for old. The State troops are now armed with a variety of guns of different kinds

and calibers. Of the whole National Guard not twenty-two per cent. have the best modern rifle. Any other sort, as was shown by the Cuban campaign, is practically valueless in time of war, because not only are the old styles unadapted to present uses, but the Federal Government could not supply the special kinds of ammunition needed for them, as it does not make these varieties any more. Neither would it be able to replace weapons damaged or lost; so that, if war broke out under existing conditions, the militia would be obliged to throw aside its present armament at the outset and be equipped afresh with guns which it had never learned how to use.

Provision is made, also, for bringing the National Guard and the regulars into closer relations by having them meet at stated intervals for encampment, maneuvers and field instruction. During these periods the militiamen will be recognized as in the service of the United States, and will be quartered, fed and paid like regular troops. In a word, the idea is to insure the National Guard's being at all times "sufficiently armed, uniformed and equipped for active duty in the field."

One of the most valuable services the militia can be educated to perform seems to have been very commonly overlooked till the present renaissance set in. This is to supplement the regular troops in manning the coast defenses. Our present regular force is barely large enough to take care of the guns and the machinery of the fortifications in time of peace, and will be quite insufficient in war. The number of artillerymen provided in the laws reorganizing the army was intentionally made small with a view to utilizing the militia in case of threatened attack. Manning the coast fortifications is constitutional militia work, for it is always to repel invasion. It can be undertaken by citizens living in the neighborhood of the fortifications with less disturbance and sacrifice than any other military duty, because it does not take them far away from their homes and their business.

The handling of the modern high-power and rapid-fire guns and the complicated machinery by which they are worked, requires, it is true, special training, but experience proves that there need be no trouble in securing that for militia organizations.

The First Massachusetts Heavy Artillery has been admitted each year to one or another of the defenses on the coast for practice; and the officers at all the fortifications speak in high terms of the intelligence of these men and the readiness with which they have acquired facility in their work. Many of them are mechanics and take naturally to the machinery of defense; and the members generally take great interest and satisfaction in their duties. The same is true of a Connecticut artillery organization which took part in the seacoast maneuvers of 1902, of the Thirteenth New York Heavy Artillery, and probably of other similar bodies.

An effort will therefore be made to induce the organization of a National Guard force of artillerymen in the neighborhood of each coast-defense fortification, with the understanding that whenever the President finds it necessary to call out the militia to repel invasion, that organization will be ordered into that fort. In the meantime, in their practice and instruction the men will be made as familiar as possible with the use of the guns and the methods of defense at that particular point. In many cases it will be practicable to give them facilities for meeting at and keeping their equipment at the fort, which will make unnecessary any outside armory for their use. Any organization could readily perform all its ordinary duties to the State by serving as infantry, yet be distinctly known, and constantly prepared for service, as the militia reserve of the fortification with which it sustains direct relations.

SUMMING UP

The necessary limits of this article forbid more than the most superficial summary of the philosophy of the general scheme of reform brought about in the army within the last few years. The key to the whole may be found in two ideas: the perfection of the organization and the thorough education of its individual members. The old popular notion that in time of war an army of patriots could be trusted to spring into being at a word; that the men would somehow contrive to arm, clothe and feed themselves and make their own way to the front; and that an officer's whole duty was condensable into leading his men to the field of

glory and across it, received a deadly blow in 1898, when splendid valor and boundless resources in one scale were offset by scandal and backbiting, unpreparedness and inefficiency in the other. It went its way with its companion idea, that the God of Battles always fights on the right side, and that our side is always right. Our people have learned at last that an army is simply a great machine, which cannot work unless all the parts are perfectly adjusted to each other,

receive their momentum from the same central source, and are kept free from friction; that war is both a science and an art, requiring of its votaries as constant study as anatomy and surgery; and that a country which boasts its freedom from the burden of a standing army must insure its own defense by training its citizens not only to be possible soldiers when needed, but also to know the very place into which each man is to step the moment the tocsin sounds.

ANGLO-AMERICAN UNITY FAST COMING

NEW MARKS OF THE GROWING FRIENDSHIP BETWEEN THE UNITED STATES AND THE MOTHER COUNTRY—EIGHTY PER CENT. OF OUR IMMIGRANTS OF A RACE AKIN TO THE ENGLISH—AMERICAN ARTISTS AND WRITERS IN ENGLAND—ENGLISH COMMISSIONS STUDYING THE UNITED STATES—THE EXCHANGE OF UNIVERSITY DEGREES—THE PROBABLE POLITICAL EFFECT OF OXFORD ON RHODES SCHOLARS

BY

JOHN FOSTER CARR

THE marked change that has taken place within a few years in the relations between the United States and England is the most significant fact of the international politics of the day. A firm friendship has been gradually established; and it shows every sign of permanency.

The change has been a natural and an easy one, because English-speaking men have much in common besides their language. They have one history and one tradition. They have similar laws and forms of government. They have the same literature and the same religion. They both hold, and are alone in holding, the same ideals of justice, morality, and honor. They have the same devotion to the cause of human liberty. They both have an overmastering love for adventure, the deep sea and the open air. Both have the same rude energy and the same fierce joy in rivalry; and both are united in goodfellowship for the far from trivial reason that they find nowhere else the same standards of sport and fair play. They are so much alike that under similar conditions of life it often becomes difficult to tell them apart either by speech, dress or mental

habit. The English colonial bears so close a resemblance to the American that Mr. Whitelaw Reid once declared that the colonial premiers were all "downright Yankees."

In spite of every discoverable difference, the character and instincts of the two nations are so nearly alike that a valid argument for identity of race could be based upon them. The following facts seem to show that a stable English type is bound to be preserved, and that in reality the two nations are more nearly related than has commonly been thought:

1. The triumph of the English language has been placed beyond doubt for all time. The language has not only been preserved and kept pure from contamination by other languages and idioms—it is very rapidly being acquired by immigrants of alien speech. In 1895 there were 101 German daily newspapers published in the United States. By the beginning of the present year the number had fallen to seventy-five.

2. American civilization shows fixed traits that are distinctively British. The forms of culture and the institutions that are charac-

teristic of both countries, and common to them alone, are among the most marked features of American national life. "The American," Emerson asserted, "is only the continuation of the English genius into new conditions." Examples of similar racial character may be found in the treatment in both countries of such questions as the new and old social problems, in the passion for outdoor games, in the position of woman, in the spirit that will not tolerate a conscript army, in Sunday observance, in the English Non-Conformist conscience, and American Puritanism.

3. Americans are largely of British ancestry—whether considerably more or less than one-half is a matter of mere historical interest—and English blood so predominates over others that at no distant time it will be the only blood shared by all in common.

4. Of the 19,000,000 immigrants who entered the United States between the years 1820 and 1900, rather more than eighty per cent. came from the following countries in addition to Great Britain and Canada: Ireland, Denmark, Germany, Belgium, Holland, Norway, Sweden, and France. The ancestors of these immigrants are known in history as Celts, Jutes, Angles, Saxons, Northmen, Danes, and, as far as they were French in origin, Normans. Their fusion should produce for a second time in history a race of the efficient English type. It cannot be radically different in kind, and it is grafted on an old and sturdy stock.

Immigration, in spite of its numbers, has not noticeably modified the character of American national life. The classes usually considered undesirable are overwhelmingly either Slavs or Italians—rough laborers of the pickax and shovel—or Polish, Rumanian and Russian Jews. Many of them furnish the raw material for excellent citizens, but as a rule they do not readily become Americanized. They are all apt to live in groups composed of their own race. The Jews bring their women with them, and set up new homes, but they are intensely orthodox and exclusive. The Italians may fairly be taken to represent the non-Jewish immigration of this class. Under present conditions it is impossible for them to reproduce themselves. They bring few women with them—only twenty per cent. of Italian immigrants are females—and,

except in rare cases, they can marry no others. The Greeks, who come in vastly smaller numbers, are similarly conditioned. Only four per cent. of them are females, and as a curious exception to the rule of marrying only inside one nationality, marriages between Greeks and French-Canadian women have been noted in the Greek colony in Lowell, Massachusetts. In one point the Italians are probably peculiar. They almost invariably intend to return to the land of their birth, and, as a matter of fact, many of them do return every year. Thus the blood of only an inconsiderable part of these immigrants is merged with that of the American people. The dangers of such immigration are further offset by the fact that every land has natural limits of emigration. An exodus of one year or series of years is naturally and quickly followed by a greatly reduced migration in succeeding years. Public opinion is alive to whatever dangers there are, and already demands restrictions to exclude the illiterate, the destitute, and the diseased; and this is the only defense needed against immigration from those countries which send the United States of their worst.

American civilization has not suffered any change in any of its essentials from the swarming millions of newcomers. But on the contrary, the United States has shown a marvelous power to Americanize the desirable immigrant. He often retains a deep love for his native land; he may read newspapers printed in its language or join a German, Irish, or Scandinavian club, but he never goes back to his old home to live. American institutions become a vital part of him, and he lacks nothing in the patriotism that is the abiding passion of the democracy.

But in no case have these immigrants created an international friendship between the United States and the country of their origin. Five million Germans have not established a cordial German-American understanding, and it is difficult to attribute to the 3,000,000 English immigrants any large share in the creation of the present undoubted community of feeling that exists between the two English-speaking countries. Other causes have brought it about.

Many Americans feel for England the affection that an old home inspires; for all it is hallowed by associations that are sacred

to the race. The American is never called a foreigner by his English kin. Neither the Royal Academy nor the Inns of Court exclude Americans under their rules which disqualify foreigners. Many thousands of Americans visit England every year, receiving a welcome that is no innkeeper's hospitality. They come in close contact with its life; they carry their memories home, and spread abroad a sense of family pride and of joint inheritance in the glories of England. But Americans are known to Englishmen not only as transient visitors. Among artists, the late Mr. Whistler had long had residence there; so, too, have Mr. Sargent, Mr. Abbey, Mr. Shannon, Mr. F. D. Millet, and Mr. Pennell. There has never been anything like an American literary society, but Bret Harte was a confirmed Londoner, which Mr. Henry James has long since become.

Of late years Englishmen, too, have crossed the water more frequently, and some of them have taken pains to acquire a truer knowledge and a juster appreciation of American national life. They have viewed it from every side, and they have told their countrymen that the gospel of Americanism is "a noble national theory founded on reason and on conscience." They have given generous recognition to American idealism. But among unnoticed influences, and probably far more important than the valuable books by English students of American institutions, is the large circulation that the best American magazines obtain in England. Through them the familiar and domestic side of American life has been brought home to the great body of the English people. The minor novelists and poets are often ignored, but a great popular success in America is bound to be widely read in England. Mr. Howells is sure of a considerable audience. Mr. James Lane Allen is as well known there as Mrs. Humphrey Ward is in the United States, and Mark Twain is almost as surely the popular humorist of England as Longfellow is certainly the popular poet.

The successful American commercial invasion of England, unwelcome though it has often been to Englishmen, has served the same end. Close trade relations foster friendship, and there has been no part of English life that has not been affected by American enterprise. Great Britain and her

colonies have been invaded by American steel and iron, American-made bridges, machinery and machine tools, electric railway and trolley equipment—one-half of the motors in England are said to be of American make. American telephones and phonographs, printing presses, roller-top desks, cash registers, typewriters, and hand cameras have a practical monopoly of the field. American carpet-sweepers and other conveniences for the housewife, American pickles, sauces, and breakfast foods, Waterbury watches, cigarettes and patent medicines find an enormous sale. The soda fountain and the "quick lunch" have been recently introduced. London bill-boards are covered with American posters.

The startling character of many of these American industrial successes gave a warning that has been heeded. For three years and more Englishmen have studied diligently American methods of business and manufacture. Commissions and committees and individuals without number have crossed the water and pushed their inquiries into every sphere of activity, from the equipment of the army and the manufacture of locomotives, to education and the publication of newspapers. Mr. Mosely's commission represented twenty-three different trades. It is now announced that the same gentleman is to head another commission, which will give its entire attention to the American school system, although Doctor Sadler, the Director of Special Inquiries and Reports in the British Education Department, has just completed a special study of American educational advance. Other distinguished visitors of the past year, with different objects in view, have included statesmen, scientists, and literary men, among them Lord Strathcona, Lord Charles Beresford, Sir Frederick Pollock, Lord Kelvin, Professor Thomson, Sir Robert Ball and Mr. Sidney Lee.

Better knowledge of each other and a closer partnership have thus consolidated a friendship which is not threatened by divergent political aims. The political ambitions of both countries are of a kind and nowhere conflict. The interests of both are largely commercial, and both desire peace, which will best be served, as England is beginning to see, by the enforcement of the Monroe Doctrine and a restriction of armament in the Western Hemisphere.

They are devoted to the same amusements, and their eager rivalry in many sports has powerfully promoted a mutual understanding. The international yacht races were established more than fifty years ago. Intercollegiate and international rowing date back to 1869; polo to 1876; intercollegiate sports to 1894. Within the past year Americans have met Englishmen on either side of the Atlantic at set matches of cricket, tennis, golf, polo and chess; a Scotch team of curlers has visited the United States, and an American rifle team won a notable victory at Bisley. As for the theatre, the American musical comedy is popular in London, while the work of English playwrights is accepted in the United States to the exclusion of the pronounced decadents of Belgium, Germany and Scandinavia.

International exchange of courtesies and expressions of good-will usually mean little, but in the present relations between the United States and England they are remarkable for heartiness and spontaneity. They occur so frequently and have become so much a matter of course that their significance is often forgotten, and yet they are a reliable index to the nature of the forces that are steadily and irresistibly drawing the two nations together. Of recent occurrence there are the cordial reception of the American generals and of the American fleet, the decoration of Mr. McKim with the Royal Gold Medal for the Promotion of Architecture, the exchange of visits by deputations of chambers of commerce and stock exchanges, and the meetings of associations and clubs having the same interests. The universities of the two countries have conferred many honorary degrees upon each other's distinguished men. Within five years American universities have given honorary degrees to Lord Pauncefote, the Earl of Aberdeen, Lord Kelvin, Doctor Sadler, Professors Biles, Dicey, Thomson, and others. Within the same time Oxford and Cambridge have similarly honored Mr. Furness, Mr. Choate, Mr. Whitelaw Reid, Mr. Godkin, Bishop Whipple, Doctor Morgan Dix, Professors Baldwin, Briggs, Newcomb, Norton, White, and others. Most significant of all is the open diplomatic secret that the two nations have given each other aid and support oftener than has been publicly admitted.

The great change in the relations of the

two nations has come about in a natural way, unforced and almost unconsciously, but it has still been greatly hastened by the deliberate purpose and the earnest work of a certain number of men. Most is due to the ministers and ambassadors of Great Britain and the United States. Lord Pauncefote's great services were rendered during so many years that his adroitness and good judgment, his kindness, and staunch friendship for America were known to all. The support of England during the Spanish war was extended by his hands. It was justly said, "He settled many controversies; he raised none." Sir Michael Herbert succeeds to the ambassadorship with every promise of winning the confidence and regard of the American people. Closely following his coming an ancient cause of irritation is in part removed. The passage of the Irish Land Bill goes far toward making Ireland "a bridge and not a gulf" between the two great divisions of the race.

The American ministers and ambassadors to Great Britain have been a long succession of men of the highest intellectual ability, of exceptional tact and social qualities, men of a wide and splendid humanity. Unlike all other ministers and ambassadors, they have had to live in a continual blaze of publicity, but they have performed their duties so well that they have immeasurably increased the prestige of their country. Mr. Choate has won great personal popularity; he has been extraordinarily successful in the conduct of his mission; he has maintained the high tradition set by Lowell, Phelps, Bayard, and Colonel Hay.

Other Englishmen and Americans have appreciated the necessity for intimacy and friendship between their respective countries. Mr. Balfour has made an impassioned plea for race patriotism. Sir Henry Campbell-Bannerman, the leader of the Opposition, declares that it is "the essential policy of his country to consolidate intimacy and encourage friendship with the United States." Mr. Long, the President of the Local Government Board, says that his "government is deeply impressed by the fact that the English-speaking people all over the world could, if they chose, maintain the peace of the world." Sir Harry Johnston has attracted great attention in England by the novelty and force of his argument for race federation.

Colonel Hay has said: "We are bound by a tie which we did not forge and which we cannot break. We are joint ministers of the same sacred mission of liberty and progress, charged with duties which we cannot evade by the imposition of irresistible hands." For more than ten years Mr. Carnegie has preached an Anglo-American political union. And it has remained for another American, and one who by paternal ancestry is not of English-speaking origin, to present the most carefully reasoned, the most cogent, and the most eloquent argument for the union of the race. In his recent book, "The Anglo-Saxon Century," Mr. Dos Passos, after discussing the affinities of the two peoples and the motives that lead them toward a union of some kind, makes certain definite proposals. He sees the necessity of avoiding an offensive and defensive alliance or any impairment of the sovereign power which each exercises within its own boundaries. He suggests a treaty embodying the following provisions: the division of Canada into different States and their incorporation into the Union; isopolity, or common citizenship; absolute free trade between Great Britain and the United States, their colonies, and possessions; uniform coinage; a uniform standard of weights and measures; and an arbitration tribunal to decide all questions arising under the treaty.

Cecil Rhodes had had his imagination fired in his boyhood by the same ideal of race federation. His scholarship plan shows that his heart was still set upon inspiring men with his own patriotism of race. He directed his trustees to elect as scholars only those who could pass certain tests of character, intelligence, robust health, and probable aptitude for the higher duties of good citizenship.

The Rhodes scholar will find, to his surprise, that neither the memories of Oxford nor its famous culture will so impress him as the fact that it is above all a great political school. He will find that a large majority of its ablest students intend either to seek a place of some sort in the government, or to adopt a profession through which political service may be rendered. He will find that the most popular course of study is that prescribed for the Modern History School, and the subjects of examination which determine a man's class in the list of honors

are constitutional history and law, political science, political economy, and economic history. A practical education in politics is the main object of the History School, but even the Classical School is made to serve a similar purpose; a considerable part of the required work in this is intended to develop the ability to deal with political problems. The same tendency is seen in the character of the university clubs; with the exception of two that confer social distinction like the American college fraternities, the best-known clubs, such as the Russell, the Canning, the Strafford, the Chatham, and the Palmerston, are avowedly political, and their ablest speakers go on the stump during an election. The political side of the Oxford Union also enters prominently into the life of the university; in its Hall British statesmen acquire their early parliamentary training; members of Parliament and even Cabinet ministers come to Oxford to address it, and newspapers throughout England quote the voting on its political debates. Oxford makes no attempt to realize one of the American ideals of a university as "a place where any one may learn anything," and on this account it offers few advantages to the graduate student, but it does supply the political education which American universities make almost no pretense of offering.

The English people take a more general, a more continuous and a more active interest in politics. Public opinion imposes upon every citizen the duty of serving the State in proportion to his ability, and the greater his talent or wealth the more imperative becomes his duty. De Tocqueville pointed out that willingness to serve the State, even at great sacrifice, has alone maintained the prestige and power of the British aristocracy. But the principle is not aristocratic; its essence is so purely democratic that a perfect democracy cannot exist unless public opinion makes the duty of political service binding upon every citizen.

A keener interest in his country than in his party, and a readiness for personal service, prepare the Englishman to receive a high order of popular education in practical politics. Frequent public discussion of the important questions of the hour by Cabinet officers has become a fixed custom in England. But public discussion does not stop there. The individual member of Parliament appears

from time to time before his constituency to explain proposed legislation and matters of public policy, and to make clear his own attitude. During a general election he again meets his constituents and offers himself for criticism and makes such defense as he can. The political education of the people is completed by the press. It not only reports at length the proceedings of Parliament, but it aims to present as a connected whole the confused medley of politics. As a consequence, detailed and accurate knowledge of men and measures is very common in England.

A people so familiar with the machinery of government requires specially trained men for its leaders. The success of Oxford in supplying them may be judged by the number and distinction of her sons in public life. Nine of the nineteen members of the present Cabinet are Oxford men. Lord Salisbury's last Cabinet contained eleven graduates of the same university. Lord Curzon and Lord Milner—two of the three most famous administrators of the empire—Lord Rosebery, Mr. Morley, and Mr. Bryce—distinguished men of theory who

are also successful men of practice—are notable examples of the varied service Oxford gives England.

The university has never won a like place in America, and yet the vital need of the public service is for well-equipped men. It should be the aim of the university to produce such men. And in this, as in other particular ideals of civic duty, the Rhodes scholars will learn valuable lessons from the teaching of Oxford and an intimate study of their English kin. They should, as well, still further increase common knowledge and common sympathy and thus hasten the day to which Lowell looked, when the different portions of the English-speaking race, "wherever settled and however governed, shall be able to communicate the entire moral force of a great united nation." Neither federation nor alliance is needed to accomplish this. The joint interests of the two countries in their multitude and complexity are bringing an inevitable closer union in the great works of trade and civilization; and if to these are added the greater works of good-will and unbroken peace, the dream of Cecil Rhodes will have a noble fulfilment.

WHERE OUR IMMIGRANTS SETTLE

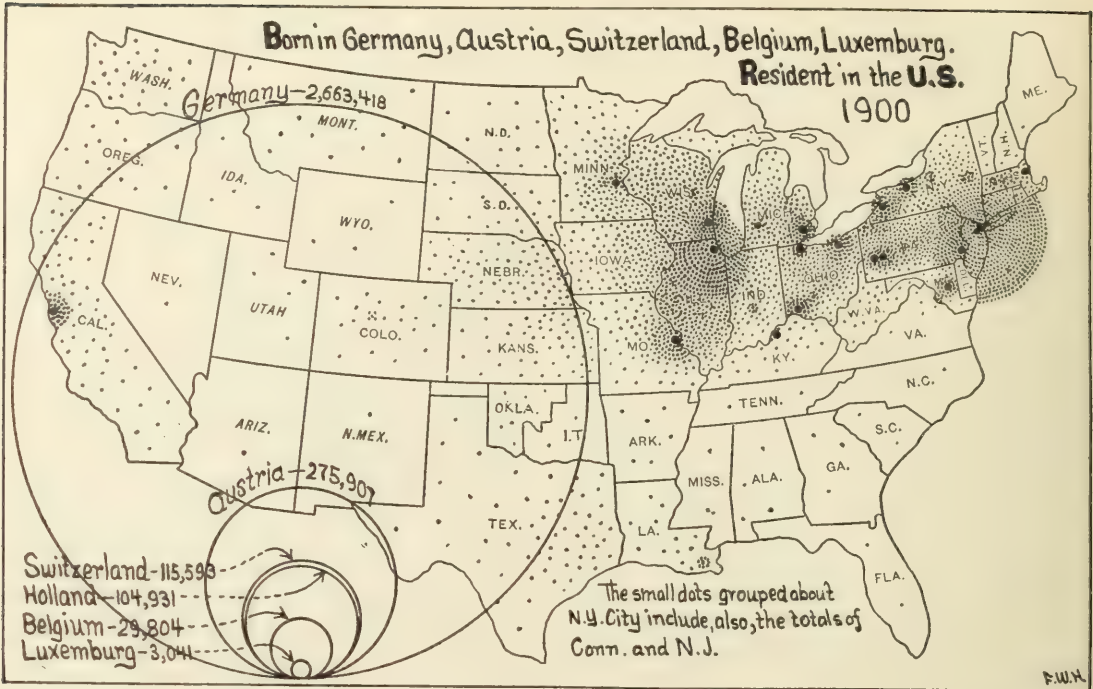
DIAGRAMS SHOWING THE DISTRIBUTION OF THE FOREIGN-BORN LIVING IN THE UNITED STATES—THE GERMANS SPREAD THROUGH THE NORTHERN STATES, THE IRISH STICKING TO THE ATLANTIC COAST—CANADIANS AND ENGLISH WELL ASSIMILATED—SCANDINAVIANS IN THE NORTHWEST—THE POPULATION OF THE DIFFERENT NATIONALITIES

BY

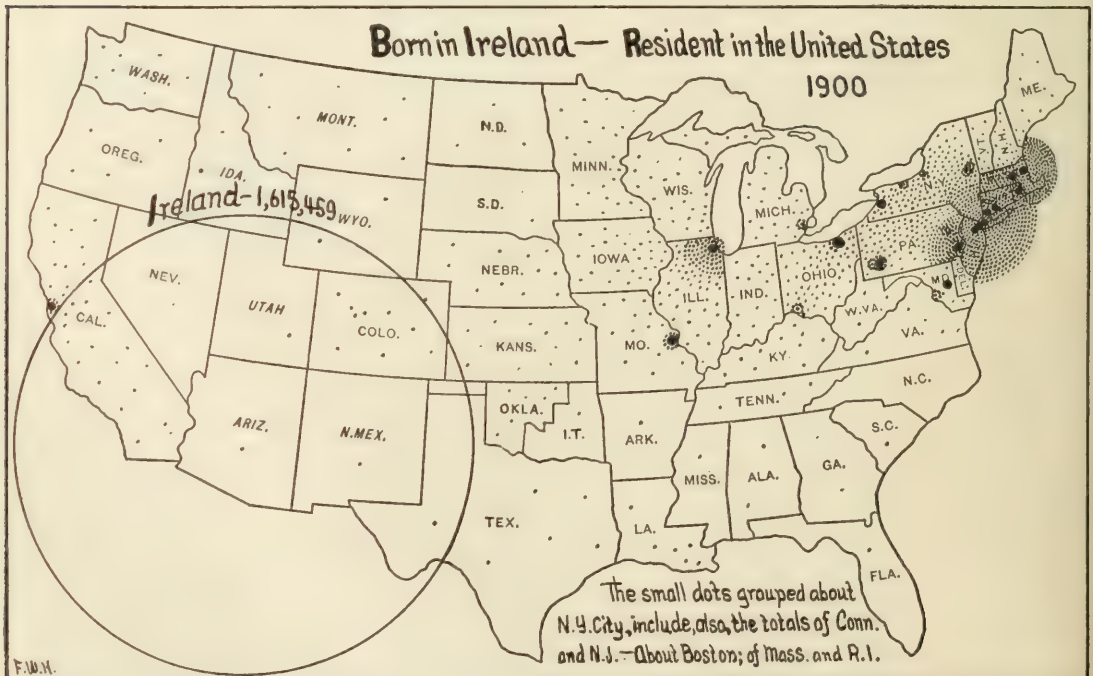
F. W. HEWES

THE flood of immigration to the United States this year is unprecedentedly large. It presents a serious problem. In a broad way, however, the extent to which aliens already with us have been assimilated is the most significant of the questions bearing on immigration. When immigrants come to the United States, where do they go? To what extent do people of alien races color the various parts of the country? These questions are answered by the accompanying diagrams.

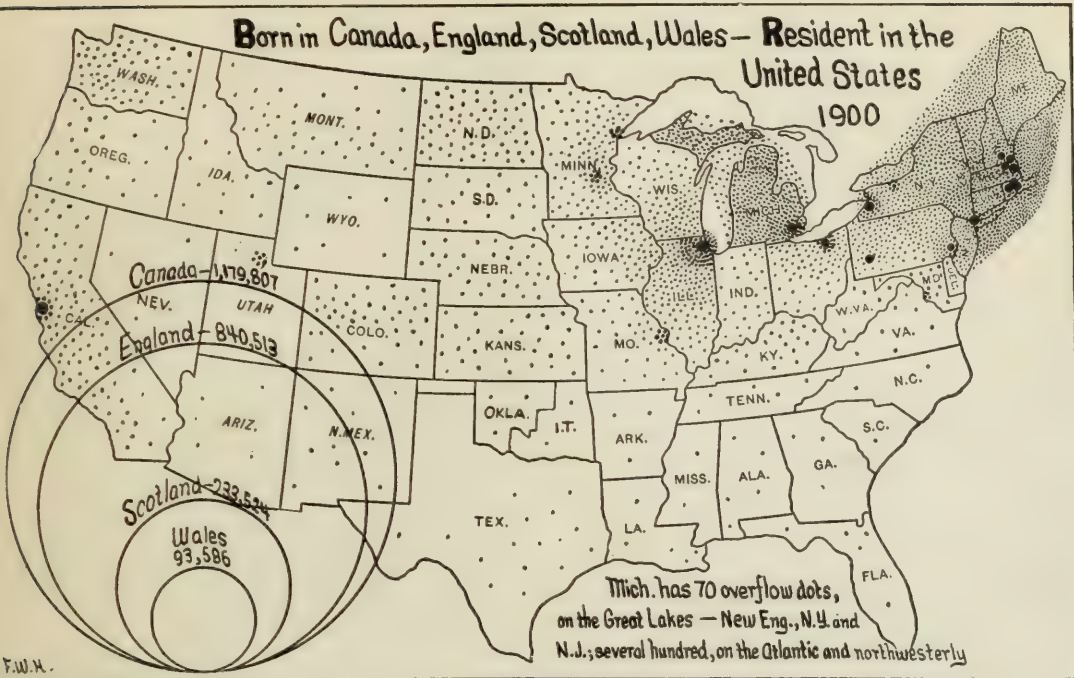
The circles show how the total numbers of the different nationalities compare, and the dots on the maps show where these aliens live. Each small dot represents 1,000 foreign-born persons. Each large dot represents 10,000 such persons in one city. The small dots grouped compactly about a large dot add so many thousands to the 10,000 in that city. Compact groups of five to nine dots mark cities having from 5,000 to 9,000 such persons. Cities having less than 5,000 aliens are not indicated.



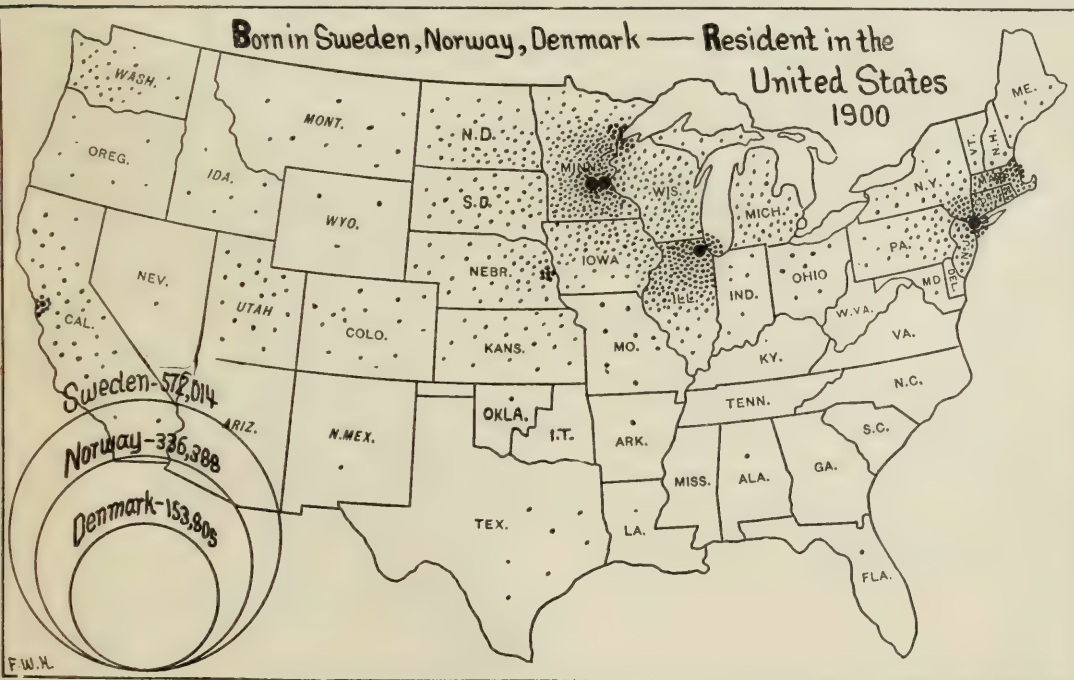
THE LARGEST NUMBER OF ALIENS IN THIS GROUP. GERMAN PREFERENCE IS FOR CITIES OF THE EASTERN AND CENTRAL STATES, BUT THERE IS NO AVOIDANCE OF AGRICULTURE



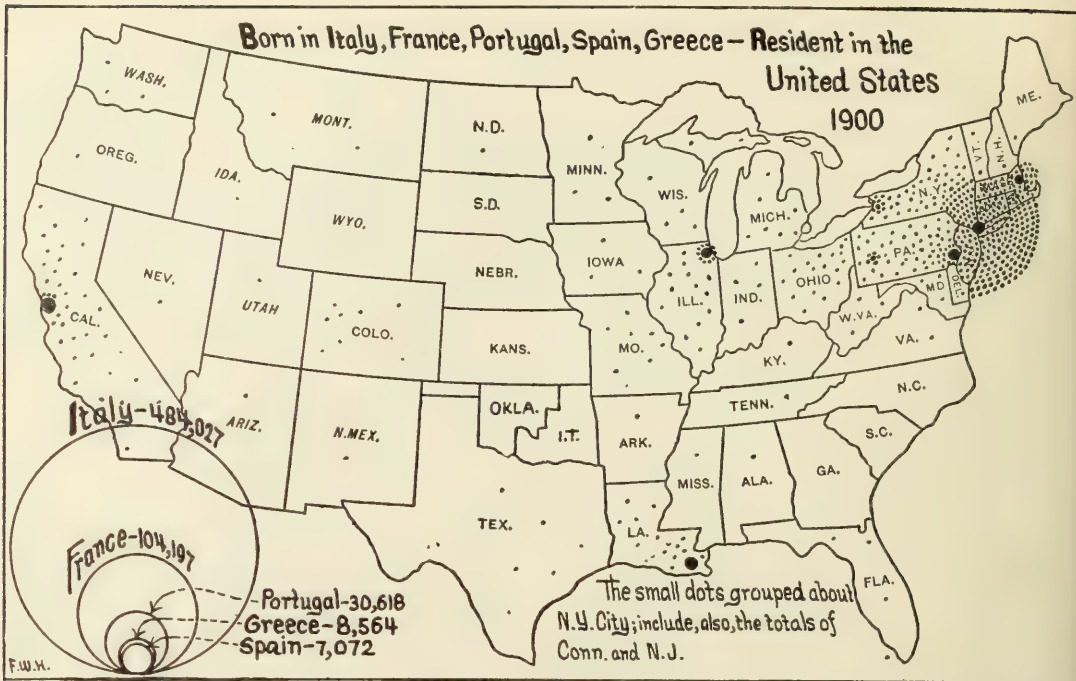
THE IRISH, NEXT IN NUMBER TO THE GERMANS, REMAINING IN THE EASTERN STATES



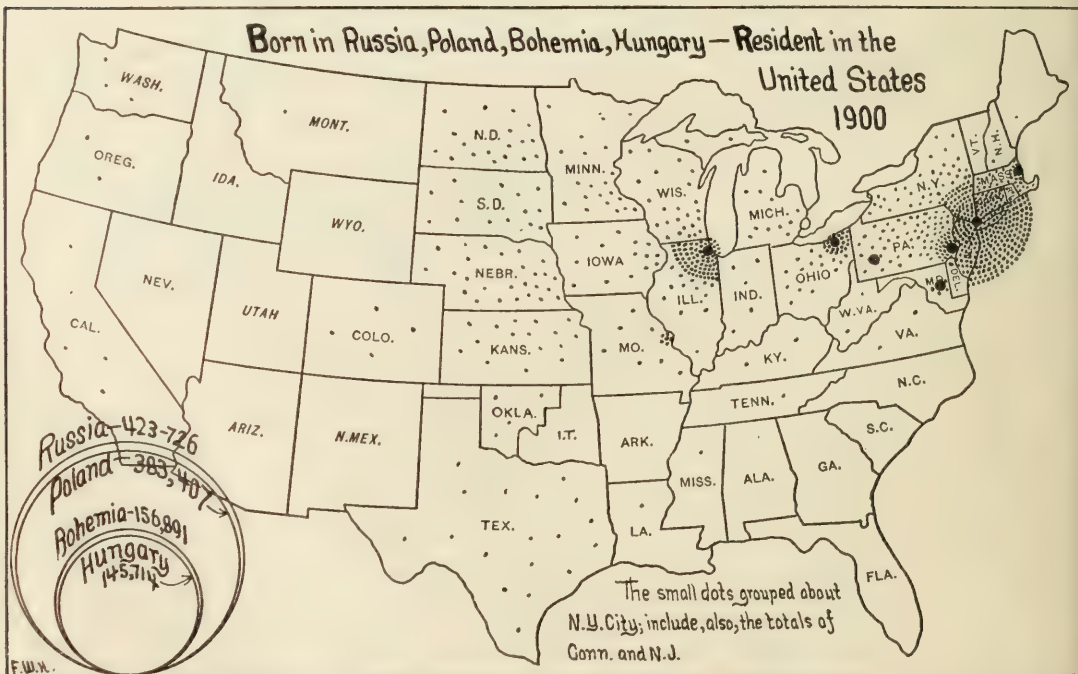
CANADIANS AND BRITISH ARE DISTRIBUTED WIDELY, MUCH AS THE WHOLE POPULATION IS DISTRIBUTED—CANADIANS IN ALL THE NORTHERN STATES AND PARTICULARLY IN NEW ENGLAND. THE CIRCLES, AS IN ALL THE OTHER MAPS, SHOW THE TOTAL NUMBER OF EACH NATIONALITY IN THE UNITED STATES



SCANDINAVIANS ARE SPREAD THROUGHOUT THE OLD NORTHWEST, THOUGH MANY ARE IN CHICAGO AND NEW YORK



THE ITALIANS GREATLY EXCEED THE OTHER LATIN PEOPLES. MANY ARE SETTLED ABOUT NEW YORK, BUT SOME IN LOUISIANA AND CALIFORNIA



MORE THAN ONE MILLION PEOPLE FROM THE EAST OF EUROPE, INCLUDING MANY JEWS, FOR THEIR SETTLEMENT IS NOT WHOLLY CONFINED TO CITIES

WILLIAM ELLIS COREY

THE NEW PRESIDENT OF THE UNITED STATES STEEL CORPORATION—THE
MAN AS HE PERFORMS HIS NEW DUTIES—THE STORY OF HIS CAREER

BY

RALPH D. PAINE

A BLOND, round-faced young man with rosy cheeks, his blue eyes glinting behind gold-rimmed spectacles, came hastily out of an office door on the eighteenth floor of the big building at 71 Broadway and made for another closed door, passing sentinel outposts of secretaries and office boys who seemed to stiffen with new energy and to handle callers with more careful vigilance when he crossed their field of vision. A short and thickset young man, surprisingly active for his build, in a blue serge suit and negligee shirt, he swung his square shoulders along the hallway as if he were making a close connection with a train schedule.

William Ellis Corey, president of the United States Steel Corporation, was merely dropping into the office of one of his heads of department to talk over certain matters, and it is superfluous to explain that they pertained to steel, for from nine to half-past four o'clock of each working day he thinks and talks steel, steel, and he carries the subject to lunch with him. He had with him his business manner, which he puts on when he steps out of the elevator, as some men don an office coat in working hours. For Mr. Corey in executive session is stern, chilly and aggressive—"One of the finest fellows, socially, to be met with anywhere," says one of his friends, "but an icicle in business."

Since coming to New York Mr. Corey has reinforced his policy of avoiding publicity which he practised in Pittsburg while president of the Carnegie Steel Company. He has a record of one authorized statement for publication in four years, "and that was a mighty short one," he declares. To the newspaper men who recently hunted him he said in substance, "I am not advertising myself."

There are two statements which Mr. Corey is willing to have his friends make for him:

(1) that he will direct his energies wholly to the affairs of the corporation, and (2) that he does not speculate in any way, and never has. He is essentially conservative, and this had much to do with his election.

While Mr. Corey's advancement has been even swifter than that of his predecessor, the public interest has been less than that inspired by the romance and the tragedy of Charles M. Schwab: the organization of a "Billion Dollar Trust," and the story of the "steel king," still in his thirties, who had begun life as a grocer's clerk with wages of two dollars and a half a week.

Yet Mr. Corey assumes office as the head of the United States Steel Corporation at the age of thirty-seven, or younger by two years than was his meteoric predecessor at the time of his election.

The lead obtained by "Charlie" Schwab was held through seventeen years, along successive grades of promotion possible only in the wonderful tale that reads like another "Aladdin's Lamp" or "Carnegie's Thirty-five Partners; or, The Story of the Young Men Who Awoke to Find Themselves Millionaires."

All the time Mr. Corey was following hot on the heels of Mr. Schwab, along every step of their common way, until he drew up on even terms when the highest goal in sight was reached: the presidency of the Carnegie Steel Company. Each of the two men was elected to this office, with its \$50,000 salary, in his thirty-fifth year. Then, in the race for the laurels of youthful supremacy, Mr. Corey has won by becoming President of the United States Steel Corporation at the age of thirty-seven; and there are times when he does not look a day more than thirty-five.

Among the workmen at Homestead a story is current that has been told so often that some of the younger men believe it. "It is only a few years ago," it runs, "since

President Corey was pushing a wheelbarrow in the yards of one of the mills at Braddock. He wheeled so much more iron in a day than the men at his elbows that he was soon made foreman over them. Then his boss noticed that he got three times the work out of them that the other foremen did, and at the same time the men worked harder without grumbling as much. Then he was pushed ahead by Mr. Carnegie, and wherever he was superintendent he invariably increased the output, just as he had done with the wheelbarrow gang."

Mr. Corey is harsh to this story. He says: "I was only sixteen when I went to work, and I could not wheel as much ore as one husky laborer, let alone three. It is also false that I started in to work for Mr. Carnegie at a dollar a day. It was not as much as that."

Mr. Corey was born within sound of the roar of the steel mills at Braddock, and it was almost inevitable that he should go into the mills as soon as he was ready to seek a vocation. At the town school, up to his sixteenth year, the future president of the "Steel Trust" was a stocky, athletic youngster, keen for outdoor sports. He was called "Bill," and he played an able game of baseball, but there was no particular excellence in studies to make his teachers prophetic of unusual efficiency. He was just a plain, healthy, bullet-headed boy.

But whatever interested him he went after as a terrier after a rat, and studied and investigated until he had dug out a practical working knowledge by persistent plodding. He "got a job" as helper, or general utility man, in the laboratory of the Edgar Thompson plant. He raised himself from the ruck of young men who were as industrious and as faithful as he on the night he began to study text-books in chemistry and metallurgy at home, and a little later to take evening courses in these special fields at a Pittsburg commercial college.

This was enough to attract the attention of his superiors in the laboratory as soon as the lad in his wearing drudgery began to ask questions that showed he was studying. The late S. A. Ford, a noted metallurgist at that time, gave him a chance to work into the practical chemistry of steel making. Andrew Carnegie was keeping a keen lookout for young men who promised to be equal to their opportunities, and his heads of depart-

ment were instructed to report this sort of material as it showed itself. Thus young Corey was put to handling men before he was out of his teens. First promoted to the order department, he was soon after transferred to the plate mill at Homestead, and at twenty-one years of age he was made superintendent of the plate mills and the open-hearth department of the plant.

Here was Charles M. Schwab at the age of twenty-one superintendent of the Homestead works, lord over 4,000 men, and William E. Corey coming up so fast behind him that at the same age he was placed in charge of the armor plant of the Carnegie Company, then a costly and complicated experiment.

When Mr. Corey was made superintendent of the Homestead works in 1895 he was fully equipped to handle the Congressional storm of investigation which broke in the following year. After proposing an arbitrary price of \$300 per ton, which the manufacturers refused to accept, Congress authorized preparations for erecting a Government armor plant, but then backed down and accepted the terms of the Carnegie Company. There is little reference to Mr. Corey in the annals of the controversy, whether in the Congressional reports or in the large number of volumes and articles dealing with the Carnegie Company and the steel industry in general. But during his connection with the Homestead works he was the "man behind the guns" when Mr. Carnegie or Mr. Schwab wished knowledge that was thorough.

Thus it was that when he was made president of the Carnegie Steel Company in 1901 Mr. Corey was fully equipped to direct all branches of the steel industry. As a matter of fact, he found himself in a new world of responsibilities. Up to that time he had been the mill superintendent. He had had nothing whatever to do with sales, markets or distribution.

The Carnegie Company had come into the fold of the United States Steel Corporation, but the opinion of the President of the Carnegie Company carried weight in the new organization. The promoted mill superintendent was confronted by an aggregate array of mills, furnaces, railroads, coke ovens and ore beds whose total output in steel in a year was as great as the total production throughout the world as late as 1880.

The successful direction of the Carnegie Company meant the success of the Steel Trust, and *vice versa*.

"Mr. Corey," says an official of the company, "went at administrative problems in a direct, bull-headed fashion that gave them no rest until the solutions were knocked out of them. He was never afraid to ask questions when he was not sure of his ground, and he fairly surged through the building, until the force was working harder than it ever had before."

At this time, too, he showed his wholesome liking for out-of-door sport. Through his years of residence at Homestead he was manager and backer of the athletic association connected with the Carnegie Library and Reading-room, and he still holds a lively interest in the Homestead baseball team, which is one of the strongest semi-professional teams in the State. He became interested in football through the games played by his workmen, and joined other wealthy enthusiasts in assembling the strongest team of football "stars" that ever trampled a field. The team proved invincible, and was not scored against in two seasons. He said one day, sometime after the team was disbanded:

"The output of goals and touchdowns from our plant surpassed that of all competitors. The best possible product and the most efficient organization did not bring success. The same rules do not apply to football teams and making steel. And as president of the Carnegie Company, it seems best to give my time and attention to meeting competition in steel, where the laws of supply and demand have a rational working basis."

His first important new problem as president of the Carnegie Company was a decision on the base price of manufactured steel, excepting rails. The base price has been maintained at \$1.60 per hundred pounds for several years, on "shapes and plates." When Mr. Corey became president of the company the demand for steel was so great that the question of raising the base price came up. Mr. Corey decided that the base rate should be kept on the old level, and the company agreed.

When the National Steel Company and the American Steel Hoop Company were absorbed by the Carnegie organization Mr. Corey was elected to the presidency of the

two companies merged, and in their reorganization, consolidation and economical adjustment he found an admirable training-ground for administrative and financial experience, and showed himself capable of being next in line of promotion to Mr. Schwab.

As Mr. Carnegie reserved the right to have a decisive voice in the election of the president of the corporation during its first five years, it was certain that in the case of Mr. Schwab's death or retirement a Carnegie Company man would succeed him. In Mr. Corey the succession is the climax of a career duplicating that of Mr. Schwab on every round of the ladder, through Homestead and the presidency of the Carnegie Company. Moreover, the new president is also a man most acceptable to Mr. Morgan and his interests in the corporation. His conservatism and freedom from "entangling alliances" and his working methods harmonize with the views both of the great iron master and of the great financier. Furthermore, one of Mr. Corey's closest friends said recently: "He need not fear the labor and responsibilities which the presidency involves, because his life is tempered to his business duties, simple, regular, such a life as others of the men who are doing great things persist in leading. Nor is there danger of his 'going up in the air.'"

Mr. Corey has no fads except fondness for home. He has said that he will move his family into a "modest establishment in New York." For the last two years he has rented the home of Attorney-General Knox in Pittsburg.

There have been indications that under the new dispensation there is to be, if not acknowledged, at least understood, some division of responsibility whereby Mr. Corey may be left to the direction of the operating department, while that of finance, which must hereafter consider some staggering problems, may be guided by men as skilled in finance as Mr. Corey is in the manufacture and sale of steel.

It has been thought by some of those who are close to Mr. Morgan that among other mistakes, some of which were inevitable in the creation of so far-reaching a combination as the United States Steel Corporation, one was committed in including the financial responsibilities among the duties of the president.

SOME PERSONAL GLIMPSES OF LORD SALISBURY

HIS INFORMALITY AT HATFIELD HOUSE—THE BARBER OF CONTREXEVILLE—SALISBURY'S SPEECH DECLARING WAR ON THE BOERS—STORIES OF HIS EARLY DAYS—AN ESTIMATE OF THE MAN

BY

CHALMERS ROBERTS

THERE are three personal impressions which Lord Salisbury's death brings to my mind; and in our estimates of great men personal impressions, however slight, count first of all. Some years ago, passing through London, I was taken to one of the large garden parties which the then Prime Minister was accustomed to give at Hatfield House during the London season. The famous old home of the Cecils is only thirty-six miles from London, and special trains were always provided to carry down and back the thousand and one guests of the afternoon. These train trips to country places in the "home counties," as the shires surrounding London are called, become such a feature of London life that Londoners think little of going to balls fifty miles away and coming home by "special" in the early morning. The trains down and back, carrying guests only, are but a continuation of the party itself.

Lady Salisbury was too ill to see guests, and we were received in a long line on the south front terrace by Lady Cranborne. Once or twice during the afternoon I asked for a sight of our host, but was told that he was either busy with some of the royalties or else gone to look after his beloved wife. The whole party was beautifully done. It was an exaggeration of refinement to call the long buffets under marquees loaded down with fruits, ices and champagne cups, tea, or to pay so little attention to the concert given by a famous Viennese orchestra.

But just at the last, as I roamed about the grounds with a countrywoman, we noticed the crowd moving with polite haste toward a carriage in the central roadway. We hurried on and heard as we moved that the

royalties were leaving. At last we reached the circle surrounding the carriage. The princesses were saying good-by to guests in the circle they chose to recognize, and at each handshake the women bobbed down in the little courtsey which strikes a stranger as so amusing, while men bowed low over the royal hand. Here I had my first sight of Lord Salisbury, as he stood by the carriage door.

A bulky figure of great girth, the breadth exaggerated by a marked stoop, which concealed his height; a massive head, uncovered, seemed sunk in his shoulders, framed in a circle of gray hair and beard. His clothes were surely remarkable in the crowd of well-groomed Englishmen about him. He had evidently spent the morning in a suit of rough tweeds and heavy shoes fit for walking about the estate. It looked as if at the last moment some son or daughter had caught him, stripped him of his sack coat and hurried him into a black frock for a few hours against his will; for the rest, the rough tweeds and shoes remained. Once you know the importance of their clothes to Englishmen, from the King down, this gives you a significant character hint. But the Premier seemed perfectly unconscious of anything unusual in his clothes. There was an air in handing the royal women into the carriage, and above all a piercing glance from under the shaggy, overhanging eyebrows, which gave you but one impression: here was the typical *grand seigneur*.

Several years later I was undergoing a short cure at Contrexeville. We had heard almost on arrival of the many royalties present, German and Russian for the most part, and had joined in the general but discreet supervision of their movements, in

what time our busy cure duties left on our hands, but no one told us of a guest who interested us much more. About the third day, after many representations at the office, we secured a small table to ourselves in a sort of dining-room annex. And there we found that next our little table was one regularly occupied by Lord Salisbury and his unmarried daughter, Lady Gwendolen Cecil. Our first discovery was that the Premier was a difficult patient. The diet at Contrexeville is very strict. One's doctor permits at the most plain cold meat once a day. Yet the great Cecil made three heavy meat meals a day, and, I suppose, suffered all the pains and penalties with which we were threatened. At any rate, he seemed very morose and silent. His clothes were of a character and carelessness to correspond with his garden-party costume that I have described.

One day in practising economy I avoided the hotel barber and sought out a cheap and, as I found, a mean little shop in the village. The prices posted outside were about half those the hotel charged. But I was glad I came, for in the next chair to mine sat the Lord of Hatfield. He spoke, I remember, when he seldom did speak, in very English-like French. When an Englishman speaks French I always seem to see the words written down in an alphabet of Anglo-Saxon sounds. As he left the shop I spoke to the barber who had served him:

"Do you know who that was?"

"No, monsieur."

"That was a very great man—the Premier of England!"

"*He!* Alas! They're always like that—these English."

The last word had a world of scorn in it as well as implied compliment to my own nationality in comparison. And then he added:

"He didn't give me any tip."

I have often seen Lord Salisbury pass in a carriage at Beaulieu, where I visited at the villa next to his, or in London, often on his tricycle. But the last time I looked at him for any long period was the greatest occasion of all. The Bloemfontein Conference had made confusion worse confounded. There were rumblings of all sorts for months. Kruger had scorned the ultimatum. Then at last came the news that British territory had been invaded by the Dutch. War was

to be declared on a certain afternoon, and we all rushed down to Westminster. Chamberlain was to speak in the Commons and was expected to defend his conduct against the attacks of the peace party. The demand was so great that seats seemed out of the question. But we did succeed in getting into the House of Lords.

We no sooner looked down on the floor than we saw by the full, expectant house that something was "on." A few minutes later the Prime Minister rose to make his famous speech in support of the war and in defense of his Secretary of State for the Colonies. We were glad of our misfortunes in the lobby. I had often, before and since, heard Mr. Chamberlain. That is the only speech I ever heard Lord Salisbury make. It was very impressive. The great head, sunk down in the broad shoulders, seldom moved. The fine large eyes seemed fixed on vacancy above the heads of his peers and below the gallery where we sat. The voice was a low, clear monotone, little given to marked inflexion. There was a complete absence of gesture. But all of this was soon lost sight of in the pearls of English diction which fell from his lips. Almost every sentence was a memorable phrase. The references to Mr. Kruger were of the old biting, sardonic kind, which used often to make the peace of Europe tremble when appearing in diplomatic despatches. There were no notes and little evidence of preparation, yet the shorthand reports in "Hansard" (the Parliamentary record) next day, as well as flashed around the world to newspapers, were as polished and as finished as the ordinary man's most labored composition.

This was the real declaration of war, a solemn and imposing ceremony for which the House of Lords is peculiarly fitted. On such an occasion it appeared to the best advantage, and its cathedral calm met the day much better than the noisy wrangles of the Commons, busy "baiting Joe."

It will be long again before England's Prime Minister is such a master of England's language. Always a recluse and a student, undoubtedly his early experience as a needy and hard-working journalist added to Lord Salisbury's mastery of his native tongue. When I first began to study diplomatic papers, after our own red books I read most diligently English blue books. I was a very

junior secretary in Constantinople at the time of the Cretan difficulty in 1896-97, and as such naturally read all diplomatic publications on the subject. The blue book containing Lord Salisbury's despatches was a marvel of beautiful English and a full textbook for the use of young diplomatists. It was unforgettable. But it was more than this. In the discussion of eventualities likely to follow foreign intervention by the Powers between the Greek and the Turk, the British Premier laid down the fullest, most complete epitome of the Near Eastern problem that exists today. I can recommend that set of state papers to any student in the hospital of the "Sick Man."

So much for personal impressions, which, slight and vague as they are, seem to me much more honest and trustworthy than others, gained second-hand. Of course, no one who has lived even a year in England within the last half-century can fail to have formed some opinion, can fail to have built up in his own mind some characterization of the last of the great Tories. Even that epithet tells of conclusions. It is prophecy to say "last," but I fully believe that with Lord Salisbury's death an old order passed away. He saw "Tory democracy" grow, but was impervious to it. He accepted Mr. Chamberlain and all that he means into the Holy of Conservative Holies, just as one takes a nasty dose for the good of the body while the mind doubts its efficacy and rebels against its necessity. Lord Salisbury stood for more than the boasted "government of gentlemen." Even that is doomed. But he represented government by great families, and was in disposition and tastes more fitted to have succeeded his great ancestor in the service of Elizabeth than to have guided the republican realm of Victoria. The whole Cecil family is Toryism incarnate. They are hopeless of conversion. In America we should call them "mossbacks."

The present Lord Salisbury, who, under the courtesy title of Lord Cranborne, sat in the House of Commons, was also Under Secretary of Foreign Affairs, and as such the mouthpiece of the Foreign Office upon the floor of the Lower House. But he has never given sign of any inherited ability, and has often made sad muddles of his work before the ragging of more alert members of the opposition. He was only a usual sample of

the eldest sons of peers. For it has indeed become an axiom, as far as the old titles are concerned, that their prospective holders should show least ability of all the members of the family. Wherever you see a young gentleman who is evidently a weakling, mentally and physically, a common joke is that he looks like the eldest son of a peer.

For its own salvation the hereditary legislative class of England does not really inherit, else the third or fourth generation would surely become extinct. The peerage is maintained in its undoubted strength by the succession of younger sons or collateral relatives, made strong men by necessitous upbringing. Lord Salisbury himself was a brilliant example of such an instance. He had but the meagre allowance of a younger son in the large family of a by no means wealthy peer with two sets of children. He won his character by no easy battles with fortune. The eldest brother was a weakling physically, totally blind, though he was credited with great intellectual ability.

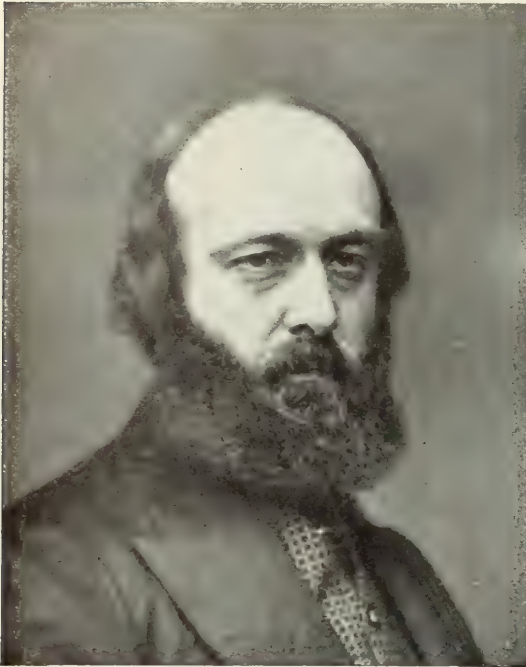
His second, third and fourth sons are clergyman, barrister and soldier respectively. The fifth, Lord Hugh Cecil, is today very much what his father was during the early half of the last century. Tall, unspeakably slight, stooping, with thin red hair and cold blue eyes, he is full of nervous energy, and burns with the fire of religious fanaticism and Tory antipathies. He leads a band of fierce young zealots in the House (he is member for Greenwich) which has never hesitated to attack the policies of his father or his cousin, and which generally sets itself against innovation in any form. This little clique is called after him, the "hughligans," a punning epithet upon the name of the marauding roughs of darkest London—"hooligans."

Even his nephews, the present Prime Minister and the President of the Board of Trade, are of a kind with the rest. Arthur Balfour, brilliant man though he is, would never have been Premier save by inheritance. He represents a sort of *laissez faire* policy on the part of the Government and the party, which did not know what to do at the loss of its real chief. He has won success by negative rather than positive qualities, and is what he is because less objectionable than any other available man, and because he could be trusted to carry on the Salisbury tradition



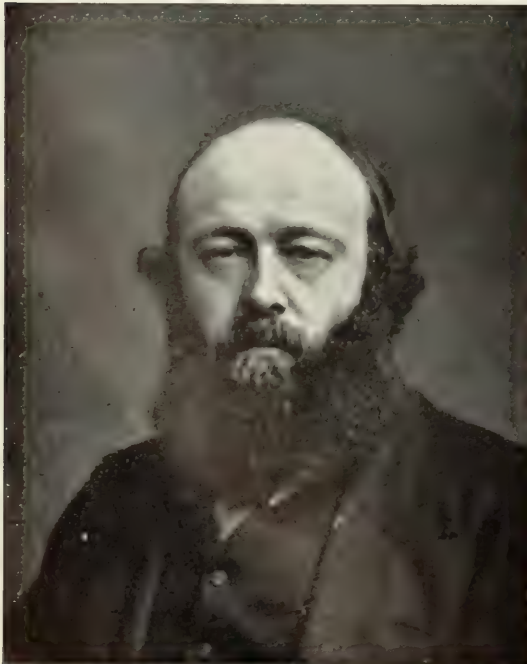
Photographed by Lambert Weston & Son

THE LATE LORD SALISBURY



VISCOUNT CRANBORNE IN 1868

of lofty detachment from detail. Gerald Balfour, both as Chief Secretary for Ireland and President of the Board of Trade, has done



LORD SALISBURY AT THE TIME OF THE CONGRESS OF BERLIN, IN 1878

nothing to make one forget that he is nephew to one Prime Minister and brother to another.

Before he succeeded his father in 1868, the late Marquis had made a name and a place and, what is more, a character for himself as Lord Robert Cecil. The independence of the young man was first made manifest to the world at large by his marriage, for the former Marquis regarded it as a *mesalliance* for his son to marry with the daughter of a self-made man who was a distinguished jurist. And if his father did not cut him off with the proverbial shilling, at any rate he refused any increase in the meager allowance. So defying his family, Lord Robert married Miss Alderson and set out to work for his living. Her father's brilliancy in a measure descended to the daughter, and it has never been contradicted that she, too, wrote for the press when her husband was earning the living of a rapidly increasing little family as a hard-working journalist. He was supporting his family in this way during his earliest days in the House of Commons, when he so bitterly fought with Mr. Gladstone as well as with the leader of his own party, Disraeli. The records of debates and electioneering campaigns in those days show that the youth was, indeed, father to the man; for the whole career is marked by a kind of bitter, cynical pessimism which is rightly Toryism and which from his pen gave much of its character to the *Saturday Review* as we now know it.

Recent English political history is starred with his sardonic phrases. He always showed the contempt of the scholar for the multitude. When Disraeli removed the tax on newspapers and made the cheap journals of today possible, Lord Robert Cecil asked his famous question, bitterly opposing the reform, "Can it be maintained that a person of any education can learn anything from a penny paper?" Once in speaking of the wonderful power which Mr. Gladstone had over his followers, amounting to a sort of hypnotism, he said, "Even when the honorable gentleman has to go down a very steep place they follow headlong, like pigs in the Scriptures, bellowing, with grunts of exultation." He called Mr. Chamberlain a "political Jack Cade," and the name stuck. He characteristically opposed each successive extension of the franchise, not foreseeing that the great unwashed electorate would confess its inabil-

ity to govern itself by keeping him and his class in office for so many years after the last and fullest grant.

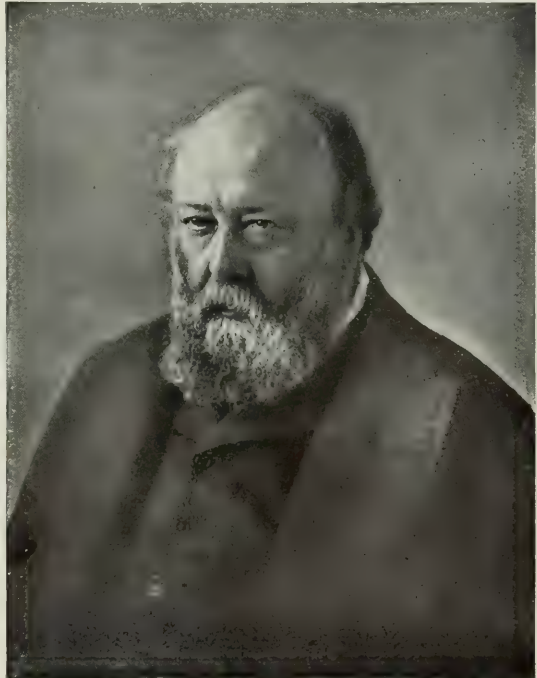
Scorning the wire-pulling and the opportune policies of the party managers, he was, as is his youngest son after him, long a thorn in the side of the practical politician. His ability forced his consideration, won his triumphs on the highest of high grounds, always to the end despite political necessities. Mr. Gladstone once characterized Mr. Chamberlain rather contemptuously but quite justly as "an American politician." Lord Salisbury could never in the world have won political success in America. He needed his own background and fitted into it. Mr. Chamberlain would have won success in the Desert of Sahara, and would never have scorned the necessary means. The association of the two men was as much a subject for discussion in Lord Salisbury's later life as were his relations with Disraeli earlier. For years their well-matched scorn and vituperative sarcasm made campaigns in England the delight of word-mongering onlookers, for Mr. Chamberlain himself has a pretty dictionary of cutting phrases. When the Birmingham leader deserted Gladstone on Home Rule and came over to the Tories he was received by them wholly as an ally of war, and no one could possibly foresee their association on any other ground than that of temporary parliamentary necessity. That Mr. Chamberlain remained for so long and with such seeming harmony in Lord Salisbury's later Cabinets was due, I am sure, to the growing indifference of the older man to all his surroundings, as well as to his pronounced dislike of change. In the early days it would never have been possible. It was this same dislike of change which caused him to fill successive vacancies in the Cabinet with one and yet another member of his own family, until the gathering came to be called derisively the Hotel Cecil.

Lord Salisbury, everybody is now convinced, was a strong man in every acceptance of the word. Yet Bismarck called him a "lath painted like iron." And at the same time he said of Disraeli, "The old Jew—he is the man!" In support of Bismarck's judgment I know a bit of unwritten history. Salisbury's bitter hostility, in spite of various truces, continued down to the last of "the old Jew's" governments. And when "Dizzy"

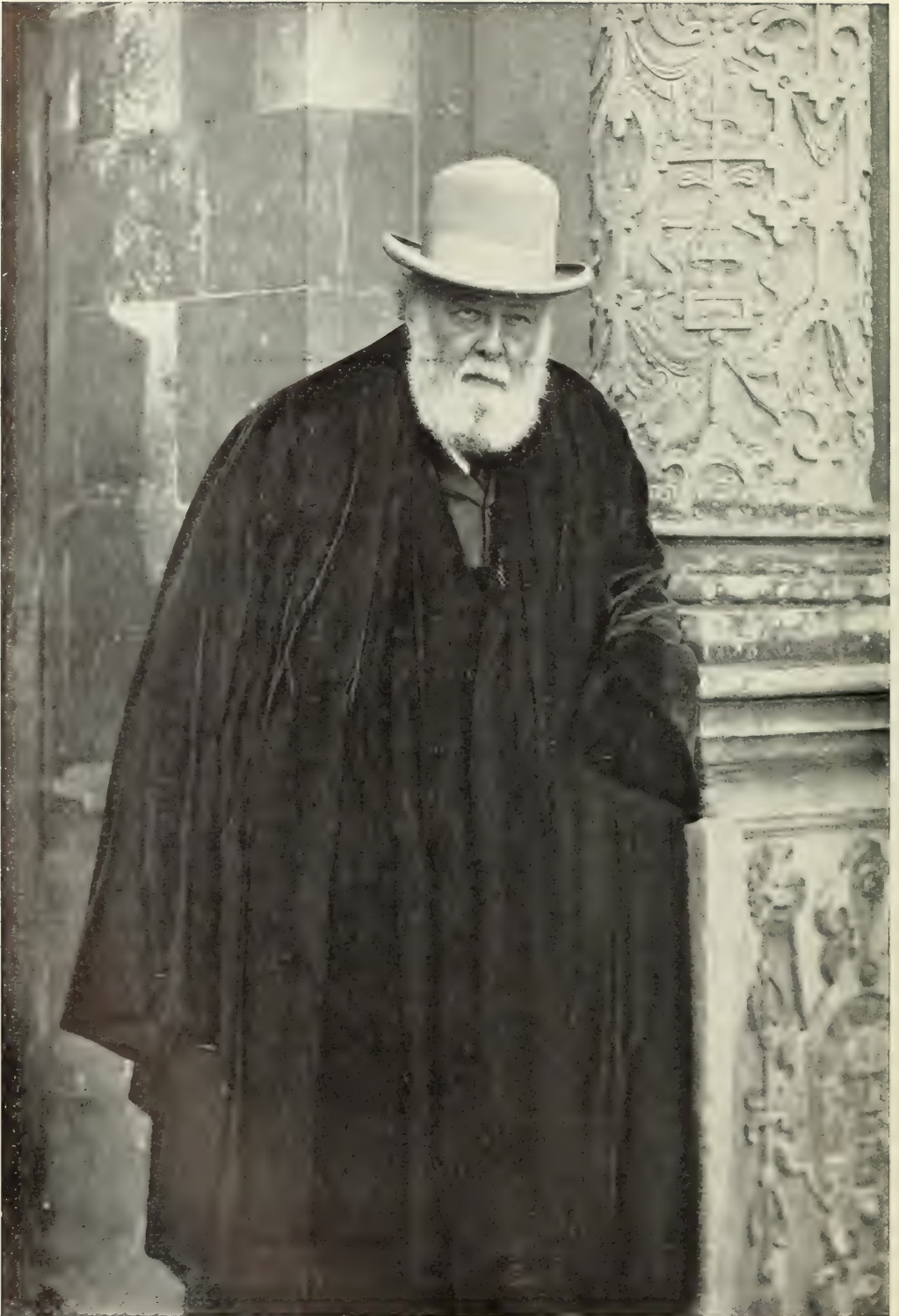


LORD SALISBURY, AS PRIME MINISTER, IN 1890

came to form his last Cabinet there was an unconcealed coolness between them. It came to a true test of characters. The air



LORD SALISBURY, AS PRIME MINISTER, IN 1896



LORD SALISBURY AT HATFIELD IN 1902

was full of the tension which goes with cabinet-making. In the journalistic phrase, speculation was rife. "Will he or won't he?" "Will the proud Cecil bow his head to the yoke of the master?" This sort of thing had gone so far as further to complicate the situation. Lord Rowton, for so long Monty Corry, the faithful secretary of Beaconsfield, tells the inside story. It was to be a battle of Saxon pride and Oriental cunning. Salisbury had risen to a position where he could not be ignored by any maker of conservative governments. Yet he would not ask, and "Dizzy" would not beg.

But, with the intrigue which won him so much of his great winnings, "the old Jew" caused it to be made known in a roundabout way to the haughty Marquis that if he would come for it a portfolio in the new Cabinet would probably be his. Two days elapsed. The newspapers kept up their chorus of jeering inquiry. Even party managers became anxious. Late the second afternoon the Cabinet-maker left his work and went for a walk. There was just as much uncertainty at No. 2 Whitehall Gardens as with the public at large, but the eventuality of Salisbury remaining outside was fully provided for. Only a few hours remained before the invitation would be sent to the substitute. During the walk the Premier himself thought it probable that he would have to do without the stiff-necked Cecil. On his return the servant at the door informed him that Lord Salisbury had called during his absence. And so the name of the future Secretary for Foreign Affairs was put down at once as settled.

In this office, which he held for so many years, Lord Salisbury was not at first a marked success. His bitter, supercilious ways did not suit diplomacy, and often came near to upsetting the very ends he aimed for. John Morley once compared his position in regard to the peace of Europe to a moment in the Alps when a whisper, a breath merely, will bring down a great avalanche. "Was the peace of Europe safe," he asked, "at the mercy of the raucous tongue of the Foreign Secretary?" But with age came experience and with experience reserve, until he was easily the first diplomat of his time.

We should not forget his long and consistent friendship for the United States, often persevered in despite bitter opposition at home

and small encouragement on our part. There stands no greater monument in his long and great career than the success he achieved in bringing these two nations together. For this alone, I am sure, future generations will honor, even bless him. And yet, I am also confident that personally he must have wholly disliked us, with our pushful audacity and our easy way of winning success. The average American must have put Lord Salisbury's nerves on edge, and it is to his greater credit that his judgment as a statesman overcame any small feelings he may have had as a man. He had all the typical personal shyness of the Englishman, for modesty in their personal bearing is yet a marked trait. He had, moreover, a singularly sweet disposition with his home life and with his few, very few friends. His lifelong devotion to his wife, and his grief at her death, are matters of recent knowledge. His bitter and successful defiance of all modern publicity and personality-mongering as far as his family life was concerned was a trait as significant as admirable.

Lord Salisbury's detachment from society and from his whole generation has become a proverb. No other modern man of such power and position was able to keep in such complete retirement. Even his friends seldom saw him. In 1891 he said himself in the House of Lords that he had never seen Mr. Parnell, who for sixteen years had dominated the House of Commons. So well known a man as Mr. John Morley has recently said that he has never spoken to Lord Salisbury. During the last decade the prominence of two of his sons in the Commons has never drawn him there to take the pride which other fathers have taken in the political successes of their sons. He was, in fact, as Premier, not unlike the old Dowager Empress of China, who gave him so much trouble in his time. Under the fiction that her ministers cannot bear the glory of her countenance, she issues her orders to them from behind a screen. Yet it could be almost said that for many years England, too, was governed from behind a screen. But that she was ably governed, in accordance with her wishes expressed at the polls, no present historian will dispute. And as his resignation came before the coronation of the present King, the future chronicler will surely place him among the last of the great Victorians.

SOME RECENT BOOKS

THE PEOPLE OF THE WHIRLPOOL

THE obvious, physical, visible advantages of life in the country over life in the city any common nature may see and feel—the green of growing things, the untainted atmosphere, the sunlight, and the sense of distance; and these have lately found expression in many books of many sorts, which all carry a lesson of salvation to the dwellers between walls. But the unrevealed author of "The Garden of a Commuter's Wife," leisurely following further the fortunes of her own household and her little group of friends, has done a subtler task in "The People of the Whirlpool."

These are the people who are in bondage to urban life, to its intricate conventions and rivalries and displays—those who have lost (if they ever had) the home-loving qualities that add the finest flavor to living. The gentle home of the commuter's wife, its twins, its garden, its simple tastes and pleasures are set in contrast with the unrestful people of the city—the vulgar who do not know they are vulgar, and the ludicrous who do not know they are ludicrous. A pretty thread of a story, not of the adventure-and-climax kind, but of love and growth in gentleness, holds together the diary and the letters and the records of experience which make up the book.

No one will read it with breathless excitement; but no one who knows the secret of the health and of the garden to a real home will read it without a continual thrill of thankfulness. It is a book that by its gentle qualities may be read many a year after its noisier contemporary books have sunk into the deep whirlpool of forgetfulness. Every one who loves it is a fit friend for every other lover of it.

A NEW ESTIMATE OF BROWNING

IN the "Robert Browning" of the English Men of Letters Series Mr. G. K. Chesterton has done a refreshingly new thing. He eschews protracted search of motives and values of incidents, and begins a vigorous house-cleaning among "Browningites," who have wound about their over-studied idol a

veil of foggy commentary, to the bewilderment of laymen and the inarticulate rage of modest discerners. Mr. Chesterton deftly and summarily disposes of "that unfortunate intellectuation" which idealizes Browning as a metaphysician and neglects him as a poet. He vanquishes a babel of controversy by a startling extravaganza of common sense, and by his vigor gains the assent of stimulated readers. It is in just this that his biography is unique: that it mainly devotes itself to shaking imposing fallacies by agile thought and deft, if paradoxical, phrasing. It is quite lacking in biographical conventionality, but is none the worse for that.

The style, however, bristles a bit too cleverly. Mr. Chesterton's paradoxes and parallels indicate his own alertness to the doctrine he ascribes to Browning—the importance of emphasis on the immense importance of small things; but his choice becomes indiscriminating, and he loses the chief significance of his principle. Yet his independence gives his manner some dignity. His conception of Browning the man is more characteristically vigorous and truer of aim than his interpretation of Browning's work. But in the latter he certainly often hits the goal with unhesitating sureness.

A BOOK OF CHILDREN AND COLOR

LOVERS of children will derive keen pleasure from a stout and well-made volume published this fall at Macmillan's—but not from the text, which is commonplace. The book is "World's Children." Miss Dorothy Menpes has written for it little chapters on the children of many nations, from England both ways 'round the world, to Ceylon, but merely in a cursory way that has charm but no deep interest. Mortimer Menpes, her father, really makes the book. With a high sensitiveness to color values—though with a smaller degree of deftness in drawing—he has transferred Irish ragamuffins, pudgy Burmese babies, dainty English girls, hooded Rumanian youngsters, dainty little Japs, the picturesque children of all the races, to water-colors that result in a picture-book of unusual charm.

The text is of value only to be read to children. That, without doubt, is its function. There is no right-minded child who will not scan the delightfully colored illustrations with recurring pleasure and ask a hundred questions about his curious foreign contemporaries; and the chapters by Miss Menpes answer all the questions. Older people will skip the text and preserve the book for the color reproductions.

They are very good. No attempt is made to secure prettiness—the artist clings too closely to the reality of his subjects for that—and for this reason the portrait gallery does not cloy. This passion for verisimilitude does indeed result in poses that suggest photography rather than art, but the slight stiffness in the drawing is hardly more than a hint of the natural awkwardness of natural children. The coloring in figures and backgrounds, on the other hand, is luxuriously rich. The children simply revel in the subdued tints that are typical of Japanese fabrics—a result for which Mr. Menpes does not deserve all the credit. For the color-printing is uncommonly well done.

The book is one that cannot fail to fill with satisfaction all who care for children and take delight in color.

A NOVEL OF DISTINCTION

AFTER progressive steps recorded in "Love with Honor" and "The Column," it may be said that Mr. Charles Marriott has "arrived" with "The House on the Sands." The book emphasizes an art that must be reckoned with in summing up serious contemporary creations in fiction. The author reverses the usual order of things in a political novel. Instead of the parliamentary hero steering the ship of state straight on the rocks, losing his ideal regardless of the warning of the voice of the people, we hear the strident note rising out of a khaki-mad crowd that gives the central figure of the story, an ambitious statesman, the cue to a successful national measure. Mr. Marriott has reflected existing political conditions with fidelity, ranging from "Dooleyism" to imperial destiny in his scope of comment, and reinforcing it with a story that shows the ruin of a semi-domestic institution founded on platonic friendship. To paraphrase one of the author's titles, we have honor without love, a relationship of the brain and not of

the heart—even though when love comes flying in at the window Platonic theories fly out.

The power of Mr. Marriott lies in his ability to illumine his story with keen, suggestive strokes. "Are Americans self-conscious?" asks one of the characters. "Yes, they are full of 'isms' and 'ites,'" was the reply. He defines provincialism as self-consciousness. He declares that England is in danger of an Americanization of her social and political methods. There is an earnestness in Mr. Marriott's style that makes it sometimes sound eloquently. He has caught the changing moods of the sea with the skill of an artist portraying the changing colors of the sunset. "The House on the Sands" is a book of unusual distinction.

THE EPIC OF A DOG

ALL that Mr. Jack London has written heretofore merely serves as an introduction to his latest book, "The Call of the Wild." This is an epic of a dog who fights a desperate battle against a man and his civilized methods far up in the Alaska country. A human lesson is pointed. The way of the dog is, after all, the way of the man. This animal, Buck, is stolen from a luxurious home in California for service on the Klondike trail. A club takes the place of kindness. He revolts, and the club falls all the harder. He becomes a diplomat of his kind; he falls among canine Philistines and learns their ways. He begins to steal his food, but, as Mr. London says, "it is the clamor of his stomach" that makes him do it, and not the pleasure of stealing.

There is in "The Call of the Wild" much of the rich red blood of life. One book like this is worth a whole library of conventional romance. It runs riot with action. The sweep of it wipes away the cobwebs that humdrum fiction have left clinging in the memory.

Something of the fierce tang of the frosty Alaskan air has always been in Mr. London's work. "The Call of the Wild" provides an excursion into that realm that is not soon forgotten. Interwoven with this story is the romance of the great Yukon trail; the hardship of trail and pack; the tragedy of men, as symbolized by the life of the dog, who battle against frozen odds in the lone ice reaches of the North.



BUYING AN EXPOSITION TO SELL IT

WHEN the exposition held a few years ago at Omaha had closed, it disappeared as a mirage might. One week a town of spectacular architecture stood on the Fair Grounds. So it appeared the Saturday the exposition closed. On Monday a swarm of 500 workmen poured in through the gates—and in a twinkling the wonder city vanished. Not even the lagoon was left.

Months before, a wrecking company had bought the whole exposition for about \$20,000. As soon as the Fair had closed they hurried steam derricks, special cars and workmen to the grounds and forthwith began demolition.

The bricks that lined the lagoon and paved the sidewalks were taken up and shipped to Chicago. The buildings were torn down; all the lumber was sent away; and the plaster was thrown in to fill up the lagoon. Whole sections of the roofs were lifted bodily upon the cars. The miles and miles of fence were taken down. Train load after train load of lumber, building materials, furniture, including thousands of chairs—in fact, everything that makes up the plant of an exposition, were sent to the company's great Chicago depot.

Nothing was wasted. The hinges and locks on the doors were removed, sorted and shipped. All the thousands of trees, shrubs and plants that dotted the exposition grounds were scientifically loaded on the cars and sent east. Flagpoles, flags and typewriters by the hundreds shared a like fate. Even the great panorama of the Battle of Gettysburg was taken. Two weeks from the close of the exposition the grounds were bare and level. There were no buildings. There was no water.

All of these things were put into shape and sold. The company has an immense store in which goods are for sale, "from a needle to an anchor"—furniture, builders' supplies, lumber, flags, hinges, and all the objects and materials used at expositions—and not only these, but many more, for this same company buys dismantled theatres,

great wooden bridges, and old hotels. It buys in bulk and sells piecemeal. There is nothing that suggests the traditional white elephant so strongly as a group of exposition buildings, but this company skilfully puts the unpromising material to very practical use.

A QUICK SUCCESS

A CLERK in a small store in a Western city grew tired some years ago of his bicycle.

"Why don't you sell it?" suggested a friend.

"I think I will," said the youth, and he inserted an advertisement in the morning paper.

At nine o'clock the following morning a purchaser appeared who bought the "wheel" for ten dollars. At half-past nine appeared another.

"I'd like to see that bicycle you advertised," said he.

"But I've sold it," the young man said.

About ten o'clock two other men asked to see him, though by this time his employer was beginning to frown. When the young man returned to work an idea struck him.

"There seem to be a good many people looking for second-hand bicycles," he said to himself, "and it's a pity they can't have them."

Two other buyers appeared before lunch time. These he did not send away.

"Come around again to-morrow," said he; "I'll have the bicycle here for you."

At lunch time he hurried to the newspaper office and inserted another advertisement, this one reading, "Wanted—a second-hand bicycle."

That afternoon he had several more callers in answer to the first advertisement. The next day his experience was, briefly, this: Besieged all morning by people with bicycles for sale, he asked each seller to leave his wheel a day for trial. Then at noon, when his callers of the previous day came back, he sold the bicycles one by one at a higher price than the owners had placed on them.

The next day, when he had paid for the wheels, his balance of profit made a comfortable little sum. Moreover, the advertisements were still producing results.

But here his employer came to him in wrath.

"What's that heap of bicycles out there in the yard?" said he. "Do you think this is a bicycle factory?"

Gloom fell at once on the bicycle merchant, but this business was too profitable to lose. He continued thinking. At noon he interviewed a boy across the street who worked in a little ice-cream store that had a shed behind it, with the result that the boy agreed to receive and store the bicycles and help to sell them. The advertising went on. Presently the clerk left his employment to devote all his time to second-hand bicycles.

His stores grew and multiplied. He took agencies for new bicycles. And today, already wealthy, he and his partner own a large automobile business. The partner is the boy who sold ice-cream across the street from the "factory."

THE PROGRESS OF THE ENGLISH LANGUAGE

IN the one hundred years between 1801 and 1901 the English language has more than doubled its percentage in Europe, where in 1801 12 per cent. and in 1901 27 per cent. of Europe's population spoke English. During the same period every other European language suffered a loss in percentage. These facts show the victorious progress of English.

In addition to this, there are far more English-speaking people outside England, in the United States, Canada and Australia, than in England; and now that English has been made compulsory in India, about 300,000,000 people have been, or are in process of being, added to the English-speaking race.

Though France and Spain have lost their American possessions, the French and the Spanish languages hold their own in America. More than 1,000,000 Canadians speak French—the French of Louis XIV.—and there are French universities in Quebec and Montreal. And though there are only 18,000,000 people in Spain, there are nevertheless 35,000,000 in America speaking her tongue. There are 110 Spanish-American writers and poets, all born outside Spain—showing the vast colonial resources of the Spanish language.

Similar resources are also to be found in Portuguese, which is spoken by only 5,000,000 people in Portugal and by more than 11,000,000 in Brazil. The victorious spread of Portuguese in Brazil is supported by a

flourishing Brazilian literature—chiefly fiction and poetry.

Dutch is also expanding. There are more Dutch-speaking people in the East Indies and in South Africa than in Holland proper.

Similar examples will tend to show that certain languages have a real power of expansion, issuing from the mother country as a systematic effort, and other languages are reinforced by colonial reserves. There are also other tongues, like Danish and Swedish, that have no resources, and are incapable of expansion, and which will die out as soon as the countries cease to exist as independent nations.

ODDITIES OF FOREIGN TRADE

AN American manufacturer of machinery, wishing to extend his exports to Mexico, printed a catalogue in Spanish, in which the item "Rotary Machines for Family Use" was meant to figure prominently under the proper and correct rendering of *Maguina Giratoria de Familia*. Unfortunately, the translator had it in the printed catalogue "*Maguina de Familia Giratoria*," or "Machines for Rotary Families!" This mistake caused a whole year's delay in placing the goods, and in one instance the manufacturer sustained a severe loss through a Mexican importer, who refused to make payment, claiming that the goods ordered did not tally with the catalogue designation.

Shortly after the Spanish-American war, one of the first American novelties sent to Spain were the nickel-in-the-slot machines—the musical kind. Unluckily, the first machines played American airs. They were quickly demolished. When the next lot of machines were imported it was carefully advertised in advance that these contrivances would play Spanish airs only. This was taken as a sort of national compliment, and the American slot machines jumped into sudden favor, especially the gambling varieties, as the Spaniards are very fond of all games of chance. In a place like Malaga there are now more than forty such machines, each earning \$3.50 daily on the average.

American patent medicines were in a fair way to establish a popular demand in Norway, when the papers noised about the fact that a dog had died from the effects of one of these Yankee quick-cures. Much advertising was required to combat the prejudice thus created against the American remedies. A customer, having bought a box of quinine tablets, decided to "try them on the dog first." He gave the dog enough quinine to kill three men, and when it died he attributed the death to poison in the tablets.

An obstacle that never ceases to furnish complications to foreign trade lies in the perplexing methods employed by the various nations in trade statistics. Uniformity of arrangement and agreement as to terms are considerations entirely out of the question, so that expert knowledge is absolutely necessary in all matters involving statistics on an international scale. Thus, while the United States, Germany, Russia and Holland import horses as "living animals," England stubbornly persists in classing them as "miscellaneous articles," and France, Austria, Italy and Switzerland as "raw material."

AN AUTOMOBILE SCHOOL

THOUGH automobiles are so common that no one any longer turns to look at them as they chuff-chuff down the street, few people understand their mechanism. Dealers tell purchasers how to run and repair them, but purchasers are rare who learn in this way as much as they would like to know. Even a wayside mechanic will scratch his head when the problem of a stalled machine confronts him. The automobile has furnished a new study.

And the first school has sprung up to teach it. Classes will be held this fall at the Boston Young Men's Christian Association to teach prospective purchasers and owners all the mysteries of electric, steam and gasoline motor-cars and to train young men to become chauffeurs. Already enough applications have come in to make a school.

The first course will instruct the owners and operators of automobiles in the mechanism of various machines and in the art of running and caring for them. The second course will show draftsmen and machinists how automobiles are built. The course for professional chauffeurs will deal with steam, electric and gasoline engineering, and will be fully illustrated with boilers, engines and other equipment, with which the students will work as students do at the regular technical schools. In all the courses theory and explanation will be carried on with practice. And as the President of the Massachusetts Automobile Club and a number of manufacturers are taking a direct interest in the work, the school has every chance of being successful. Within ten years most people will own automobiles, and every one will understand them.

HOW A GOVERNMENT HELPS FARMERS

IN Denmark large owners of land are selling portions of their property; and the small farmers are keeping their boys from emigrating westward by dividing their hold-

ings among their children. Meanwhile, the Government gives such help to industrious peasants ambitious to possess land of their own that agricultural Denmark is becoming a country of "pocket-handkerchief" farms.

A sober, reliable farm laborer who has saved one-tenth the mortgage value of the little farm he covets—this value not to exceed \$1,100—can buy the land by borrowing the other nine-tenths from a Government fund. He gives a mortgage on which he pays three per cent. After five years he also pays one per cent. additional toward wiping out half his debt. When this half has been paid he pays three and one-half per cent. on the remainder until he owns the land. But this is not all.

A coöperative dairy buys his cream and returns to him the skimmed milk for his hogs. The latter go to the coöperative bacon factory, and the local branch of a coöperative egg exporting house receives his eggs.

He and his wife also may attend certain courses in farming, the Government not only paying for his instruction but also for his food and lodging, while if it be absolutely necessary, the Government will even hire a man to work his holding during his absence. At Government expense he can make various little journeys to see model farms, and can receive instruction at home by itinerant agricultural specialists commissioned by the State.

These privileges, however, are not granted indiscriminately, for if the landholder makes poor use of the advantages they are withheld; the State helps only those who help themselves. The system costs the Government of Denmark \$500,000 a year, but it has created a strong, educated, efficient, small-property-holding class.

A REMARKABLE WOMAN'S ACHIEVEMENT

IT has often been contended that women cannot successfully invade those professions combining mental and manual dexterity, analytical chemistry and assaying, electric and mechanical engineering, or the greater hardships of civil engineering, with its mountain-climbing and brush and forest traverse.

But Colorado has long had a woman assayer fully as dexterous and mentally expert as any man, and now California has developed a woman, Mrs. Tutt, who bids fair to do more for the development of Arizona than any man in the Territory, and her success will be the more creditable since many of the Territorial male inhabitants have tried and failed at the problem she is solving.

Arizona is noted as a great mining and

agricultural territory, when irrigated, but it is less well known as possessing streams of water fed by eternal springs. These take their rise beneath the great Mogollon Plateau, which covers most of the northern and eastern portions of the Territory with a heavy capping of rock, which in turn is surmounted by a magnificent belt of pine timber, which extends for nearly 200 miles north and south. This belt of timber acts as a water reservoir for a large portion of the Arizona streams, and in some instances, as at Walnut and Fossil creeks, near Jerome, yields its hoard of water through very large springs. Fossil Creek spring is large and well situated for power purposes. A line ninety miles long, drawn as a radius with the power site as a centre, would embrace within the circumference the Tonto Basin country, Phoenix, Prescott, Jerome and Flagstaff, all large towns and manufacturing and mining centres, together with a great intermedialy mining district now undeveloped for lack of transportation and water.

Walnut Creek is credited with the productive capacity of 6,000 electric horse-power and Fossil Creek with upward of 7,500 electric horse-power. All the Jerome men failed to develop the capital and energy necessary to utilize these water-powers. But Mrs. Tutt, who made a fortune in southern California as a civil and electric engineer and as an organizer of great ability, undertook to finance and manage an attempt to develop this source of power. And she is working out the task successfully, personally superintending the work.

When once the electric stations are established the central section of Arizona will bloom as never before, for by electric pumps the Verde River will irrigate the entire Verde Valley, some fifteen miles wide, instead of, as now, furnishing a green strip but a mile in width. Many mines now unprofitable can be worked by means of this power, furnished by wire, and the hitherto insuperable transportation problem will be solved by electric tramways and railways.

ARMY OFFICERS AS INVENTORS

AS the science of war develops, the officer with an ingenious head supplants the traditional hero, for war grows yearly more and more a matter of mechanics and engineering. In recognition of this, the Army Department has established at Fort Totten on Long Island, in connection with the graduate army school, an engineering, chemical and electrical laboratory. One of its products has been the officer-inventor.

The school and the laboratory exist to train army men in running and caring for dynamos and motors, in erecting wiring systems, in laying harbor mines, and in testing and experimenting with explosives. The need of such training was recently shown when the captain of the *Oregon* threw forty tons of powder overboard in South American waters. The powder had so deteriorated as to approach the point of danger of spontaneous combustion. Officers must know, as the officers of the *Oregon* knew, the various chemical forms their explosives may assume. They must be able, moreover, to keep a check on unscrupulous manufacturers by possessing expert information to guide them in inspection of materials. But while the officers at Fort Totten are working at their special tasks they find time to exercise their ingenuity in other than warlike fields.

One captain has devised a system for transmitting news by positive mechanical means rather than by the more complex methods common to electrical services. Another officer, Captain Arthur W. Chase, has perfected a metallurgical furnace for roasting or desulphurizing sulphide ores. It is claimed that this furnace operates with rare success and economy, occupying a field of its own, in that iron ores unsuitable for steel and iron manufacture by reason of high sulphur content may be crushed and roasted to a point within the limit for Bessemer iron manufacture. Other officers have made other inventions. The Government, in maintaining a school of experts to improve the science of war, is at the same time helping to develop the arts of peace.

SAVING CITY WAIFS

SEVERAL years ago, on Washington's Birthday, the Salvation Army opened, at Rutherford, New Jersey, its first children's home, which, at the suggestion of Mrs. Grover Cleveland, was called the Cherry Tree Home. Since that time the Army has established Cherry Tree homes at Oakland, California, and at Amity, Colorado. The Rutherford house proved far too small, and its family has just been moved to a new home at Spring Valley, New York, within a day's walk of New York City. Surrounding the house are seventy-nine acres of rich farm land. With the help of an experienced farmer the boys and girls at Spring Valley will grow most of their own food supplies and will be able to market part of their crops as well.

Each of these three institutions houses about fifty city waifs, for the most part

fatherless and motherless. These little people are generally wise much beyond their years, and are pretty tough customers when taken in hand. One little fellow, born down on Cherry Street in New York City eight years ago, holds the Cherry Tree record for badness. His parents, who were drunkards, used to throw him about like a football. They deserted him when he was a year old, and the Salvation Army has cared for him since. When he got old enough to toddle about easily his principal amusement was picking the other boys' pockets and occasionally trying to set fire to the house. Vice was simply bred in him. He seems to be outgrowing these habits now, and the Army people in charge of him think that he will turn out an honest and capable man.

The Cherry Tree home at Amity, which is not far from one of the Army's farm colonies, has been running for about three years. The children get up at half-past five in the morning and are busy from that time until sundown, except for an hour's recess at noon. After breakfast, boys and girls alike take a turn at housework, making up beds, sweeping, paring potatoes, and so on. Then comes school, which lasts until half-past three in the afternoon. Practical work occupies the rest of the day. The girls learn to do good, plain cooking and sewing. One seventeen-year-old girl bakes all the bread used at the home, which is more than 300 loaves a week. Under the direction of the staff captain the boys raise chickens, milk the cows and grow vegetables for the table, besides raising sugar-beets and cantaloupes for market. One youngster of fourteen this year has rented two acres of land from the home and expects to clear fifty dollars in the fall from his crop of sugar-beets. While most of these slum-born boys are infatuated with farm work, it is not forced upon them if they prefer some other sort of life. One young fellow, who was born in New York, has apprenticed himself to the village blacksmith. The Oakland home is run on much the same principle as that at Amity and is equally successful in its efforts to transform children bred to vice into good citizens.

AMERICAN GOODS AND FOREIGN WHIMS

TRADER obstacles of different sorts have been encountered all over the world. For years American cotton mills persisted in shipping to Chinese ports goods cut in lengths not desired by the Chinese tradesmen. The latter requested lengths that would

enable them to cut precisely four shirts out of each piece of goods, pointing to the conclusion that there could be but one size of shirts in China. Our exporters demurred, maintaining that it would not pay to cut the goods so frequently without a large increase in orders. After much wrangling, they finally consented to make the change. Today all China, having for centuries provided her own cotton stuffs, is dependent on our mills for shirts. The Bedouins of Arabia are also in a fair way to become converts, but the obstacle of forfeiture of trade-mark is not yet removed.

American kerosene has done more for civilization in Korea than almost any other agent of progress. At first the new illumination was fiercely disapproved by the natives, who saw in its use a profanation of the sun god. Not until they were told that the liquid was extracted from the moon's rays did they dare to employ it. The Koreans were then enabled to light their homes and their towns by means of kerosene, which put an end to the nightly disorders that up to that time discouraged civilization.

Difficulties besetting the introduction of American shoes in Australia had to be overcome. Shoes of German and English make were selling quite briskly when shipments of superior American shoes began to arrive in the large Australian cities. The shoes were right, the prices were right, and at the prices asked the shoes were far better than the German and English product, but they would not sell. The German and English makers had resorted to the stratagem of "marking down" the sizes, so that a No. 8 shoe would bear a No. 7½ label. When the American footwear appeared—honestly marked in proper sizes—the objection was raised that to secure a fit at all it would be necessary to take a larger size than was required in European shoes. Then American shoes were found to split at the instep, and it took a great deal of time and trouble to convince the makers that a shoe to be successful in the antipodes must have a specially reinforced instep. The Australian, who is typically lank and tall, has the national habit of standing, when resting, on one leg, with the other leg slung around it, centering the weight of his body on his instep, so that this part of the shoe is bound to give way unless made extra strong. It took nearly a year of agitation to wrest from the American makers these two slight concessions, to wit.: a stronger instep and marked-down sizes.

