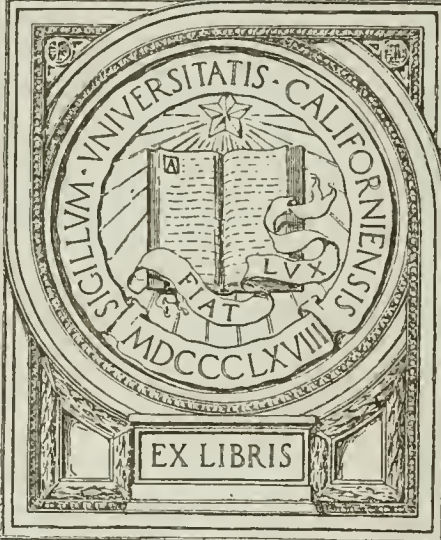


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CANADA
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VOLUME XX

THE PRAIRIE
PROVINCES

PART II

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J. A. Constable



Portrait of the Author. Photo. A.



SIR GEORGE SIMPSON

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CANADA AND ITS PROVINCES

A HISTORY OF THE CANADIAN
PEOPLE AND THEIR INSTITUTIONS
BY ONE HUNDRED ASSOCIATES

GENERAL EDITORS: ADAM SHORTT

AND ARTHUR G. DOUGHTY

VOLUME XX

THE PRAIRIE PROVINCES



EDINBURGH EDITION

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CONTENTS

	PAGE
ECONOMIC HISTORY OF THE PRAIRIE PROVINCES, 1870-1913. By J. W. DAFOE	
I. FOUR DECADES OF ECONOMIC GROWTH	283
II. PRESENT STATE OF THE PRAIRIE PROVINCES	314
THE PROVINCIAL EXECUTIVE ORGANIZATIONS. By JOHN A. REID	
POLITICAL GROWTH OF THE PRAIRIE PROVINCES.	331
METHODS OF ADMINISTRATION	340
FINANCE AND TAXATION. By ARCHIBALD B. CLARK	
FINANCIAL HISTORY OF THE PRAIRIE PROVINCES	351
PROVINCIAL TAXATION	359
THE JUDICIAL SYSTEMS OF THE PRAIRIE PROVINCES. By CHARLES MORSE	
I. THE JUDICIAL SYSTEM AND COURTS OF MANITOBA	365
General History of the Judicial System—Court of King's Bench—The Court of Appeal—County Courts—Surrogate Courts—Minor Courts	
II. THE JUDICIAL SYSTEMS AND COURTS OF ALBERTA AND SASKATCHEWAN	381
Province of Saskatchewan—Province of Alberta	
MUNICIPAL INSTITUTIONS. By ARCHIBALD B. CLARK	
GROWTH OF MUNICIPAL INSTITUTIONS	395
MUNICIPAL TAXATION	400
THE CITY OF WINNIPEG	410
HISTORY OF EDUCATION IN MANITOBA. By S. E. LANG	
EARLY POPULATION: SOURCES AND CHARACTER	417

	PAGE
EDUCATION AMONG THE FRENCH-SPEAKING POPULATION PRIOR TO 1870	417
EDUCATION AMONG THE ENGLISH-SPEAKING POPULATION PRIOR TO 1870	422
THE EDUCATIONAL ACT OF 1871	426
THE ACT OF 1890 AND THE 'SCHOOL QUESTION'	429
PROBLEMS DUE TO FOREIGN IMMIGRATION	434
PROGRESS IN ELEMENTARY SCHOOLS SINCE 1890	436
THE GROWTH AND WORK OF SECONDARY SCHOOLS	440
THE UNIVERSITY OF MANITOBA	443
 HISTORY OF EDUCATION IN SASKATCHEWAN. By	
WALTER C. MURRAY	451
SEPARATE SCHOOLS	452
BILINGUAL SCHOOLS	457
TEACHERS	462
HIGH SCHOOLS	464
COURSES OF STUDY	466
THE UNIVERSITY	467
MATERIAL CONDITIONS	470
MEN	473
 HISTORY OF EDUCATION IN ALBERTA. By JOHN M. MacEachran	
I. THE MISSION SCHOOLS	477
II. THE FIRST GOVERNMENT SCHOOLS	481
III. THE EDUCATIONAL SYSTEM SINCE AUTONOMY	484
IV. AGRICULTURAL EDUCATION	493
V. THE CITY SCHOOLS	494
VI. COLLEGES	497
VII. THE UNIVERSITY OF ALBERTA	499
 ECONOMIC RESOURCES OF MANITOBA. By W. J. BLACK	
TOPOGRAPHY	509
SOIL	510
CLIMATIC CONDITIONS	516
PRODUCTIVE POWER OF SOIL	516
DRAINAGE	518

CONTENTS

ix

	PAGE
FARM MANAGEMENT	519
SOIL CULTIVATION	520
DIVERSIFIED FARMING	522
FARM CROPS	523
STOCK-RAISING	525
DAIRYING	528
POULTRY-RAISING	530
HORTICULTURE	531
RURAL PROBLEMS	533
AGRICULTURAL EDUCATION	535

ECONOMIC RESOURCES OF SASKATCHEWAN. By W. J.
RUTHERFORD

GENERAL TOPOGRAPHY	541
RIVERS	543
LAKES	544
ALTITUDES	544
CLIMATE	546
SOILS	548
VEGETATION	554
ANIMALS	555
BIRDS AND FISH	555
MINERALS	556
LUMBERING AND AFFORESTATION	557
AGRICULTURE	558
STOCK-BREEDING	562
DEPARTMENT OF AGRICULTURE	563
LEGISLATION	563
THE GRAIN-GROWERS' ASSOCIATION	563
STOCK-BREEDERS	564
THE RAILROADS	566
THE SCHOOLS	567
PRESENT CONDITIONS	567
CEREALS	568
MISCELLANEOUS CROPS	570
LIVE STOCK	570
ABATTOIRS	572

THE PRAIRIE PROVINCES

	PAGE
DAIRYING	573
MARKETING FACILITIES	573
FUTURE DEVELOPMENT	577
ECONOMIC RESOURCES OF ALBERTA. By GEORGE HARCOURT	
PHYSICAL FEATURES	583
CLIMATE	584
AGRICULTURAL POSSIBILITIES	586
LIVE STOCK	592
MINERALS	597
GAME	600
FISH	600
FORESTS	601

ILLUSTRATIONS

SIR GEORGE SIMPSON	Frontispiece	
<i>From the John Ross Robertson Collection, Toronto Public Library</i>		
SUN DANCE OF BLACKFEET INDIANS IN ALBERTA	Facing page	290
'THE LAST OF A NOBLE RACE'—BUFFALO IN BANFF NATIONAL PARK, ALBERTA	,,	294
<i>From a photograph by Mathers, Vancouver</i>		
CONSTRUCTION IN THE CANADIAN WEST	,,	312
(1) RAILWAY BUILDING		
(2) LAYING GRANOLITHIC SIDEWALKS AT NORTH BATTLEFORD		
WINNIPEG	,,	410
(1) OLD FORT GARRY IN 1870		
(2) FORT GARRY PARK, 1913		
WHEAT-RAISING IN SASKATCHEWAN	,,	548
(1) REAPING		
(2) A WHEATFIELD		
NECESSITY HAS NO LAW—PRIMITIVE TRANS- PORTATION IN THE NORTH-WEST	,,	558
<i>From a photograph by Mathers, Edmonton</i>		
(1) THRESHING FROM THE STOOK. (2) A PRAIRIE TOWN TWO WEEKS OLD	,,	574
BRANDING CATTLE IN ALBERTA. A WHEAT- FIELD IN ALBERTA	,,	584

ECONOMIC HISTORY OF THE PRAIRIE PROVINCES, 1870-1913

I

FOUR DECADES OF ECONOMIC GROWTH

ON July 15, 1870, by royal proclamation, all that portion of British North America lying between Ontario and British Columbia became part of the Dominion of Canada. This area, embracing the whole of the present Provinces of Manitoba, Saskatchewan, and Alberta with their hinterlands to the Arctic seas, was a vast waste upon which human activities, save in a few isolated localities, had made no mark.

A survey of this wide plain by an eye of superhuman range would have taken note of but one place where settlement had passed beyond the stage of the clustering of hunters' families about a trading-post. This was on the extreme eastern verge of the great expanse of prairie land, where, at the junction of the Red and Assiniboine Rivers, there had grown up during the preceding fifty years a community of some twelve thousand people,¹ white or half-breed.

The Red River Settlement, as it was generally called, radiated from Fort Garry (the Hudson's Bay trading-post at the junction of the Red and the Assiniboine) along the banks of both these rivers. To the north, along the Red, were the Scottish descendants of the original Selkirk settlers, reinforced by retired Hudson's Bay Company officials and their children, usually half-caste. To the south, up the river for thirty miles, there was a straggling settlement of French

¹ The official census of 1871 gave these as the statistics of population: whites, 1565; French half-breeds, 5757; English half-breeds, 4083. By religion they were divided; Catholics, 6247; Protestants, 5716.

half-breeds. West, along the Assiniboine, there were scattered settlements of Scots and French, reaching as far as Portage la Prairie, sixty-six miles away. Settlement had followed the rivers because they afforded the readiest avenues of trade and commerce. The French had brought with them from Quebec the Lower Canada system of land surveys, each lot having a narrow frontage on the river and running back two miles, with a two-mile strip of common pasture beyond. All the early settlement was conditioned by the universal belief that the higher land back from the rivers could not be successfully cultivated.

The racial character of each little settlement was so well defined that in the convention held in December 1869 to consider the transfer of the territory to Canada and the changed status that would thus be brought about, each district, through its representative, was enrolled as French or English. The English settlements were Winnipeg, Kildonan, St John's, St Paul's, St Andrew's, St Clement's, St Peter's, St James, Headingly, Ste Anne's, St Margaret's, and St Mary's; the French, St François-Xavier, St Boniface, St Vital, St Norbert, Point Coupée, Oak Point, Point à Grouette, and St Paul's. Only in the case of St Paul's was the representation divided between the two races. Practically all these names reappear in the list of constituencies for the first legislature of Manitoba.

The commercial and administrative centre of the settlement was Fort Garry. Around the fort stretched the five hundred acres reserved to the Hudson's Bay Company. Immediately beyond this reserve, to the north, where a trail branched westward from the main trail running north and south, following at a distance the windings of the stream, stood a small village, containing, in all, nineteen buildings, including a tavern, a general store, and a few private houses. It was called Winnipeg, an Indian name meaning 'dirty water.' The little hamlet has now grown to a mighty city, swallowing the aristocratic Fort Garry to the south and the rival village of Point Douglas to the north. The main trail has become the Main Street of the great city, while the branch trail which struck westward to the settlement along the

Assiniboine is now Portage Avenue, the city's second greatest thoroughfare.

The occupations of the residents of the Red River Settlement were those of primitive people. Farming was not pursued on any extensive scale. There was no outside market, and the production was limited by the home consumption. Directly or indirectly, the whole community still lived upon the proceeds of the chase. The great buffalo hunts upon the plains to the west and south-west of the settlements were still annual affairs which drew all the adventurous elements. Small parties of hunters, outfitted by the Hudson's Bay Company, ranged the great plains and brought back their spoils to Fort Garry. A considerable portion of the men were engaged in freighting. The settlement was dependent for its supplies upon St Paul, Minn., over four hundred miles away, across desolate, uninhabited plains over which roamed semi-hostile Indian bands. Yearly the great brigade of carts left for St Cloud, Minn., to bring in the winter supplies. The freight rates from St Paul were sixteen shillings sterling per 100 lb., payable half in cash and half in goods. To supply a public revenue these goods paid an import duty of four per cent *ad valorem*, excepting in the case of ale, wine, and spirits, upon which a duty of twenty-five per cent was levied—rates which continued for four years after the transfer of the province to Canada. These simple and primitive conditions of life were seriously affected by the troubles attending the transfer of the province in 1870, and were never fully resumed. In a few years' time they had passed away for ever.

Portage la Prairie was the extreme westward outpost of what was called the Red River Settlement. Beyond it stretched for nearly eight hundred miles the vast plains, tenantless except for the location at strategic trading-points of the forts of the Hudson's Bay Company. Even at that early date the beginnings of a second centre of settlement were to be noted in the neighbourhood of Fort Edmonton. There was already a fairly large half-breed community at St Albert, in that locality, and miners and settlers were beginning to take up land along the Saskatchewan in the neighbourhood of the present city of Edmonton.

Upon the great plains some thirty thousand Indians lived a nomadic life. They were of different tribes. The Blackfeet, Bloods, and Piegans, numbering nine thousand in all, regarded as their distinctive territory what is now known as Southern Alberta. The Plain Crees, along the Northern Saskatchewan, numbered seven thousand. There were weaker tribes of Wood Crees, Swampy Crees, Sioux, Sauteaux, Sarcees, and Assiniboines. The Indians of Manitoba living in proximity to the white settlements were partially civilized, many of them professing the Christian religion; but the great bands roaming over the plains and following the buffalo were as wild and savage as their brethren south of the international line, whose subjection to the civil law was only brought about by very extensive military operations, carried on over a series of years. The Canadian Indians along the western boundary were, at the time of the transfer of the West to Canada, the victims of a band of freebooters who, operating from Fort Benton and other United States bases, maintained a series of trading-posts on Canadian territory. These borderers were wild and reckless men who, by the wholesale distribution of liquor in return for buffalo robes and other furs, were decimating the Indians. They were responsible for many acts of rapine and murder, culminating finally in the Cypress Hills massacre, when fifty-six Indians of all ages were shot down in camp by a band of American traders who suspected them of horse-stealing.

Canada, taking over this vast new stretch of country, found herself faced with a series of related problems of the greatest magnitude. The Dominion had embarked upon this enterprise because her public men had faith that this new land, by affording homes to the younger generation of Canadians and to settlers from other lands, would add to the prosperity and greatness of the Dominion. Before settlement was possible many things in the way of preparation had to be done. The West must be brought into closer relations with the East. When the transfer took place, the Red River Settlement could be reached over Canadian soil by a journey of fourteen hundred miles, up the Great Lakes, and then over the amphibious route from Prince Arthur's

Landing (Port Arthur) to Fort Garry, followed by the Wolseley Expedition in 1870. Even by the route through the United States the railroad only brought the incoming settler within four hundred miles of Fort Garry. The West had, further, to be put in shape for settlers when they arrived. This involved such tasks as quieting the Indian and half-breed titles to the land ; surveying the prairies and making them available for the settlers upon some simple, practicable basis ; providing roads and railways ; and maintaining law and order over a territory half as large as Europe, the hunting grounds, at that time, of savage tribes of Indians.

Immediately upon the transfer becoming effective, agencies arose which lessened the wide gap separating the Red River Settlement from the outside world. In 1871 a stage line, under contract with the government, began running between Winnipeg and Abercrombie, Minn. Its tri-weekly service—becoming daily in 1877—ensured a welcome regularity in the transmission of mails. In November 1871 a telegraph line from Winnipeg to Pembina was opened, and thereafter the little outpost was daily in touch with Ottawa and the rest of the world. In 1872 there was a development in transportation which destroyed for ever the picturesque cross-country freighting by caravans of carts. This was the appearance on the river of the steamer *Selkirk*, owned by an active young forwarding agent in St Paul, J. J. Hill, who was destined to play a great part in the development of both the Canadian and the American West. This steamer made its first trip to Fort Garry in the early summer of 1872, carrying a cargo of supplies. The Hudson's Bay Company steamer *International* had been operating on the river for a term of years, but it had carried only the supplies of the company. The *Selkirk* not only entered upon the business of general transportation, but, by a shrewd stroke, its enterprising owner secured an immediate monopoly of the whole transportation business. He invoked the bonding provisions of the American Customs Act, with the result that both the caravan of carts and the Hudson's Bay steamer were held to be ineligible for the transportation of freight from St Paul to the Canadian boundary. The Hudson's Bay Company, by transferring

their steamer to their agent in St Paul, who was an American citizen, soon secured bonding privileges, and shortly afterwards the competing steamers entered into an alliance which, until the opening of the railroads, controlled the entire freight business upon the Red River. The number of steamers under the management of this company increased until, at one time, seven were engaged in the business. This development destroyed finally the business of freighting, which had been for so many years one of the staple industries of the frontier settlement.

Communication by the south, through the United States, was regarded, however, by the Canadian authorities as a mere makeshift until direct communication with the east could be secured over Canadian territory. The first attempt to secure this was the opening up of the Dawson route. This was planned by Simon J. Dawson, who had been chief of staff for Henry Youle Hind in his exploratory journey through the West in the late fifties. This amphibious highway ran from Thunder Bay to Fort Garry, a distance of 499 miles. Of this, only 131 miles were covered by wagon road, the rest of the route being made up of water stretches. Although the Dominion government spent something like a million and a quarter on the road, it was not a success. The few settlers who used it suffered great hardships, and it was finally abandoned. Not until the completion of the railroad between Winnipeg and Lake Superior, over ten years later, did the currents of trade and commerce between east and west flow through Canadian channels.

While these preliminary steps were being taken to make access to the new Canadian territory easier, the government was steadily pursuing its object of securing control of the public domain, in readiness for the expected immigration. The Hudson's Bay control having been removed by the transfer of the lands to the Dominion government, there existed no legal means of acquiring lands or of securing legal transfers by purchase. Pending the necessary legislation and the surveying of the lands, the Dominion government announced that bona fide settlers would have the rights to their lands recognized upon completion of the survey ; which

resulted in large amounts of land being taken up by squatters in 1871. To meet the demands of the half-breeds who, by reason of their Indian descent, had an interest in the soil, the Dominion government set aside 1,400,000 acres as a half-breed reserve. With the summer of 1871 the surveying of the prairie began in earnest. The narrow river lot surveys were recognized and legalized, but for the new surveys a block system was adapted from the Western States. The unit was the section of 640 acres, one mile square, divided into four quarter-sections of 160 acres. Each township was six miles square, divided into thirty-six sections, which were numbered from the right-hand bottom corner across the base of the township and back again. The survey began at the international boundary by the Winnipeg meridian, which divided the ranges of townships into east and west. The ranges from this meridian were numbered east and west, and the townships north from the international boundary. The whole country was thus laid out in checker-boards, by a regular system which made location and reference easy. Due provision was made for the jog resulting from the narrowing of the meridians as the lines ran north. These surveys were pushed forward with so much zeal that the whole of the Province of Manitoba and a good portion of the adjacent territories were surveyed and ready for settlement by the autumn of 1873. The survey in Manitoba and the older portions of the territories allowed a ninety-nine feet road appropriation round each section ; but the new survey, which has been in operation now for some years, gives only a sixty-six feet road round each two adjoining sections. This system of survey has been a great success, and has been a considerable factor in encouraging settlement in the West. Of the thirty-six sections in each township, two, sections 8 and 26, were from the outset given over to the Hudson's Bay Company, in conformity with the terms of the transfer. Subsequently, by an act passed in 1879, two additional sections in each township, Nos. 11 and 29, were reserved from homesteading and set apart as an endowment for common school education in the provinces.

The Dominion government, in taking over the lands

in the West, recognized that the Indians, as the original occupants, had an interest in it which must be compounded. The half-breeds, by virtue of their Indian descent, shared in this interest. To remove it the government adopted a policy which had most unfortunate consequences in retarding the settlement of the country. This was the issue of land scrip. Each scrip was good for 160 acres, which could be located on any quarter-section open for sale or settlement. As the scrip was transferable, it at once became an object of speculation. The dire poverty of the half-breeds and their natural improvidence made them the easy prey of speculators. Scrip for 160 acres was sold in many cases for a few dollars or even for a few bottles of whisky. Members of the expeditionary force, who were also given scrip for 160 acres, were not much more provident. The result was that hundreds of thousands of acres of the best land in the province, in the immediate vicinity of Winnipeg, came into the hands of a few speculators, who held it for a rise in value. Much of this land was thus kept out of cultivation for a period of twenty to thirty years, thus forcing immigration westward and leaving large stretches of excellent land in the most central parts of the province uncultivated. The original half-breed reservation was 1,400,000 acres. Subsequent issues of half-breed scrip to meet additional demands largely increased this. These speculations in half-breed lands laid the foundation of the fortunes of many individuals.

The Indians were dealt with on a different basis. The Indians in each district were regarded as possessing the Indian title for that district, and formal treaties were made with them by representatives of the crown. The whole area of the West was covered by a succession of such treaties, eight in all, which it took twenty-nine years to complete. The first two treaties, made in 1871, covered the territory in the original Province of Manitoba. Subsequent treaties quieted the Indian title in New Ontario, in what is now the Province of Saskatchewan, in the territory around the northern part of Lake Winnipeg, in Southern Alberta, and along the Northern Saskatchewan. The final treaty, covering the Athabaska and Peace River districts, was made in 1899 by David Laird,



SUN DANCE OF BLACKFEET INDIANS IN ALBERTA

the Indian commissioner. In general, the terms granted under these treaties were a present of twelve dollars and an annuity of five dollars for each man, woman, and child. Twenty-five dollars was given each chief ; fifteen dollars to each head man ; and a uniform of clothing befitting these two ranks every three years. Reserves were set apart on the basis of 640 acres for a family of five. Farming implements, grain, cattle, and everything necessary for carrying on agricultural operations were supplied. Sometimes the making of these treaties called for great tact. The Indians, particularly in the early years, were jealous because the lands were being taken from them. One Cree chief said to Governor Archibald: ' Great Father, I shake hands with you and bid you welcome. We heard our lands were sold. We do not like it. We do not want to sell our lands. They are our property, and no one has a right to sell them.' At Qu'Appelle, in 1874, where the commission had to deal with both Crees and Saulteaux, it required the presence of the militia to prevent an outbreak. Among the demands made by the Indians on this occasion was one that the Dominion government should hand over to them £300,000, which was the amount paid by Canada to the Hudson's Bay Company to terminate its control over Western Canada. A particularly notable achievement was treaty No. 7, made by Commissioner Laird with the Blackfeet and Piegiens in 1877, at the very time that an Indian war was raging in the adjoining American States. That this treaty was successfully accomplished was due principally to Crowfoot, who was, says Laird, ' the shrewdest Indian I ever met.' The transfer of the whole country from the Indians to the white man was accomplished without a single clash. Not a drop of blood was shed, nor has there ever been any accusation by the Indians that the engagements entered into by the Canadian government have not been scrupulously kept.

With the surveys completed and the Indian and half-breed titles removed, the land became available for settlement. The lure of free land brought immigration to Western Canada within a year of the transfer. On April 26, 1871, eight men, after a four weeks' journey from Ontario, arrived in Winnipeg, having floated down the Red River in a scow—

the first ripple of that mighty flood which was later to transform the prairie. For many years, however, settlement was retarded by the constant changing and restricting of the land regulations, due principally to the meddlesomeness of officials in Ottawa, who failed entirely to appreciate the difficulties inherent in the settlement of a new and remote country. The public domain, while open to settlement, had certain preliminary charges to carry. First there was the half-breed scrip, to which allusion has already been made. Then there was the heavy burden of providing funds for building the Canadian Pacific Railway. The government changed its railroad policy from time to time, but all policies had one unchanging feature; this was that the cost of the road was to be met out of the proceeds of the sales of lands in Western Canada. All sorts of whimsical and fantastic plans for securing the necessary money were promulgated, only to be abandoned. The bureaucrats at Ottawa by these means plagued the settlers and checked immigration, to the incalculable injury of the West. Some of these progressive follies may be here noted. The Railway Act of 1874 provided for locking up large blocks of land along the proposed railway route, in which settlement was absolutely prohibited. As this included most of the land then available for settlement, there resulted, inevitably, a large amount of squatting. It took three years of vigorous agitation before the government could be induced to recognize the right of these squatters to buy their farms. Then the government provision was that each squatter must pay an instalment of a dollar per acre and become responsible for the balance of any price which the government might see fit to fix. This gave rise to a second agitation, which continued until more reasonable provisions were conceded.

In 1879 the Macdonald government, then new to office, evolved its famous plan of land belts. A series of five belts, along each side of the main line of the railway, covering, in all, a strip of country 140 miles wide, were set aside, with descending rates for pre-emption and purchase, with the right to homestead on even numbers. This evoked furious protests, again compelling modifications. Then the government

decided to set aside one hundred million acres of land as a reserve for building the Canadian Pacific Railway. All ungranted lands within twenty miles of the main line were withdrawn from homesteading. Indeed, the settlers had no peace until, finally, after the arrangement had been made with the Canadian Pacific Railway syndicate, the government reserved all the odd-numbered sections throughout the West for railway purposes, and threw all the remaining, even-numbered sections open for homesteading. These blunders undoubtedly kept the settlement of the country back for ten years, and were responsible for much subsequent ill-feeling and agitation.

With the prescience which marked the actions of the public men who had to deal with the problems of opening up the West, the Canadian government, within three years of the transfer of the country, took effective possession of the great lone land by organizing the Mounted Police. The state of affairs along the boundary, which was one of intermittent war, tempered by illicit trading, was known to Lieutenant-Governor Morris of Manitoba, who urged the Dominion government to maintain a force in the territories to ensure peace. He reported in 1873 that during the previous year American traders had secured and shipped out of Canada no less than 50,000 buffalo robes and \$100,000 worth of other furs. 'A very serious view of the matter,' said Morris, 'apart from the demoralization of the Indians, is the precipitation of the great difficulties we will have to encounter with the Crees and Blackfeet when the buffalo are extinct, an event which, at the present rate of extermination, may be looked for in five or six years.' As the sequel showed, Morris predicted, almost to the year, the disappearance of the buffalo. In 1874 the newly organized Mounted Police, three hundred strong, set out from Fort Garry to their destination at the junction of the Bow and Belly Rivers, nine hundred miles distant. On the way a portion of the troop was detached to proceed to Edmonton. The American freebooters fled before the force, abandoning their posts, and the police took peaceable possession of the country.

At that time the buffalo were found in enormous numbers.

When the police force reached the Bow River they sighted a herd which stretched as far as the horizon. It was estimated that the herd contained not less than eighty thousand head. In the following year an officer of the Mounted Police, travelling from Fort Macleod (which had been established in the interval) to Fort Garry, reported that between Macleod and Qu'Appelle he was never out of sight of buffalo herds. The slaughter of these animals continued on such a large scale, the Indians and half-breeds being armed with weapons of precision, that by 1877 the newly organized North-West council deemed it necessary to intervene. An ordinance was therefore passed for the preservation of the buffalo. This forbade hunters from driving buffalo into pits or ravines; from killing for amusement or only to secure their tongues and choice cuts; and the slaughter of buffalo under two years of age and of females during a close season, from November 15 to August 14. The ordinance was fiercely resented by the half-breeds and Indians, and was, save in the vicinity of the Mounted Police forts, pretty much a dead letter. Thus the buffalo rapidly diminished in number. There were exported 31,000 robes in 1878 from Fort Walsh and Fort Macleod; in 1879 the number had dropped to 15,000; and in another year they had practically disappeared. Within a year or two the buffalo had become nothing but a memory on the great plains.

Despite various untoward incidents, such as the grasshopper visitation in 1874 and again in 1875, the locking up of land in reserves by the issue of scrip, and the lack of transportation facilities west of Winnipeg, settlement proceeded; immigration trickled steadily into the Canadian West during the first ten years following the transfer, and the area under cultivation increased year by year. By 1876 there were ten flour-mills in the province, having a combined run of twenty stone. In that year the wheat yield of the West amounted to 480,000 bushels, the yield of oats was 380,000 bushels, and that of barley 373,000 bushels. The wheat crop averaged $32\frac{1}{2}$ bushels to the acre, a record never afterwards reached. In this year the first exportation of wheat from the Red River Settlement occurred. This was a lot of



'THE LAST OF A NOBLE RACE'—BUFFALO IN BANFF NATIONAL PARK, ALBERTA

From a photograph by Mathers, Vancouver

857 bushels shipped by Higgins and Young, merchants of Winnipeg, to Steele Brothers, Toronto, to be sold by them for seed as No. 1 Hard. In 1878 the wheat yield of the province exceeded 1,000,000 bushels.

During these years settlement had been slowly extending westward and south-westward from Winnipeg, along the watercourses and the prospective lines of railways. The early homesteaders shunned the high, treeless prairies. They doubted the fertility of the soil and they feared to face the winter without the protection of trees. By 1875 a considerable settlement of homesteaders from Eastern Canada had made its appearance in the Pembina Mountain district, some eighty miles from Winnipeg. These settlers crossed the open plains to take up homes in the semi-wooded districts, where clusters of trees could be found in which they might place their homes. But it was not until the coming of the Mennonites that the possibilities of the prairie were demonstrated. The writer of a pamphlet issued in 1879 makes this reference to the incoming of the Mennonites :

In 1875 the few settlers at Pembina Mountain fondly hoped that, in the course of fifteen or twenty years, this plain [lying between the Mountain and the Red River] would become settled, notwithstanding the absence of timber. Before the summer was over, a long line of camp fires, extending for miles and miles, announced one evening to the lonely settlers that 6000 Mennonites had located on seventeen townships. It is 1879 now, and farms on that plain are as hard to get and are as valuable as our much vaunted timber claims along the Mountain ; and west 100 miles to Turtle Mountain rolls the tide of immigration.

The Mennonites were the first foreign settlers to take up their residence in Western Canada. These German Quakers, driven from Russia by the withdrawal of the rule exempting them from military service, came to Manitoba in 1875 to the number of six thousand, and were allotted two reserves, one west of the Red River covering seventeen townships, and one of eight townships east of the river. Although each Mennonite adult received his homestead from the government, the land

was at first held in common, and village communes began to dot the reserve. At one time there were sixty-two of these villages in the larger reserve. The community system remained intact for some fifteen years ; the villages then began to break up, and in the course of another ten years most of them had disappeared, the Mennonites resuming the individual control of their property. Not only did the Mennonites demonstrate the agricultural possibilities of the bare prairie, but they were the first to introduce the growing of flax as an addition to the crops of the country. In the year following the advent of the Mennonites, Icelandic immigrants to the number of two hundred and fifty came to the country and formed a settlement along the shores of Lake Winnipeg, some sixty miles from Winnipeg. This was the first and the largest of a considerable number of Icelandic settlements which were soon to be found in various parts of the province.

While these foundations for the community which now occupies Western Canada were being laid, the government was struggling with the problem of how to construct the trans-continental railway, which, it was plain to everybody, was necessary if the western provinces were ever to become integral parts of the Dominion. The proposition was ultimately to build a line from some point in Ontario west to the Pacific Ocean. Certain portions of this line were to be given precedence in the order of construction, and it was recognized at an early date that it was specially important that the railway should be built as speedily as possible from Thunder Bay, on Lake Superior, to the Red River Settlement, and thence westerly to the Rocky Mountains, thus opening up the whole prairie country to settlement and giving it direct access by the Lakes to Eastern Canada during the summer months. With a mistaken hope of expediting the completion of such a road, the Canadian government, between 1874 and 1878, undertook to utilize the water stretches between Winnipeg and Thunder Bay, simply building railroads to connect them. This scheme proved quite unworkable, and had ultimately to be exchanged for the plan of building a direct line from the Red River to Lake Superior. This was planned and was built as a government undertaking, being transferred after its con-

struction to the Canadian Pacific Railway Company, which had come into being in the interval.

So far as the prairie country was concerned, the government's plans were to build a line southward to meet at the boundary the St Paul and Pacific, and to carry the main line westward up the Saskatchewan valley. The line as originally planned crossed the Red River at the present town of Selkirk, leaving the thriving young city of Winnipeg twenty miles away, on a branch line. It then proceeded in a north-westerly direction through the narrows of Lake Manitoba; then, still north-westerly, to the Saskatchewan valley, which it followed to the Rocky Mountains; then through the Yellowhead Pass to the Pacific coast. This route, which ignored all the existing settlements, passing to their north, was bitterly opposed by the settlers. It was as vigorously defended by the government engineers, who pointed out that the route, as planned by them, would make the whole vast waterway of the Saskatchewan River, and the lakes into which it drains, subsidiary transportation systems. In the light of the experience of forty years it can be seen that these engineers were wiser than their critics, but the force of public opinion could not be denied, and ultimately the northern route had to be abandoned and the line built due west from Winnipeg through the open prairie country. The first railway to be operated in Manitoba was what was then called the Pembina branch, running from Winnipeg to Emerson, where it met the St Paul and Pacific. The construction of this line was begun in September 1877, and the last spike was driven on December 3, 1878. The first train reached St Boniface, across the Red River from Winnipeg, on December 9, 1878, and thereafter there was railway communication with the south, although for some time it was irregular and defective. At the same time construction was being carried on west of the Red River, a contract for one hundred miles having been let. In 1881 the Canadian Pacific Railway took over the government railways and set seriously to work to carry the transcontinental railway project to a rapid conclusion.

The first ten years' work in the West, thus briefly sketched, prepared and opened the way for settlement on a generous

scale. The country had been taken over, the title to the land secured, law and order enforced over the whole territory, a definite railway policy adopted, and an initial demonstration on sufficiently generous lines of the fertility of the soil had been made. The actual progress made during this first decade of western history had been considerable. The population of Manitoba had grown from 18,995 in 1871 to 62,660, while Winnipeg had increased from a hamlet of 200 souls to 7985. The English-speaking settlers, who had numbered barely 5000 when the territory was taken over, amounted in 1881 to 38,182 ; while the beginnings of foreign settlements were shown by the record in the census returns of 8652 Germans, 773 Icelanders, 250 Scandinavians, and 24 Russians and Poles. In the territories there was a population of 56,446, of which 49,472 were Indians, 2896 half-breeds, and about 4000 whites. By 1881 the homestead entries had reached the total of 13,750, while the area surveyed and ready for settlement amounted to about 26,000,000 acres.

A rapid development of the Canadian West was now looked for, and these expectations appeared to be confirmed for a period by the extraordinary boom which began in Winnipeg in 1881 and continued until the spring of 1882. Speculations in land values became a mania, and prices rose to unheard-of figures. This enormous inflation of prices affected not only Winnipeg, but every point in the country along the railways which gave signs of developing into a town. The situation was expressed by one who travelled over the new Canadian Pacific Railway line, which then ran a couple of hundred miles west from the city of Winnipeg, when he said : ' Where there is a siding along the line, that is a town ; while a tank and a siding make a city.' The inflation of land values reached its height during the winter of 1881-82, but collapsed in the spring, the puncture of the balloon being due to an attempt to unload at public auction an assortment of building lots in the far-distant town-site of Edmonton. The collapse was complete. Thousands of speculators were beggared, and Winnipeg passed at once from an era of apparent abounding prosperity to a state of depression which lasted for many years. While the boom was in progress

Winnipeg grew with great rapidity. The population doubled in the year 1881. The assessments rose from \$4,000,000 in 1880 to over \$30,000,000 in 1882. During the same time the retail trade increased fourfold. Eight chartered banks opened their doors. A street railway was built; and the frontier outpost became a city, though a small one.

The country generally shared, in a measure, in this feverish development. In 1882 the government, by homestead, pre-emption, and sale, dispossessed itself of no less than 2,699,145 acres of land, being two and a half times more than in any previous year. In this year the Canadian Pacific Railway also sold 1,255,640 acres. It was hoped that this marked the beginning of a large movement in population, but the sequel was disappointing. The total area of land taken up by settlers fell rapidly in succeeding years until in 1885 it amounted only to 481,814 acres, which was almost identical with the figures for 1877. This check to immigration was due to a variety of causes. No effective means were available for marketing grain at remunerative prices. There was friction and uncertainty owing to the continual changes in the land regulations. As the cultivation of the larger area proceeded, it was found that the harvest was in danger each year from severe summer frosts. A heavy frost on August 25, 1885, which destroyed a large part of the standing crop, had much to do with retarding the settlement of the country. The dissatisfaction of the settlers with the land regulations and the monopoly of the Canadian Pacific Railway, which the Dominion government enforced by the disallowance of provincial railway charters, gave rise to a bitter and prolonged agitation, which advertised the country extensively as a place for settlers to keep away from pending the adjustment of the grievances complained about. The final misfortune was the outbreak of the half-breed and Indian rebellion of 1885, which had very serious consequences in checking settlement and restricting immigration. The harvest of 1887, when an average for the whole Province of Manitoba of 25.7 bushels was obtained, did much to encourage the struggling owners and to make Manitoba favourably known to Eastern Canada. The expectations of the farmers that they had seen the worst of their hard times were, however, rudely destroyed in 1888,

when an exceptionally heavy frost, occurring early in the month of August, so completely ruined the grain crops of the province that no record of the aggregate production or average yield was made by the departmental authorities of Manitoba. Despite these drawbacks and discouragements, however, the Province of Manitoba and the adjacent portion of the territories made steady progress, both in population and in production. The government figures show that, during the ten years from 1882 to 1891, homestead entries to the number of 37,399 were taken up in Manitoba and the territories, and the area of surveyed land during the same period rose to 72,220,607 acres. The government inspection of wheat at Winnipeg began in 1886, the figures for that and the succeeding years being as follows: 1886, 1,362,600 bushels; 1887, 3,878,600 bushels; 1888, 2,183,350 bushels; 1889, 2,207,400 bushels; 1890, 6,630,000 bushels; 1891, 8,691,800 bushels. During the ten years from 1881 to 1891 the population of Manitoba increased to 152,506, the city of Winnipeg accounting for 25,639 of this. The territorial population in 1891 amounted to 66,799. The position of Winnipeg as the commercial entrepôt of the whole Canadian West was confirmed and strengthened. This city, during these ten years, from being a mere point of distribution, began to develop various small manufactures. The census of 1891 showed 307 manufacturing establishments in the city, among them being foundries, flour-mills, meat-curing establishments, harness factories, furniture factories, spice-mills, and assembling shops for agricultural implements. The total value of the products for the city of Winnipeg for 1891 was \$564,240.

The greatest achievement in the West during the second decade of its development was the completion of the railway system, which gave a framework to the new country just taking form. During these ten years the railway mileage in Manitoba and the territories was multiplied ten times, rising from a total of about 353 to 1605 in the former and to 1926 in the latter. The main line of the Canadian Pacific Railway between Port Arthur and Winnipeg was completed in 1883. Construction was rushed across the prairies with such speed that the main line reached the Rockies in 1884. In the fall

of 1885 the prairie and the British Columbia sections were linked up, the last spike being driven at Craigellachie on November 7, 1885; and in July 1886 the transcontinental service from Montreal to Vancouver was inaugurated. Branch lines, which were being constructed by the Canadian Pacific Railway Company or by separate companies having close relationships with the Canadian Pacific Railway, were rushed forward to completion. These lines included the Manitoba and Southwestern, from Winnipeg; the Manitoba and Northwestern, running from Portage la Prairie; the Qu'Appelle, Long Lake, and Prince Albert, northward from Regina; the Galt line, from Dunmore Junction to Lethbridge; the Calgary and Edmonton, running north from Calgary. In the late eighties, the monopoly provisions of the Canadian Pacific Railway having been terminated between the company and the Dominion government, the Northern Pacific Railway, by an arrangement with the Manitoba government, entered the province, constructing a line to Winnipeg, with branches to Portage la Prairie and Brandon. These Northern Pacific lines received financial assistance from the Manitoba government, while the other railways were given liberal land bonuses by the Dominion government. These land grants, usually upon the basis of 6400 acres per mile, aggregated 6,864,074 acres, which, added to the grant of 25,000,000 acres to the Canadian Pacific Railway, made a total reservation of public land in the interests of railway building of 31,864,074 acres. The process of selecting these lands was a tedious one, and the railways showed no zeal in entering upon the work. All the odd-numbered sections in the West were held in reserve to permit these selections to be made, and each railway had an area delimited from which it could, at its leisure, choose its allotments. The railways were enabled to finance by issuing land-grant bonds against the security of these lands. Thus relieved from the necessity of expediting the selection of their lands, the railways proceeded very leisurely with this task. In most cases the selection was not completed until twenty years or more after the grants were made.

The location of the railways determined the currents of immigration. The settlers secured their locations as near the

railway stations as was possible. New towns sprang up at intervals of fifteen or twenty miles. The Canadian Pacific Railway made itself an effective agency for settlement and colonization. As one of the largest landowners in the country it had a special interest in securing settlers, and it carried on an organized work in England and in the eastern provinces which was more effective than any of the agencies employed by the government. The Canadian Pacific Railway offered farms to settlers for \$2.50 an acre, with a rebate of \$1.25 for every acre broken and put to cultivation. The first sale, contract No. 1, made by the Canadian Pacific Railway, entered into in September 1881, was the sale of a section of land in the immediate neighbourhood of what is now the city of Brandon, to Charles Whitehead, a son of Joseph Whitehead, who had begun life as fireman on the 'Rocket,' George Stephenson's locomotive, and who afterwards became a well-known railway contractor in Canada. Large areas of farming land in the immediate proximity of the railway were sold by the company upon these terms, and the comparatively rapid settlement in the Brandon district and westward was due chiefly to this cause. The company interested itself early in inducing immigration from Europe and in the formation of colonies along its railway system. One of its first proposals was to bring out a colony of fifty thousand Irish, whom it proposed to place in a settlement not far from Winnipeg. To enable it to do this it asked the imperial government to advance it £1,000,000, repayable with interest in fifty years. The imperial government took an interest in the project, but required the Dominion government to underwrite it with a guarantee that the principal would be repaid; and the refusal of the Dominion government to do this ended the enterprise. The company made no further attempts to plant colonies from the United Kingdom or Ireland, but was successful in inducing immigration on these conditions from various continental countries. Among the foreign-born settlements established at various points throughout the West were those of Hungarians, Danes, Roman Catholic Germans, Mennonites, and Moravians. The year 1892 saw the first Ruthenian immigration, which was afterwards to reach great volume and play a considerable

part in the development of the West. While settlement was thus following the line of the railways, there was a movement, limited to half-breeds, along the Saskatchewan River. These half-breeds, who settled near the junction of the two Saskatchewan, located their holdings on the old Red River system of narrow river lots. The refusal of the Dominion surveyors to recognize these holdings, when they came to subdivide the territory on the basis of the square township, was a prime cause of the uprising of 1885, which checked all development in the Saskatchewan valley for the next ten or fifteen years.

Other sources of wealth than the raising of grain appeared as the country developed. To supply the settlers with lumber the government granted timber leases in the wooded areas, under departmental regulations requiring the lessee, upon demand, to cut a stipulated amount of lumber annually. The result was greatly to reduce the cost of this prime necessity to the homesteader. In the middle of the eighties the native coal-mines began to supply coal for the West. The first mine to be opened was at Stair, and there followed the opening of the mines at Lethbridge and at Banff, at the latter place a deposit of anthracite being located. An extension of the Canadian Pacific Railway in the early nineties gave the settlers in Southern Manitoba and in the adjoining territories access to the lignite mines along the Souris River, in the neighbourhood of Estevan. This coal, by an agreement made with the railway company by the Manitoba government, was purchasable for a fixed rate—\$1.75 a ton on the car at the mines, plus freight to the point of delivery.

In Southern Alberta, where at that time it was believed the land was not suitable for the growing of grain, ranching on a large scale was followed. In 1891 the Dominion government had 1,801,209 acres of grazing lands under lease in the Macleod, Pincher Creek, Calgary, Cypress Hills, and Wood Mountain districts, divided among more than a hundred lessees. Six of these ranches covered 100,000 acres of land each, and there were a number of others extending from 30,000 to 50,000 acres. In 1892 there were on these ranches 20,579 horses, 139,283 cattle, and 86,087 sheep. The grazing leases were subject to the provision that the even-numbered

sections were available for homesteading upon demand ; but this led to so much trouble—homesteading or threatening to homestead on the most valuable parts of the ranches becoming a highly profitable speculation on the part of the adventurous—that in 1893 the old leases were cancelled and new leases made on terms which permitted the ranchers to buy one-tenth of their holdings outright at \$1.25 an acre. This ensured them the ownership of the area about the ranch buildings, and gave them title to lands which a few years later commanded very handsome prices as choice farm-lands.

During the nineties the development of Western Canada proceeded slowly, speeding up towards the close, in readiness for the great forward movement which set in with the new century. During the ten years from 1891 to 1901 homestead entries were made to the number of 45,881, representing a transfer of 7,320,960 acres of prairie land from the crown to private cultivators. The nationalities represented by the homesteaders, as given in official reports, showed a steady widening of the sources from which settlers were drawn. The record for 1896 shows that, in addition to those by British and Canadian settlers, entries were made by Poles, Russians, Ruthenians, Danes, Austro-Hungarians, Hollanders, Belgians, and Americans. The first American immigration came in 1896, when 142 homestead entries were made by residents of the United States. The influx of Americans grew with such rapidity that in 1901 it was estimated that there were already 50,000 Americans of all ages in Western Canada. The homestead entries showed that these immigrants were drawn from nearly every State in the Union, even the Southern States along the Gulf of Mexico supplying their quota.

The tide of foreign immigration flowed steadily during this decade. By 1895 there were fifty-two German colonies in Western Canada. None of these, however, were settled by immigrants coming directly from Germany. Most of them came from South Russia. In religion they were mainly Baptist or Stundist. Other Germans who arrived in the country were German Americans of the second or third generation. In 1895 there began—at first on a very small scale—the influx of the Ruthenians. The first parties came

from the Austrian Province of Galicia, and for many years they were known in Western Canada as 'Galicians,' the proper title of 'Ruthenians' coming into vogue but recently. The Ruthenians or Little Russians are a Slavic race. In general they profess the Greek rite, but are subject to the spiritual authority of the head of the Roman Catholic Church, an anomaly which has led to not a few troublesome episodes in their new homes, where a considerable proportion have resumed communion with the Greek Orthodox Church, from which they were severed some centuries ago by the vicissitudes of war in their ancestral homes. The Ruthenians in their own land are small farmers, and they proved themselves from the outset extremely valuable settlers. They were placed largely on second-class land, scrubby in character, which the homesteaders from the United States or Eastern Canada passed by, and they at once proceeded to make comfortable homes for themselves. These Ruthenians settled in colonies. They are to be found in the outskirts of Manitoba, east of the Red River, and along the north-western boundary. There are also large settlements of them in Northern Saskatchewan and in Alberta to the north-east and east of Edmonton. By 1901 there were no less than twenty-six thousand of these people in Western Canada.

In 1898 Western Canada became the home of the Doukhobors, a Russian sect which carries to an extreme degree the Quaker doctrines of non-resistance. Driven from the Caucasus, whither they had been exiled some sixty years ago from their original homes in South Russia, on account of their refusal to serve in the Russian army, they emigrated to Canada in a body, and were placed in a series of settlements along the Canadian Northern Railway in Northern Saskatchewan. Each adult settler was entitled to a homestead of 160 acres, and reserves of these dimensions were made by the government. The Doukhobors, however, who adhere strictly to the principle of holding all things in common, refused to accept individual homesteads, and ultimately, after many years of controversy, the government felt itself obliged to cancel the grants, giving in lieu thereof a restricted area around the villages, which was transferred in bulk to the com-

munities. The Doukhobor communities, under the management of head men of each village, under the general direction of Peter Veregin, the head of the society, have become very rich. They plan, however, to sell out their entire holdings in the prairie provinces, when they will trek to British Columbia, where they already hold extensive areas of land in the Nelson (B.C.) district, and have become fruit-growers on a large scale.

This inflow of population revealed itself in much larger population figures when the census of 1901 came to be taken. The population in Manitoba rose from 152,506 in 1891 to 255,211 in 1901; while in the territories the increase was from 66,799 to 158,940. As showing the gradual development of the country, twenty-four per cent of the whole population were found to be living in cities, towns, and villages, although Winnipeg (population 42,340) was the only centre entitled to be considered a city. The next largest place in Western Canada was Brandon, with a population just exceeding 5000. In the territories the most populous town was Calgary (4097); in the capital, Regina, there were to be found only 2249 people.

The details of the census figures in 1901 supply a good summary of the economic status of the West after thirty years of Canadian administration. Manitoba still maintained its commanding lead over the territories. Its acreage under crop in 1901 was 2,756,106, contrasted with 1,229,041 acres ten years before; while in the same period the acreage of the territories increased from 190,358 to 844,013. Wheat continued to be the chief crop, 60 per cent of the land being given up to its cultivation. There had been, however, some development in mixed farming. The total value of agricultural properties was \$151,355,081 in Manitoba and \$79,160,655 in the territories, of which 17.11 per cent in Manitoba and 35.74 per cent in the territories was represented by livestock. The higher percentage in the territories was due, of course, to the extensive ranching operations carried on in Southern Alberta. Each farmer owned on an average 278 acres in Manitoba and 288 in the territories, as contrasted with an average individual holding of 115 acres in Ontario.

The value of the field crops in 1901 was over \$24,000,000 for Manitoba and \$13,000,000 for the territories. During the ten years beginnings had been made in the dairying industry, butter and cheese factories during the decade increasing from eight to sixty-one, the value of the total output rising from \$121,000 to \$570,000.

Some slight progress had already been made during the ten years in the establishment of manufacturing industries. The census schedules for 1891 show such manufactures, indigenous to the country, as the following : brick, butter and cheese, flour-mills, printing, lumber products, biscuits, carriages and wagons, men's and women's clothing, furniture and upholstery, liquors, meat-packing, harness and saddlery, and foundries. A capital of \$7,500,000 was invested in manufactures in Manitoba, employing between wage-earners and salaried officials nearly 5000 persons. In the territories there was an invested capital of \$1,689,870, employing, all told, 1142 hands. The total value of the products was \$12,927,439 for Manitoba and \$1,964,987 for the territories. More than half the total manufactures were credited to Winnipeg, with its output in 1901 of \$8,616,428. All these manufacturing establishments were small and they were practically all operated by individual steam plants on the premises. There had been, to this time, no attempt to develop the water-powers of the West. Out of a total of some 12,000 horse-power employed in manufactures, only 140 was credited to water and 453 to electricity.

At the opening of the twentieth century a prescient writer in the *New England Magazine* said : ' For Canada the hour of destiny has struck. She has the physical basis for an Empire ; and the stream of immigration which has now begun will swell into a mighty movement of population like that by which our central West was occupied, until her fertile lands shall be the homes of millions of prosperous people.' Sir Wilfrid Laurier, giving expression to the same thought, claimed the twentieth century for Canada. ' The nineteenth century,' he said, ' has been a century that has been remarkable for the marvellous development of the United States. During the whole period of that cycle of time the United States

has been the great centre of attraction for all the world, but a new star has arisen upon the horizon, a star not in the orbit of the American constellation, but a star standing by itself resplendent in the Western sky, and it is toward that star that every immigrant, every traveller, every man who leaves the land of his ancestors to come and seek a home for himself, now turns his gaze.' These predictions are well on the way to realization ; for with the opening decade of the twentieth century the landless of the world turned their thoughts to the prairies of Western Canada, and immigration set in like a rising tide. In the short ten years from 1901 to 1911 the population of the three prairie provinces more than trebled, rising from 419,512 to 1,281,118, an increase of 205 per cent. The most remarkable feature of this immigration, in its economic effects, was 'the American invasion' as it was called.

The Canadian government induced this immigration by the creation of very special agencies. Clifford Sifton, minister of the Interior (1896-1905), in setting about his task of filling the vacant prairie, conceived the idea that the time was opportune for a migratory movement northward from the well-settled central Western States to the vacant plains of Canada. A new generation had grown up in these States on the farms secured as free grants by their fathers in the seventies, and he saw that when they looked for lands for themselves there would be none available at all comparable with those of Western Canada. Therefore, he argued, to acquaint them with the opportunities and possibilities of the new land to the north would be to ensure such a migration as he desired, and if the stream once began flowing it would widen by its own velocity. This was the great idea which, given effect to by an organization called into being by first-class executive talent, operating with limitless resources, made the prairies the Mecca of the world's landless folk. The Canadian immigration agencies at various points in the United States were reorganized, and new ones opened ; tens of thousands of dollars were expended in advertising and in the distribution of printed literature ; enterprising agents were sent abroad throughout the Western States to extol the opportunities of

Western Canada ; representative farmers were induced to take trips through the Canadian West, all expenses paid by the government—in fact everything that trained business talent could suggest was done. The result has been to give Western Canada about one hundred thousand families of settlers of the best type. These American farmers, almost without exception, have sufficient capital to make a good start, a most important consideration in a new country where money is scarce and dear. Akin to the Canadians in race, language, political and social customs, they become a part of the community just as naturally as one stream flows into another at the same level.

These settlers also brought with them about fifty years' experience in prairie-farming, and, by example, they have taught improved agricultural methods. Large districts which had been tabooed by the Canadian settlers have become prosperous and populous because the American new-comer showed himself competent to raise large crops upon land erroneously regarded by the first settlers as semi-arid. Even more important was the advertisement which the 'American invasion' gave Western Canada. It was precisely what the country needed—indeed there could have been no substitute for it in point of effectiveness. The Eastern Canadian was rather out of conceit with his own West ; and if a migratory instinct drove him onward, he went to the United States. In Great Britain Western Canada could get little hearing—her emigrants went to Australia, the United States, New Zealand, or even to alien lands in preference to Canada. It is doubtful whether any possible exertions by the government could have turned the attention of these people to Canada had not the influx of Americans to the prairies, loudly announced by all controllable agencies of publicity, challenged their attention and piqued their national pride. Once the fact was driven into their consciousness, they began to hold that if Western Canada was good enough for 'Yankees' it was good enough for them. British newspapers in particular showed a belated but very real interest. Visions of Western Canada thoroughly Americanized gave rise to fears of possible imperial disruption, and Britons were urged to emigrate to save the country to

the flag. The result has been a heavily increasing immigration from the British Isles, until it now equals that from the United States.

The American influx had another important effect in dispelling the apprehension that the West, by reason of heavy immigration from continental countries, might become a polyglot country in which English would not hold the dominant position. The American and British immigration—all English-speaking (though many of the settlers from the United States are of Scandinavian or German descent) and all habituated to self-government—outnumber the European immigration four to one, and increase yearly the preponderance of the English-speaking element. The only large foreign element which will seriously resist the fusion of the races that is going on in this veritable melting-pot of the nations is the Slavic; and the difficulty here is as much religious as racial. The Germanic and Scandinavian races settled in the West are already merging with the surrounding populations and adopting the English tongue. From the mingling of these races there will emerge a new type, 'which will be British, not exactly in the sense which we know, but in a sense very like the sense which we know.'

This rapid increase in immigration coincided with a period of extraordinary railway development. A comparison of Western railway maps of 1896 and 1913 shows a remarkable advance in the seventeen years. In 1896 the territory west of Manitoba was served by the main line of the Canadian Pacific Railway, with a few branches—from Regina to Prince Albert; from Moose Jaw to the international boundary; from Calgary south to Macleod and north to Edmonton; from Medicine Hat to Lethbridge and thence to the international boundary. In 1911, with railways built, under construction, or projected for immediate building, the country is gridironed. The Canadian Pacific Railway, in addition to extending its Lethbridge branch through the Crow's Nest, thus securing an alternative route to the Pacific, has woven a network of lines over the whole country. Its mileage in the prairie provinces, which was 3500 in 1891, rose in 1913 to 6236, with many additional lines projected. The most important

of the lines recently built is the direct route from Winnipeg to Edmonton, obtained by extending the former Manitoba and Northwestern to Saskatoon, thence north-westerly to Edmonton. Between this line and the main lines a series of connecting branches, making the vast and fertile central plain tributary to this system, have been built.

The newer Canadian railroad corporations—the Canadian Northern and the Grand Trunk Pacific—have also entered into brisk competition with the Canadian Pacific for the traffic of Western Canada. The Canadian Northern Railway originated in 1896 as the Lake Manitoba Railway and Canal Company, its first piece of railway being the line from Gladstone, Man., to Dauphin, Man. It grew rapidly, changed its name to the Canadian Northern, absorbed the Northern Pacific Manitoba lines in the year 1901, constructed, with the aid of generous subsidies from the provinces, a line of road connecting its Manitoba system with Lake Superior at Port Arthur, and in 1903, with the aid of a large guarantee of bonds by the Dominion government, began the construction in the territories of through lines of railway to Edmonton and Prince Albert. Since then the system has developed rapidly, and now reaches all the trade centres of the prairie provinces. The total mileage of the Canadian Northern system in Western Canada at the close of 1913 was 4111. From Edmonton the road runs westward through the Yellowhead Pass to Vancouver. At the close of 1913 there still remained a gap of fifty miles to be built on the line from Edmonton to Vancouver. To the east the line from Port Arthur to Sudbury was also approaching completion, foreshadowing the opening of the Canadian Northern as a transcontinental road by the end of 1914. The Grand Trunk Pacific Railway, which came into being in 1904 as the result of legislation by the Dominion parliament, was also on the eve of completion at the close of 1913. In the summer of 1911 the operation of the system between Port Arthur and Edmonton was begun. The building of the line westward from Edmonton through the Yellowhead Pass to Prince Rupert, the Pacific terminal, was pushed vigorously, and the line was linked up, though not yet ready for traffic,

in March 1914. An extensive system of branch lines had been built in the western provinces, bringing Regina, Southern Saskatchewan, and Calgary in touch with the transcontinental system. The eastern section of this road, stretching from Winnipeg to Moncton, which is being built by the Dominion government under an arrangement by which it is to be leased to the Grand Trunk Pacific, will be completed in the autumn of 1914, though, pending the completion of the Quebec Bridge, it will not be possible to operate continuous trains. The Grand Trunk mileage in the three prairie provinces at the close of 1913 amounted to 1095 main line and 944 branches.

These railways give the western provinces three lines of communication to Lake Superior. At present the Canadian Pacific Railway is the only line in operation east of Port Arthur to Eastern Canada, but both the Grand Trunk Pacific and the Canadian Northern are completing their lines eastward, and before the close of the present year (1914) the West will be joined to the East by three competing transcontinental railway systems. Western Canadian centres are connected with the United States by a series of railways running north and south. The Great Northern Railway system reaches its own terminals in Winnipeg by running rights over the Canadian Northern, while it operates its own lines to Portage la Prairie and Brandon with 165 miles of track in the provinces. Farther to the west it has formed a connection at the international boundary with a branch line of the Grand Trunk Pacific running south from Regina. The Soo line, a corporation subsidiary to the Canadian Pacific Railway, connects Moose Jaw and Winnipeg with St Paul, Minn., the line continuing eastward by way of Duluth and Sault Ste Marie until the Canadian Pacific system is reached at Sudbury. This supplies the Canadian Pacific Railway with an alternative route between the East and the West, which is largely used for the handling of freight. The Canadian Northern Railway also has direct connection between Winnipeg and Duluth by a branch line running to the latter point from Fort Frances on its main line. In addition to these outlets, Western Canada is looking forward with eager-



CONSTRUCTION IN THE CANADIAN WEST

(1) RAILWAY BUILDING

(2) LAYING GRANOLITHIC SIDEWALKS AT NORTH BATTLEFORD

ness to the opening up of the proposed route to Great Britain by way of Hudson Bay. This project, which has been warmly supported by the people of Western Canada for the past thirty years, has now taken definite form as a government enterprise. The route is from The Pas, on the Saskatchewan River (to which the Canadian Northern Railway runs), to Port Nelson at the mouth of the Nelson River, a distance of 410 miles. The preliminary government estimates show an expenditure of \$16,000,000 on the Nelson route. This includes the development work on the harbours, which it is estimated will amount to some \$5,000,000. The entire road is under contract. In December 1913 over 200 miles of the road had been graded and iron had been laid for 95 miles. Completion of the line in 1916 is promised by the Dominion government. Extensive harbour improvements at Port Nelson are also under way. The economic importance of this northern route is that it will put the port at Hudson Bay in approximately the same geographical relation to Liverpool that New York now occupies, thus bringing the western grain-fields some fifteen hundred miles nearer to the British markets. The route will be available for the carriage of grain and live-stock outward and general freight inward, for a period of possibly four months each year ; and it is expected that the shorter haul with the consequent lower freight rates will result in the development of large business by this northern channel of communication. It is predicted that iron, steel, and coal from the Maritime Provinces will come into Western Canada in large volume by this alternative route. It will also open a market in Western Canada for the extensive fisheries, as yet undeveloped, of Hudson Bay and other northern waters. The building of the road and its operation as a public utility, owned by the people, will be a valuable and interesting experiment in the economic possibilities of government-owned railways.

II

PRESENT STATE OF THE PRAIRIE PROVINCES

THE three western provinces contain 350,000,000 acres of land. The surveyed area, which covers practically all of the available prairie land, amounted in 1912, according to official reports, to 183,918,171 acres, of which 25,401,744 are not available for cultivation. Subject to certain reservations, provided for by legislation, all this land has been held for homesteading. In 1907, after the completion of the selection of the various railway land grants, the remainder of the odd-numbered sections were thrown open to homesteading; and at the same time provision was made that in the south central part of the new provinces homesteaders could buy an additional 160 acres at \$3 an acre. In this pre-emption area the rainfall is comparatively light, and the enlarged farms, thus made possible, will be cultivated by the 'dry farming' methods, which are based upon the principle of storing the moisture of one season by continuous cultivation for the growing of crops in the next. As only half the land is under cultivation at any one time, larger farms under this system are necessary.

Up to March 31, 1913, the crown had dispossessed itself of land as herewith shown :

Total area under homestead, pre-emption, and purchased homestead entry, including patented homesteads (chiefly even-numbered sections), half-breed and military scrip, special sales	75,368,544 acres.
Total area granted to railway companies on account of land subsidies (chiefly odd-numbered sections)	31,864,074 "
Total area school land endowment (unsurveyed area not included)	8,586,227 "
Total area granted to Hudson's Bay Company (unsurveyed area not included)	6,688,000 "
Total area otherwise disposed of (Manitoba swamp-lands, irrigation lands)	1,893,463 "

This leaves 30,000,000 acres of surveyed land in the possession of the crown, and brings the end of homesteading in sight. This is equivalent to 187,000 homestead entries. As the homestead entries for the five years 1909-13 averaged over 39,000 a year, a calculation shows that the existing land available for homesteading will all be taken up within the next five years. The unsurveyed areas of Manitoba, Saskatchewan, and Alberta amount to 282,150,627 acres. Manitoba, it is to be noted, was enlarged by the action of the Dominion parliament in 1912, and with an area of 251,000 square miles is now approximately the same size as Saskatchewan and Alberta. The enlarged province has a coast-line of 500 miles on Hudson Bay with two harbours, Fort Churchill and Port Nelson. The official estimate of the Dominion is that in this vast area of unsurveyed land not more than 43,000,000 acres are good farming land. Out of a total cultivable area in the three prairie provinces of 201,516,427 there were in crop in 1912 only 16,478,000 acres. Thus only about eight per cent of the available land is as yet under cultivation in Western Canada.

With the passing of homesteading will pass the era of cheap land in Western Canada. Despite the competition of the free grants, the values of wild land, held by private parties, have appreciated rapidly during recent years. Advantage of location was responsible for this. Not for many years has it been possible to secure homesteads within convenient distance of railways. Seekers for homesteads have been obliged to go thirty or forty miles from the railway and wait for three or four years until the railway was brought to their doors. Settlers with capital in most cases have preferred to buy land more advantageously situated, with immediate access to the markets. Much of the settlement of the past ten years has been upon farms purchased from the great land-holding corporations. In the twenty years from 1893 to 1914 the Canadian Pacific Railway Company and its subsidiary companies sold 12,377,088 acres for the sum of \$79,730,357. The aggregate sales by the Hudson's Bay Company and the Canadian Northern Railway (which, as the successor to the Winnipeg and Hudson Bay Railway, earned that railway's

land grant to the extent of 3,422,764 acres) amount respectively to 2,007,157 and 2,282,659 acres. The average price per acre of land sold by all these companies in 1906 was \$6.01, in 1907 \$6.02, rising rapidly to \$8.78 in 1908, \$11.08 in 1909, \$13.36 in 1910, and \$13.95 in 1913. With the final disappearance of homestead grants, land values will rise, as they have south of the line, to \$30 and \$40 an acre. This, in turn, will react upon the character of the immigration to Western Canada. The landless, coming from other countries, will, as in the United States, become workers for wages in the cities or on the farms; while the actual occupiers of new lands will be agriculturists with capital. This foreshadows an increasing proportion of settlers from the United States, who, selling their holdings in Iowa and other Western States at high prices, will be able to secure new homes in Western Canada at a relatively small outlay. In 1910 there were 12,813 homestead entries by Americans, as against 7331 by British immigrants. Austro-Hungarians came next with 2361; then, in their order, were Russians 1061, Norwegians 843, Swedes 818, Germans 688, with 1156 from such varied nationalities as French, Belgians, Italians, Roumanians, Syrians, Hollanders, Danes, Icelanders, Doukhobors, Chinese, Japanese, Persians, Greeks, Hindoos, Bulgarians, Servians, Spaniards, and Arabians. The year's homestead entries also comprised 10,000 Canadians from Manitoba and the eastern provinces. In 1912, out of 39,151 homestead entries, 29,438 were by British, American, and Canadian settlers. These statistics are the best assurance that there is no basis for apprehension as to the supposed predominance of the non-English-speaking element in the West.

Western Canada is still essentially a grain-raising country, with wheat as the chief and most profitable crop. Critics of the methods which are generally employed in the West charge that the soil, in place of being farmed, is 'mined' for wheat. The large yields and the ready market at good prices have made wheat-raising the quickest and easiest road to prosperity; and the secondary stage of development, involving mixed farming, the raising of feed crops, the breeding of live-stock, with by-products of milk and cream, is now

PRESENT STATE OF THE PRAIRIE PROVINCES 317

being entered upon in all three provinces. The acreage in wheat has risen very rapidly. Taking the three prairie provinces and consolidating their official figures of acreage and acreage yields for 1900 and the following years, the following instructive table of development is obtained :

Year	Acreage	Total Yield	Average Bushels per Acre
1900 . . .	1,870,260	17,053,546 bush.	9'12
1901 . . .	2,516,532	62,820,282 ,,	24'96
1902 . . .	2,665,698	67,034,117 ,,	25'2
1903 . . .	3,280,107	56,145,497 ,,	17'12
1904 . . .	3,334,667	56,037,995 ,,	16'8
1905 . . .	3,881,119	84,175,226 ,,	21'7
1906 . . .	5,049,250	102,256,531 ,,	20'25
1907 . . .	5,045,177	71,574,402 ,,	14'18
1908 . . .	6,813,020	107,002,093 ,,	15'7
1909 . . .	7,057,111	144,239,707 ,,	20'44
1910 . . .	8,219,981	120,487,310 ,,	14'66
1911 . . .	9,511,484	177,832,361 ,,	18'69
1912 . . .	9,286,000	188,279,000 ,,	20'50

The acreage sown to coarser grains is not far behind that given up to wheat ; in 1912 it amounted to 8,209,000 acres. The yield of oats in Western Canada in that year was 223,971,000 bushels; of barley, 48,076,500; of flax, 18,040,800. Flax is the favourite first crop of American settlers. It gives almost invariably a good return at a good price, and supplies ready capital for extending the cultivation of the farm. All the wheat grown in the West is spring wheat, with the exception of a small production of winter wheat in Southern Alberta. In 1912, 2,607,000 bushels of winter wheat were grown, the yield per acre averaging 20'5 bushels.

All grain except that sold locally to small country mills is graded in Winnipeg by a staff of government inspectors, in accordance with grades fixed by law, and is sold in Canada and in England on the basis of government certificates which set forth the grades. The 'contract' grades—that is, the

grades that can be delivered in legal fulfilment of contracts entered into—are fixed by statute. The highest grade of wheat, No. 1 Manitoba Hard, which calls for seventy-five per cent of hard Red Fife wheat, though once marketed in large quantities, has now become so rare that it no longer figures on the market; No. 1 Northern, with its sixty per cent of hard Red Fife, has now become the standard of value. 'Commercial grades'—which in seasons of harsh climatic conditions are many in number—are fixed by the Grain Standards Board, a permanent body which is called into session when necessity arises. The establishment of a sample market in Winnipeg, making possible an alternative system of sale by sample, has long been advocated, and is now provided for by legislation passed in 1912. The provision has not yet (1914) been enforced however, largely because of the opposition of the railways, which claim that breaking bulk at Winnipeg would so impede the rapid handling of the grain as seriously to limit the percentage of the crop carried to lake ports before the close of navigation.

To supply accommodation for the wheat and other grains, an immense system of interior and terminal elevators has come into being. In 1905 the number of country elevators, warehouses, and terminal elevators in the Western Grain Inspection Division was 1118, with a total capacity of 59,690,700 bushels. In 1912-13 the number of elevators had risen to 2333 with an aggregate capacity of 102,003,650 bushels. Of the interior elevators Manitoba in 1912-13 had 728, with a capacity of 22,252,000 bushels, Saskatchewan 1248 with 36,503,000 bushels' capacity, and Alberta 321 elevators with 11,565,000 bushels' capacity.

Around the elevators and their management has centred an extensive agrarian agitation which, beginning in 1898, has led to some notable experiments in the operation of elevators by co-operative agencies and directly by governments. To encourage the construction of elevators by private companies, the railways, in the early years of Western Canada as a grain-producing country, made a rule that they would only handle wheat shipped through elevators. The farmers fiercely resented this, alleging excessive dockage and other oppressive

actions by the elevator operators; and as their political strength grew they forced the government, session after session, to legislate in keeping with their wishes, until the Manitoba Grain Act, in the form in which it is now to be found on the statute-book, became the charter of the grain-growers' rights and privileges. Successive amendments destroyed the elevator monopoly, obliged the railways to build loading platforms upon petition, compelled the private elevators to become public storage warehouses at fixed rates, and prohibited discrimination in the supply of cars, the railways being forced to furnish them in the order of application. Officials were appointed, with large powers to enforce the law and to prevent discrimination between individuals or localities. The immediate result was greatly to modify the methods by which grain was handled. Farmers, in place of selling their wheat to the local elevators, shipped it in carload lots, consigning it to commission agents in Winnipeg; and this was speedily followed by a farmers' co-operative selling agency in Winnipeg, which rapidly secured the lion's share of this business and became the largest grain-handling house on a commission basis in Western Canada.

In Manitoba the government in 1910 went into the elevator business. It secured 163 elevators by construction or purchase, at a cost of \$1,100,000; and after operating them for two years at a loss of \$120,000, leased them, at a rate of six per cent on the capital invested, to the Grain-Growers' Grain Company, a farmers' organization. This arrangement terminates in August 1914; and the future of the Manitoba elevator system is at the time of writing (April 1914) problematical.

In Saskatchewan the government submitted the whole matter to a commission, headed by Professor Robert Magill of Dalhousie University, with instructions to investigate and report. The commission, after extensive inquiries, made a report in which the economics of grain production and grain handling are treated exhaustively. They rejected the proposition of the Grain Growers' Association that the government should build a system of government elevators, to be controlled by a commission responsible to the legislature.

The conclusions reached by the commission were thus summed up in the report :

The Commission are unanimous in holding that a solution of the elevator problem satisfactory to the farmers must give the farmers full control of the system. And they are unanimous in holding that no storing and handling elevator is likely to be a financial success unless a considerable number of the growers of grain have a direct personal interest in and responsibility for the elevators. The Commission, therefore, are unanimous in holding that the solution must be sought along the line of co-operation by the farmers themselves, assisted in the matter of finance by a Provincial loan. The Commission consider that special legislation should be enacted providing for the creation of a co-operative organization of the farmers on the principle of (1) the maximum amount of local control consistent with (2) ownership by the whole body of shareholders and management through a central board of directors.

The Saskatchewan legislature during the session of 1911 created the Saskatchewan Co-operative Elevator Company, made up of members of the Grain-Growers' Association. This company was authorized to build and operate a series of co-operative elevators, the government undertaking to advance eighty-five per cent of the cost of each local elevator, this loan being repayable in twenty annual instalments. By July 1911 forty-six 'locals' had been organized and the company began business. In its first year it handled 3,250,000 bushels of grain and made a profit of \$52,000. By the end of the second year (July 1913) the company, with 196 locals and 13,156 shareholders, occupied a strong position. During this year it handled 13,250,000 bushels of grain and made a profit of \$167,000. In 1912 Alberta, following Saskatchewan's example, organized, on similar lines, the Alberta Farmers' Co-operative Elevator Company Limited; and fifty-three elevators had been built and put into operation by the close of 1913.

The terminal elevators at Port Arthur and Fort William, twenty-three in number, with an aggregate capacity of 40,630,000 bushels, owned by the railway companies and by

private elevator companies, have also been the occasion of strong demands by the western farmers, who for years have urged that they be taken over and operated by the Dominion government. In 1911 the Dominion government, of which Sir Wilfrid Laurier was premier, introduced a bill appointing a commission to supervise the operations of these elevators, with power to take them over and operate them as government utilities should this, in their judgment, prove desirable. The conservative government adopted the bill, which became law in 1912. A grain commission was constituted under the chairmanship of Dr Robert Magill. It has erected a terminal elevator at Port Arthur with a capacity of 3,250,000 bushels, and is preparing also to erect terminal elevators at Vancouver for the Pacific trade and at Port Nelson on Hudson Bay. In addition, internal storage elevators with a capacity of 4,000,000 bushels each are to be erected at various points throughout the West; two have already been constructed, at Saskatoon and Moose Jaw respectively.

Milling the wheat into flour is an industry which is widely spread throughout the western provinces. Every village of any considerable size has its own mill, which supplies the local trade with flour, the by-products going back to the farmers as cattle feed. These local mills have usually a capacity of from 50 to 200 barrels a day of twenty-four hours. Large mills, producing flour for the Eastern Canadian markets and for export, have been established at suitable points along the railway lines. Some of the largest of these are to be found east of Winnipeg. There is a mill at Keewatin producing 10,000 barrels a day, one at Kenora with a capacity of 2500 barrels, and one at Fort William with an output of 3500 barrels. Winnipeg and St Boniface have mills with a grinding capacity of 7000 barrels a day. There are also large mills at Portage la Prairie and Moose Jaw. The total capacity of the Canadian West is 43,960 barrels per day of twenty-four hours; but continuous runs are not known except in the case of the large mills. The mills between them account for about one-third of the wheat crop each year. A steady increase in the number of large mills, grinding for the export trade, is looked for. The great United States milling concerns will

find it necessary, it is predicted, to build mills in proximity to the sources of supply for hard wheat if they are to retain their export trade in competition with the Canadian-owned mills.

Agricultural conditions in Southern Alberta and the adjoining districts of Saskatchewan have been greatly altered by the widespread adoption of irrigation methods. Twenty years ago these stretches of high and dry prairie were given up to ranch grazing. The ranches have gone, and in their stead there will be numberless little farms, supplied artificially with the necessary moisture. This portion of the West is only semi-arid in the sense that its annual precipitation shows marked fluctuations not only from year to year, but for cycles of years, and during the wet cycles irrigation is unnecessary. The rainfall at points in the irrigation area sometimes falls as low as 7 to 9 inches ; but the average annual rainfall since the establishment of meteorological stations has been 14 inches at Medicine Hat, 15 inches at Calgary, and 13 inches at Macleod. The Canadian law on irrigation is based upon the principle that all water belongs to the crown and can only be obtained by the observance of certain conditions. Those receiving charters must complete their work within a stated period, and satisfactorily to inspecting government engineers. The water must be used for irrigation only, and must be sold at rates approved of by the government. No stream can be burdened with more permits than there is water-supply, as shown by yearly government gaugings. A certain amount of water must be furnished to the land for which the permit is issued for the full irrigation season, which covers the five months May to September.

In addition to large irrigation projects, there are numerous small irrigation systems constructed and operated by land-owners. The present irrigated area of Western Canada now exceeds 3,000,000 acres, which is half as much as the entire irrigated area of the United States. In a few years Southern Alberta will become the greatest irrigated district on the continent of America. The first large irrigation enterprise was that of the Alberta Railway and Irrigation Company in the district south of Lethbridge, where 650,000 acres of land

were irrigated by a canal 130 miles in length with lateral ditches, bringing the total mileage up to 500. The relatively small and highly-cultivated farms which have come into being in this district are chiefly those of Mormon settlers from Utah and other American States. Sugar beets are a staple crop, eight tons per acre being harvested in 1909 from a total acreage of 2400. A sugar beet factory has been in successful operation at Raymond for several years. Experiments show that sugar beets of high quality grow everywhere in Southern Alberta, south of the main line of the Canadian Pacific. The sugar beet, while necessitating considerable labour in its cultivation, gives a first-class return to the farmers, and it now seems certain that within a short time large areas in Southern Alberta will be devoted to the production of sugar beets, and in the near future several large factories will be in operation producing sugar on an extensive scale.

The Canadian Pacific Railway Company is carrying out immense irrigation works along the Bow River, between Calgary and Medicine Hat—a distance of 150 miles. The tract, which is 40 miles wide, covers 3,000,000 acres. It is one-eighth the size of England and Wales. Half of this is irrigated by a system of canals which cover some 4000 miles. Work was begun in 1904, and the western block, nearest to Calgary, covering 1,000,000 acres, was completed in 1912, while the eastern section is (April 1914) rapidly drawing towards completion. A feature of this enterprise has been the creation by the Canadian Pacific Railway Company of ready-made farms in the district, which are sold on easy terms to British settlers. Intensive farming will be the rule in this district, and many of the farms will contain only 40 or 80 acres. This block of irrigated and non-irrigated land will ultimately be divided into some 15,000 farms, sustaining six individuals each, including hired help, making a rural population of 90,000, without taking account of the towns which will spring up in this area. A third ambitious irrigation project is that of the Southern Alberta Land Company, which is irrigating 380,000 acres near the junction of the Bow and Belly Rivers. It is planned to specialize on beet-root sugar-raising and the growing of alfalfa on this irrigated tract.

The cash returns to the farmers of the grain crops of the three prairie provinces in 1913 were estimated at \$125,642,271. In contrast with this the value of the dairy output was inconsiderable. In Manitoba the butter output in 1913 amounted to \$1,104,368, in Saskatchewan to \$395,000, and in Alberta (where some fifty-three creameries are operated by the government on a profit-sharing basis with the farmers who own the creameries) to \$1,090,475. The cheese output for the three provinces did not equal \$100,000 in value. The contrast between the value of the grain crops and the dairy output furnishes the most striking evidence of the predominant position which grain-growing holds in the West. After some years of discouragement the live-stock industry shows signs of recovery and development as the result of high prices for meat and the opening of the United States markets to Canadian hogs and cattle. In 1913 receipts of cattle in Winnipeg amounted to only 114,466 (as compared with 190,517 in 1910) with an estimated value of \$6,863,346. In Alberta in 1913 total receipts of cattle were 151,002 with a value of \$8,896,996. The output of hogs has greatly increased in Alberta, 267,205 being marketed in 1913 at an estimated value of \$4,531,796. Receipts of hogs at Winnipeg also show an increase, the figures rising from 85,157 in 1911 to 179,830 (valued at \$2,209,100) in 1913. Shipments of hogs from Alberta to Seattle and Chicago began in 1913, and the trade promises to develop into one of great magnitude. Sheep-farming is also showing signs of development after years of stagnation. Receipts at Winnipeg in 1913 were 54,912, while Alberta marketed 173,987. These statistics indicate much more rapid development of the live-stock industry in Alberta than in Saskatchewan and Manitoba.

The telephone is a powerful social and commercial factor in the West. Long-distance lines are being built in all directions, and local exchanges established. The number of farmers who have telephones in their houses is rapidly increasing, and in a few years' time the telephone will be regarded as a necessity in every farmhouse. There are no privately owned telephone systems in Western Canada. The Bell Telephone Company, which supplied the original service,

has sold its lines to the provincial governments, and in each province the service is owned and operated by the public. In Manitoba, with the exception of fourteen municipal exchanges, the province owns the whole telephone system, with an investment of \$11,000,000 and a subscribers' list of 48,000 names. In Saskatchewan the government owns the long-distance lines and the exchanges in the centres of population, and rural companies are given assistance in building rural lines. There are 336 rural companies with 7541 miles of rural lines. The total capital expenditure by the government up to 1913 amounted to \$4,036,010. The government and rural lines between them serve 21,817 subscribers. In Alberta, with the exception of a municipal service in Edmonton, the government is in complete charge of the telephone business—capital invested, \$7,284,629; subscribers served, 23,438.

Co-operative movement for the securing of agricultural credits at cheaper rates of interest are taking form in Western Canada. The Saskatchewan legislature at its 1913 session created the Saskatchewan Co-operative Farm Mortgage Association, an adaptation of the German *Landschaften* system. Any ten farmers can form a 'local'; they borrow money on their joint credit, backed by the guarantee of the government, for mortgage purposes. The mortgages will extend from fifteen to thirty-five years; those for the longer period will be paid back in annual payments covering principal and interest. The act is not yet (April 1914) in operation. The Manitoba and Alberta governments have also announced their intention of submitting farm credit measures to their legislatures in the near future.

The Dominion government has shown itself watchful of the interests of the people by setting apart, as forest reserves, wooded or semi-wooded areas, covering the head-waters of the more important streams. There are six such reserves in Manitoba, with an area of 3575 square miles; four in Saskatchewan, with an area of 740 square miles; while in Alberta the entire eastern slope of the Rockies, from the international boundary north for 350 miles, has been set apart. This area of 14,400 square miles will be administered by the Dominion

government for the protection of the sources of water-supply and for the production of timber for the use of settlers on the prairies to the eastward. In addition the Dominion government has since 1901 been distributing shelter trees free to farmers upon application. These trees are grown at the nursery station at Indian Head, and are shipped out each spring to the applicants. A corps of travelling inspectors is employed in inspecting the plantations and giving advice and information to the farmers. Up to 1912 over twenty-one million trees had been distributed.

Sources of natural wealth in Western Canada, apart from the soil, are found in the coal-mines, the forests, and the fisheries. Manitoba has no coal; Saskatchewan has deposits of lignite along its southern boundary, from which 253,075 tons were mined in 1912. Alberta is rich in coal, which is found in many places in the province. In 1912 the production was 3,446,349 tons, valued at over \$8,000,000. Prior to 1907 coal lands could be bought outright from the Dominion government; but since that year coal lands are leased at an annual rental of a dollar an acre, the area leased to any one applicant not to exceed 2500 acres. There are 282 such leases in existence, representing 105,705 acres. With respect to lumber (spruce) there are over seven thousand square miles under licence permits from the Dominion government, and the annual cut in 1912-13 amounted to 241,946,902 feet. In the output of the fisheries, Manitoba outranks the other prairie provinces. In 1912 fish to the value of over one million dollars were taken from the Manitoba waters, while the comparative figures for Saskatchewan and Alberta were \$139,436 and \$102,325 respectively. Another source of great future wealth is water-power; but development of this has barely begun. In Manitoba there have been two hydro-electric developments on the Winnipeg River, aggregating some 45,000 horse-power, to serve the needs of the city of Winnipeg. The works at Point de Bois are the property of the city of Winnipeg; they have been constructed at a cost of over four million dollars, to supply the citizens of Winnipeg with light and power at cost. The capacity of the plant is now (1914)

PRESENT STATE OF THE PRAIRIE PROVINCES 327

being doubled. Calgary is served from two hydro-electric plants on the Bow River with a combined capacity of 29,000 horse-power.

The population figures for Western Canada, as shown in the 1911 census, give the result of the ten years' strenuous development which has been summarized in these pages. The comparative figures for 1901 and 1911 afford a remarkable contrast :

Province	1901	1911	Increase	Per cent Increase
Manitoba .	255,211	455,614	200,403	78
Saskatchewan .	91,279	492,432	401,153	439
Alberta . .	73,022	374,663	301,641	413
Totals .	419,512	1,322,709	903,197	215

PRINCIPAL TOWNS AND CITIES

	1911	1901	Increase
In Manitoba :			
Brandon	13,839	5,620	8,219
Portage la Prairie . .	5,892	3,901	1,991
St Boniface	7,483	2,019	5,464
Winnipeg	136,035	42,340	93,695
In Saskatchewan :			
Moose Jaw	13,823	1,588	12,235
Prince Albert	6,254	1,785	4,469
Regina	30,213	2,249	27,964
Saskatoon	12,004	113	11,891
In Alberta :			
Calgary	43,704	4,097	39,607
Edmonton	24,900	2,626	22,274
Lethbridge	8,050	2,072	5,978
Medicine Hat	5,608	1,570	4,038
Strathcona ¹	5,579	450	5,129

¹ Now incorporated with Edmonton.

The census figures of manufacturing development are equally remarkable :

Cities	1890	1900	1910	Per cent Increase 1890 to 1910
Winnipeg .	\$ 5,611,240	\$ 8,616,248	\$ 32,694,349	482
Calgary .	258,900	599,444	7,751,011	2893
Regina .	....	....	1,313,274	....
Edmonton	....	243,788	4,493,304	....

Provinces	1900		1910	
	Capital	Output	Capital	Output
Alberta . .	\$ 967,625	\$ 1,050,436	\$ 21,508,664	\$ 15,684,717
Saskatchewan	239,054	258,640	4,958,358	4,557,198
Manitoba . .	13,293,336	9,960,865	38,125,027	44,747,347

Winnipeg has become a great city, with all the adjuncts of a commercial metropolis—in it are the banking, wholesale, and manufacturing headquarters of the West. Manufactures in themselves tell the story of the rapidity of the West's development. The output of manufactures in Winnipeg in 1901 was of the value of eight million dollars; the Dominion census of 1906 showed an increase to eighteen millions; in 1910 it had mounted to over thirty-two millions, putting Winnipeg in fourth place among the cities of Canada. An annual manufacturing production of some forty million dollars is the present estimate.

This, in brief, is the story of social and economic development of Western Canada during the forty years that have elapsed since the country became part of the Dominion of Canada. It constitutes a veritable romance, not easily matched in the world's records.

JW Dague

THE PROVINCIAL EXECUTIVE
ORGANIZATIONS

THE PROVINCIAL EXECUTIVE ORGANIZATIONS

POLITICAL GROWTH OF THE PRAIRIE PROVINCES

THE political growth of the three prairie provinces of Manitoba, Saskatchewan, and Alberta, while in some respects sectional, has in its broader aspects exhibited a degree of uniformity that is not observable in the earlier political history of any other group of the provinces of Canada. While the eternal struggle for greater freedom of political life and thought has a place in the affairs of these three western provinces, it has always been subordinated to a struggle to provide those necessary adjuncts to a political existence that make for the material comfort and well-being of the body politic. The more practical features of the questions of education, agriculture, transportation, and their kind have always loomed large on the Westerner's political horizon, to the overshadowing of theoretical considerations. It will hardly be possible to travel in thought over the path by which existing methods of administration have been arrived at, no matter how rapidly, without catching glimpses of the reasons underlying this condition. An exposition of those reasons would be out of place here, interesting as it might prove: the fact is the thing of concern at present.

The Province of Manitoba commenced its autonomous existence within a few months of the acquisition of the territory out of which it was formed. At that time the population comprised some two thousand whites and approximately five times that number of Métis, or natives of part French or Scottish descent. The boundaries of the province on its establishment contained 13,500 square miles, which area was

extended in 1881 to 73,956 square miles and in 1912 to 230,000 square miles. The population increased rapidly notwithstanding difficulties of access. In 1871, the year following the establishment of the province, the census returns showed 18,995 persons, an increase of approximately fifty per cent in the first twelve months; in 1881 the population was 62,260, and 152,506 in 1891. During the two following decades it continued to increase at a steady rate, the census returns showing 255,211 persons in 1901 and 455,614 in 1911.

Rapid increase of population in early years was not so noticeable a feature of the area now forming the Provinces of Saskatchewan and Alberta as it was of Manitoba. The earliest census was taken in 1881, when 56,446 persons were counted in the North-West Territories. These territories comprised all those areas known as the provisional districts of Ungava, Athabaska, Mackenzie, Franklin, and Yukon, as well as the better known and more southerly provisional districts of Assiniboia, Saskatchewan, and Alberta, which latter three districts, with Athabaska, were, in September 1905, formed into the two Provinces of Saskatchewan and Alberta. The population of this immense area in 1891 was only 98,967, at which time the population of Manitoba, only about one-seventh of its size, was 152,506. Comparisons of the population of Manitoba with those of the areas now forming the Provinces of Saskatchewan and Alberta in 1901, 1906, and 1911 show the following:

	1901	1906	1911
Manitoba . . .	255,211	365,688	455,614
Saskatchewan . .	91,279	257,763	492,432
Alberta . . .	73,022	185,412	374,663

These comparative statements of population indicate one reason for the great lead at first taken by Manitoba over the other portions of the West in matters connected with the administration of public affairs, which lead has latterly so greatly diminished that it may be said to have reached the

vanishing point. The political status of the North-West Territories also had much to do with the slow progress of advanced methods of organization in the business of the government, although much of the apparent apathy of the people on the subject may readily be attributed to object-lessons afforded by Manitoba's earlier experiments in that direction. The establishment of provincial organizations, coupled with the rapid increase in population in both Saskatchewan and Alberta noted above, brought about a marked change in the public attitude. The early elementary forms of local self-government have given place to well-organized communities, exercising all necessary powers and fulfilling all needed public functions, and the general methods of administration in all three provinces stand well to the front.

As the early movement of population to the western prairies was largely from the adjoining Province of Ontario, the ideas and customs obtaining in that province naturally formed the basis upon which public men built their early schemes of government in the West. The first legislature of Manitoba, which met in 1871, before the migration from Ontario was fairly started, passed a county assessment act providing for the making out of one general tax roll by the county assessors of each of the counties of Selkirk, Provencher, Lisgar, Marquette East, and Marquette West, the assessors meeting at the call of the clerk of the peace. The method of assessment seems to have been of a primitive nature, but suited to the conditions and needs of a scattered and mixed population. In early days the grand jury in Manitoba was an important body and its functions were various. Among other duties, it presented a statement to the Court of Sessions showing the amounts required in the several county districts for maintenance of roads, bridges, ditches, and other similar public enterprises. The clerk of the peace thereupon levied the amount required for such purposes on the basis of the assessment roll, and the constable collected the taxes.

This system did not exist for any great length of time, for in 1873 the legislature passed its first general municipal act. Ten years later the whole municipal organization was

revised, the powers previously exercised by the municipalities being greatly enlarged. The act followed closely the provisions of the law then in force in Ontario, so closely, indeed, that it was found that many of its provisions, framed as they were to meet conditions in older and more closely settled communities, were not readily applicable to the conditions of the western province. The working out of the act gave rise to much dissatisfaction. The expense of its operation was great; the distances to be travelled, with the lack of conveniences for doing so, interfered with the transaction of public business; and in 1886, after a trial of three years, the system was abolished, a return being made to former methods. Most of the matters that had been made subject to the administration of the municipal authorities, however, did not revert to central control, the principal one being the maintenance of the several judicial districts with their court-houses and gaols.

The decentralization of public business, so marked a feature of the earlier public life of Manitoba, proceeded more slowly in the North-West Territories. The active part taken by local organizations in the administration of public affairs in the former from the beginning of its days found no counterpart in the latter. Public matters, directed at first from Fort Garry by the lieutenant-governor of Manitoba (who *ex officio* held the same office for the territories), with the advice of a council having both legislative and executive functions, were dealt with in a somewhat paternal fashion. This continued upon the establishment of a separate government organization in the North-West Territories in 1876 and for some twenty years or more thereafter, and through the various changes in form that the government took from time to time, from its original 'crown colony' status until the establishment in 1897 of what was then considered to be as complete a system of responsible government as was compatible with the territorial condition. In the Provinces of Saskatchewan and Alberta much of the administrative work carried on by provincial officers has long been directed by the municipal organizations of Manitoba. This is, as has been suggested, largely a result of the slower growth of population

with the more extensive area to be administered. The results of this system assume varied forms. On the one hand, it is incontestable that money has been wisely and economically expended by the centralized government organizations of the western sections of the prairie country ; on the other, however, it has sometimes been alleged that a lack of a sturdy self-reliance has been produced by successive governments doing for the people at large so much of what elsewhere they are called upon to do for themselves, but which the very necessities of the case compelled those governments to do. Whatever truth there may have been in such an accusation in the formative period of the history of the administration of public affairs in that portion of the Dominion under consideration, indications are not lacking to show that such a characteristic has not by any means become a permanent feature of the people.

Municipal organizations in the western sections of the prairie provinces in their earlier forms were very simple in their character, and the duties they performed were of an elementary but practical nature. They were not importations from other provinces, but sprang into life from local necessities. ' Fire districts ' and ' statute labour districts ' of the late eighties and early nineties are examples. The still later ' local improvement districts,' replaced at the present time almost entirely by rural municipal organizations, have all grown steadily from small beginnings, until now each organized unit possesses practical self-government. Through all this period of growth, in territorial as well as in early provincial days, an active interest in the guidance and direction of matters of municipal concern has been taken by the several governments, and the provincial departments of municipal affairs in both Saskatchewan and Alberta exercise an influence in the administration of the several forms of municipal organizations unknown to the same extent in any other province of the Dominion. This close connection between the provincial and municipal governments has met with high commendation in some quarters where keen interest is taken in municipal matters, but it may be safely considered that as time passes there will grow up a divergence between

the two, and that the provincial governments will divest themselves more and more of the administration of matters of purely local concern, while the municipal organizations, as they grow more confident in the exercise of their present functions, will tend to take over to themselves the administration of affairs of a more complex nature than they now control.

The foregoing cursory glance over the more salient features of the history of some phases of the early administration of public affairs in the prairie provinces indicates the wide disparity between the conditions and methods of government administration that obtained at different times in Manitoba, and in the North-West Territories prior to 1905, and in Saskatchewan and Alberta since the establishment of those provinces in that year. In Manitoba, for reasons to some of which reference has already been made, the effort of all provincial administrations has been to place upon the municipal organizations as many of the public burdens as could be carried by them, while the general conditions of the country to the west of Manitoba forced those charged with the general administration to assume, in addition to the duties properly belonging to a provincial government, those that elsewhere are looked upon as the true functions of municipal organizations. A few months after the establishment of provincial government in Manitoba, as has been shown, the legislature made provision by which the cost of such public works as are most intimately connected with the lives of a people that for the greater part is occupied with rural pursuits, should be borne directly by the people themselves. In the North-West Territories, and even still in the Provinces of Saskatchewan and Alberta, the government has borne the entire cost of bridging the rivers of the country or of providing ferries where traffic was insufficient to warrant the people immediately affected undertaking the work, and the bulk of the expenditures upon road construction, including the cost of the whole of the more expensive schemes in that direction, has been taken from the public funds of the territories and the provinces. In Manitoba much of the cost of the administration of justice and the maintenance of prisoners falls directly upon

the people, whilst the general funds in the other two prairie provinces are drawn upon for the whole expenditure upon such services, with the one slight exception of the cost of the police protection with which the cities and towns have provided themselves.

Apart from this condition, which perhaps is one more properly belonging to the domain of finance than to administration, the whole trend of the administration of public affairs in the three prairie provinces has been of a homogeneous character. If more emphasis is placed upon the nature of the public affairs calling for administration, this proposition will probably be more clearly stated. In all three provinces civilized methods of government had to be called into being in a country that within the memory of people still young was a wilderness, occupied only by wild animals and equally wild human beings. The more adventurous spirits from all parts of the Anglo-Saxon world poured into the country much faster than public necessities could be provided for their use. The difficulties of mere life and existence were alike in all sections of the country, and its political divisions only afforded opportunity for experimenting with diverse methods of meeting those difficulties until some one method seemed to stand out so clearly from all others as to commend its general adoption. A recent experiment in this direction may be referred to. The rapidity with which the country has been settled has resulted in the production of enormous quantities of grain, with which existing facilities for handling were insufficient to cope. The laws dealing with the subject were excellent, and the transportation companies were believed to be doing all in their power to provide means by which the grain could be carried to market, but requisite storage and handling facilities were lacking in many places. The grain-producers of the West were under such serious disabilities in this connection that the three provincial governments felt impelled, in the general interest, to seek means to overcome them. The government of Manitoba attempted to find a solution in the acquisition of existing elevators and the construction of others for the purpose of providing storage facilities independent of those furnished by

the grain interests for their own use. In Saskatchewan, after a full inquiry into the whole question by three commissioners appointed for the purpose, the government decided to support with financial assistance the operations of a vast co-operative organization of the grain-growers themselves. There were thus in operation, side by side, carried on by the two provincial governments, experiments based on two modern and advanced, though opposing, economic theories, 'government ownership' and 'co-operation.' For reasons which do not enter into this discussion, and which in themselves afford no arguments for or against either of these theories, the government of Manitoba, after a two years' trial, decided that its experiment had not given the satisfaction that was expected, and made arrangements under which a western organization of grain-growers took over the provincial elevators to operate them in a manner similar to the operation of those under government auspices in Saskatchewan, where the experiment bids fair to be successful to a remarkable degree.

On this question the government of Alberta took a watchful attitude. That province has not increased its population to the same extent as the two provinces to the east, nor have its people devoted themselves with the same exclusiveness to the production of grain, so that the difficulties met with in Manitoba and Saskatchewan are not so keenly felt in Alberta. The question is, however, a live one, and the government of the province lying farthest to the west is being called upon to assist its agricultural population to provide modern facilities for handling grain products in some such way as has been found necessary in the other prairie sections, and it is more than probable that by the time these words appear in printed form Alberta will be found ranging herself in this connection alongside her sister prairie provinces.

Another matter that forced itself upon the attention of the governments of the plains found its *raison d'être* in the vast spaces they govern, and the correspondingly wide separation of the people into isolated and scattered communities, making communication difficult and slow. The three governments were impressed, about the same time, with the necessity for providing for the removal of this disability,

and all did so in much the same way. The franchises and plants of the various telephone companies in existence were acquired by purchase, and large sums have been expended in order to place all parts of each province—as well as each province—in direct touch one with another. Side by side with this work proceeded the establishment of rural telephone services, until the farmers of nearly every section of the West had the opportunity of placing themselves in close communication not only with their local market towns, but also with the larger and more distant centres, to the mutual benefit of all interested in the general business of the country.

This matter of rapid communication and means for securing it provided by a government-organized system of telephones offers another example of what was referred to in the beginning of this article as the uniformity of the political growth of the three prairie provinces and the sectional manner in which that growth has been achieved. The condition leading to the establishment of government telephones was common to all, but the method by which the problem was solved differed in each province, although one and the same result was reached. In Manitoba the management of the telephone system was entrusted to a commission, with the object of removing its operation from political control. In Saskatchewan and Alberta the telephone systems are managed by a section of the regular government departmental organizations. On the important question of rural communication the Alberta government and the Manitoba commission hold similar views, but not the same as are held in Saskatchewan. In Saskatchewan the government has encouraged the formation of independent rural local organizations, and has assisted such organizations with financial aid in the way of providing part of the material for their equipment, as well as with expert advice. In the other two provinces the rural telephonic services are dealt with as part of the work of the regular government organizations. The knowledge to be acquired from these diverse methods of treatment of the one public problem will be of interest to the student of public affairs and their administration as the results are made plain.

METHODS OF ADMINISTRATION

The general methods of administration followed in each of the three prairie provinces differ only in slight matters of form, and not at all in principle. The legislative functions given to the first councils of the North-West Territories were abolished on the establishment of the first legislative assembly in 1888, and the duties of the advisers of the crown are limited—as is the case everywhere under the British system where responsibility for government has been given to the people—to thoughtful cogitations leading to the settlement of the manner of the ‘advice’ to be tendered upon matters of state to His Majesty’s representative, and to the more active administration of those sections of the public business which are only entrusted to such persons as are members of the executive councils of their respective provinces. The position of the crown’s advisers with respect to legislation is not so definitely determined as it is with respect to the administration of the public business, by statute or otherwise, and yet, though only to be demonstrated by a roundabout process of reasoning, in the long run the result is the same, and the control of the administration of the day over the legislation enacted during its term of office is absolute. The lieutenant-governor, in theory at least, may seek and follow advice tendered to him from any quarter he may choose, yet the practical necessity for accepting the advice of such persons only as have command of a majority in the legislative assembly, by which the funds are controlled, reduces the constitutional problem to its lowest possible terms.

If conflicts of opinion arise in the meetings of the executive council, the secrecy required by the oath of office¹ taken by all

¹ As the form of this oath may be of interest to the curious in such matters, it is given in full below.

OATH OF THE MEMBERS OF THE EXECUTIVE COUNCIL

You do solemnly promise and swear that you will serve His Majesty truly and faithfully in the place of His Council in this His Majesty’s Province of _____, you will keep close and secret all such matters as shall be treated, debated and resolved on in Executive Council, without publishing or disclosing the same or any part thereof, by Word, Writing, or any otherwise to any Person out of the same Council, but

executive councillors prevents their becoming public. The council sits apart from the lieutenant-governor and offers its advice upon such matters as come before it for consideration in a formal document, officially spoken of as a 'minute,' generally based, but not necessarily so, upon a 'report' made to council by one of its members, usually that one whose administrative duties have made him familiar with the details of the subject. The council either advises a certain definite course of action or it takes no action at all. 'Minority reports' are never offered, as in the very nature of things they could not be accepted. The 'Minute of Council' when 'Approved and Ordered' by the lieutenant-governor becomes an 'Order in Council,' and so takes effect as law for the time being. It is in this way, and in this way only, that the governing powers of the crown are exercised in all three of the provinces here being considered.

There is a vast amount of detail work in the administration of the public business of these provinces. On account of the steady influx of population, and the consequent continual change in the condition of each province, it is probable that proportionately there is a greater amount of such detail work than in any of the other provinces of the Dominion. Elsewhere the routine is for all practical purposes settled and fixed, but on the prairies each new day brings its own new question for consideration and settlement. Speaking generally, however, the affairs of each province are carried on in

to such only as be of the Council, and yet if any Matter so propounded, treated and debated in any such Executive Council shall touch any particular Person, sworn of the same Council, upon any such Matter as shall in any wise concern his Loyalty and Fidelity to the King's Majesty, you will in nowise open the same to him, but keep it secret, as you would from any Person, until the King's Majesty's pleasure be known in that behalf. You will in all things to be moved, treated and debated in any such Executive Council, faithfully, honestly and truly declare your mind and opinion to the honour and benefit of the King's Majesty and the good of His Subjects without partiality or exception of Persons, in nowise forbearing so to do from any manner of respect, favour, love, meed, displeasure, or dread of any Person or Persons whatsoever. In general you will be vigilant, diligent and circumspect in all your doings touching the King's Majesty's affairs; All which Matters and Things you will faithfully observe and keep, as a good Councillor ought to do, to the utmost of your power, will and discretion.—So HELP YOU God.

much the same way as they are attended to under similar conditions in other parts of Canada. The administration of justice, the first duty of the crown, is looked after by the attorney-general; the channel through which are communicated matters of state, in so far as they affect each government in its relations to the Dominion and to other governments, is the provincial secretary; and the collection of the revenues of the province with the administration of the public funds is the prime duty of the provincial treasurer. These three public officers may be considered as forming the nucleus of each government. Without any one of them there could be no organized administration, and without any addition to their number the government organization is complete. The complexity and difficulties of existence under modern conditions in the life of every people have created public necessities, which on account of their universality are with general consent relegated to the government to be dealt with. These take various forms in different countries and with different peoples. In the three prairie provinces we have seen that the first public demand was for means of communication and facility of transportation, calling for roads and bridges. By natural evolution highly organized departments of public works have been developed in each province. The growth of the demands for means of communication by reason of the urgency of the public necessities has caused the work to be subdivided. In each province, therefore, ministers are to be found occupying themselves in the administration, in the public interests, of such matters as railways and telephones. In Saskatchewan may be noted a further subdivision of the work, consequent upon the central administration of the rural transportation problem by means of roads and bridges, by the recent appointment of a commission of experts to deal with the whole subject, the minister of Public Works simply being the connecting link between the commission on the one hand and the government and legislature on the other. In Manitoba this subject is not one that has particularly engaged the attention of the provincial authorities, the duty of providing roads and bridges having been at a very early day placed upon the municipal bodies. The government has

hitherto contented itself with making grants to such municipalities as were so located as to have expensive bridges to construct, such grants being generally one-half of the cost. A highway commission, with provision for expenditure at a moderate rate annually, is expected to somewhat improve present conditions along these lines in future. In Alberta the principle of ministerial responsibility for this matter is still recognized, and it is not understood that the government of that province contemplates any such change in administrative methods in connection with the subject as has taken place in Saskatchewan. It is the extraordinary growth in the population of the latter province that has brought about its change in administration. The public requirements became so great that larger sums of money were required for expenditure upon the roads of the province than the ordinary revenues could furnish. Provision therefore had to be made otherwise, and the legislature authorized the government to borrow \$5,000,000 in order that the roads of the province might be made efficient.

The material well-being of the people is not the only subject engrossing the minds of the public officers of the prairie provinces. Almost before the organization of the public services was in working order, the foundations were laid of what is now a fairly satisfactory system of general education. In each province the system is complete from the kindergarten to the university. Manitoba University was given by the Dominion an endowment out of the public domain some years ago, but no such provision has been made for either Saskatchewan or Alberta Universities. As a consequence the provincial funds are drawn upon more heavily to assist in maintaining the universities of the two last provinces. Government assistance to elementary schools has always been freely given in the West, perhaps more particularly in the western sections of the country. Efforts are made to use these grants as a means to produce results. Wherever schools are kept open for the longest periods, and the more highly qualified teachers employed, the greater proportionately is the assistance given.

What is practically the only provincial tax in Saskat-

chewan or Alberta is levied upon landowners for purposes of education. It is only imposed in rural districts, and is so levied as to ultimately fall only upon such landowners as are not otherwise contributing to the maintenance of schools. Part of the moneys collected is devoted to the university as well as to the high schools, all of which institutions are open to students from rural sections on the same conditions as to those from the towns in which they are located, and by which they are principally maintained.

The influence of the Alberta and Saskatchewan departments of Municipal Affairs in the municipal life of those provinces has been referred to. These departments devote themselves largely to civic educational work with good results. In Manitoba the principal duty of the department is to supervise the municipal assessments and equalize the levies thereon for purposes of general concern. These are mainly connected with the administration of judicial matters.

Another department whose work is almost entirely educative is that of Agriculture. In some instances the work of imparting instruction, whether by precept or example, is dealt with through the provincial agricultural colleges, but in Alberta the work is directed entirely, and in the other two provinces very largely, by the provincial departments direct. No branch of agriculture is neglected, and groups of earnest men are devoting themselves with whole-hearted energy to the task of directing the labours of the agriculturists of the prairie provinces so that they may achieve the best results. This work is not without indications of success. In 1911 exhibits from Alberta captured nearly all the first prizes at the American Dry Farming Congress, while in the same year a Saskatchewan farmer was awarded the first prize for his exhibit of wheat in New York, in open competition. It is no discredit to those provinces to record that the second and third places in the same competition were taken by Alberta and Manitoba farmers respectively.

Another educative influence raising the standard of the public welfare is to be found in the work of the provincial health officers. In a newly opened up country matters of sanitation are apt to be neglected. All three provincial

governments are alive to this danger, and active methods of preventing trouble, as well as of meeting and overcoming outbreaks of disease when they occur, are in force.

These provinces have advanced so far upon their way towards a high place in the civilized world that they have had to make provision for the care of the unfortunate and afflicted. Commodious and well-equipped asylums for the mentally diseased are to be found in each province, the sufferers from incurable bodily ailments are cared for at the public charge, and provision is made for the protection and training of neglected and dependent children.

All three provinces exercise supervision over such corporations as carry on their several businesses within their boundaries, whether organized under provincial law or not. This work falls in general upon the provincial secretary's department. Manitoba in 1912 took a step calculated to bring the operations of all such institutions more closely under public control and direction by the passage of a Public Utilities Act and the appointment of a Public Utilities commissioner. The act gives the commissioner wide powers of investigation and direction, and the operation of the law will no doubt be carefully watched by the other prairie provinces with a view to a decision as to how far the example set may be followed.

A simple and safe system of registering land titles is followed in all three provinces, under the general direction of the attorney-general. This system is that known among the legal fraternity as the 'Torrens' system, and the absolute security of the holder of a certificate of title and the simplicity of the procedure connected with its transfer are its most commendable features.

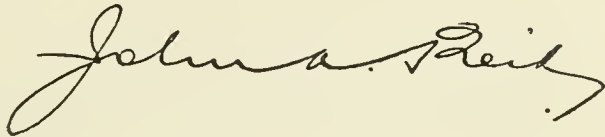
In order to properly provide for carrying on the government of these provinces, with their as yet sparse populations and wide areas, considerable revenues are required. The three prairie provinces are differently situated from all the other provinces of Canada in that they have not the control and administration of the public domain within their several boundaries, and so are unable to use that resource as a means of directly providing for their public needs. The Dominion

parliament has from time to time made provision for granting these provinces monetary compensation in 'lieu of the public lands.' In 1912 these grants amounted to \$375,000 per annum to each province, in addition to the other subsidy grants payable to assist in maintaining the 'Government and the Legislature,' to equalize the burden of the debt imposed upon the Dominion at its creation by the debts of the constituent provinces, and to return to the provinces that portion of the revenue from customs duties, paid proportionately to population, that has been mutually agreed upon as equitable. These grants from the Dominion form by far the most important parts of the public revenues of the provinces. Other revenues are derived from licences for various purposes and fees for services rendered by public officials. Additional moneys are obtained to provide for so-called 'capital' expenditure by the sale of public securities based upon the credit of each province. Moneys obtained in this way are only used to produce a definite public asset of a value equal to the full liability, and the borrowing power has in all cases been exercised with such regard to the general public interest that the credit of all three provinces stands high in the money markets of the world.

The credit of these provinces has also been utilized in an endeavour to further the public welfare indirectly. Bonds of railway companies have been guaranteed in order to give them something of the same value as the provincial securities in the money markets, so as to secure construction of needed railway facilities at the earliest practicable date. The expenditure of the moneys obtained in this way is carefully supervised by the provincial administrations, in order to ensure that it is utilized for the purposes for which it has been provided, and so that a sufficiently valuable asset will be available to support the liability should early anticipations not be realized and it become necessary, unfortunately for all parties concerned, for the provinces to implement their guarantees to pay principal or interest on any part of the moneys borrowed for these purposes.

The optimism which is so noticeable a characteristic of

the people living on the higher levels of the plains country in the interior of the whole North American continent, and which has in so many instances been justified by results, is not without its effect upon the administration of public affairs in these prairie provinces. The responsibilities of office, however, have hitherto proved a safeguard that has been, and may safely be expected to continue to be, effective in preventing too much regard being given to the more plausible phases of legislative or administrative projects for enhancing the well-being of the people without due consideration being at the same time given to the other side that belongs to every story.

A handwritten signature in cursive script, reading "John A. Reid". The signature is written in dark ink on a light-colored background. The first letter "J" is large and loops back under the rest of the name. The name is written in a fluid, connected style.

FINANCE AND TAXATION

FINANCE AND TAXATION

FINANCIAL HISTORY OF THE PRAIRIE PROVINCES

THE financial history of the prairie provinces may be said to date from 1870. It is true that in the previous year the territorial rights of the Hudson's Bay Company had been surrendered to the imperial government in exchange for a payment of £300,000 and the title to one-twentieth of the lands of the ceded territory. But it was not till July 1870 that Rupert's Land and the North-West Territory were formally transferred to the Dominion of Canada to be administered under the title of the North-West Territories.

In the same year the Province of Manitoba was created out of the south-east corner of the North-West Territories. Since then the area of the province has been twice extended—in 1881, when the boundary was carried westward from the 99th meridian of west longitude to its present position, and in 1912, when a large part of what had been known as the Territory of Keewatin was included, the boundaries of Manitoba being then carried north to the 60th parallel and north-east to where the 89th meridian intersects the southern shore of Hudson Bay. The present area of the province is 255,732 square miles, and the population in 1911 was 455,614, or 461,630 if we include the population (6016) of the territory added in 1912. The density of population in the enlarged province is now 1·8 per square mile, as against 6·18 in the province as it was in 1911.

On September 1, 1905, the Provinces of Alberta and Saskatchewan were created. The area of the former is 255,285 square miles and the population in 1911 was 374,663, or 1·47 per square mile, while Saskatchewan's area is 251,700

square miles and her population in 1911 was 492,432, or 1'95 per square mile.

The three prairie provinces are thus not greatly dissimilar in respect of area and population.

To understand the financial conditions and problems of the prairie provinces, it is necessary to recall the terms of the British North America Act, 1867, by article 91 of which the right of levying and collecting customs and excise duties is reserved exclusively for the Dominion parliament. The institution of a uniform tariff was indeed one of the professed objects of the advocates of Confederation. But, the provinces being thus deprived of what the experience of Old Canada and the Maritime Provinces had proved to be the chief source of revenue, it was necessary by way of compensation to make other provision for the financial needs of the provincial governments. This was done by the sections of the act which (a) secure to the provincial legislatures exclusive authority in respect of certain branches of taxation, (b) supplement the revenue accruing therefrom by an annual subsidy from the Dominion exchequer, and (c) provide for the Dominion relieving each province of the burden of a certain amount of debt, or paying to it interest on a certain assumed indebtedness where the actual debt is non-existent or falls short of the amount fixed as the debt allowance of that province. It will be convenient to consider first this last-mentioned item as it affects the prairie provinces.

The Debt Allowance.—At Confederation the debt allowances of the different provinces were adjusted on the *per capita* principle contended for by the Maritime Provinces, and the rate originally fixed was \$25 per head of population. Where the actual provincial indebtedness at the time of Confederation fell short of this allowance, as in the case of New Brunswick and Nova Scotia, the Dominion parliament agreed to add to its annual subsidy to the province interest at the rate of five per cent on the difference. But this *per capita* basis was not long adhered to. In 1869 Manitoba entered Confederation with an estimated population of 17,000 and with a debt allowance of \$472,000, all of which was an assumed indebtedness on which the Dominion

government had to pay interest at five per cent to the provincial government. This allowance was increased in 1873 when the federal government assumed the excess of the actual debts of Ontario and Quebec over their original allowance, and again in 1884 when the interest on this excess—which between 1867 and 1873 had been deducted from the subsidies to these provinces—was paid over by the Dominion. Once more, in 1886, Manitoba's allowance was increased, being brought up to \$3,707,196, the figure at which it stood till 1912, when it was again augmented by the financial provisions of the Manitoba Boundaries Extension Act, which placed it at last on a level with the allowances of the other prairie provinces, Alberta and Saskatchewan. For these provinces, on their establishment in 1905, the Dominion government assumed a debt, calculated on the basis of \$32.43 per head, amounting to \$16,215,000 for the two, or \$8,107,500 each.

When the scheme of debt allowances was originally formulated, it seems to have been intended that the sums placed to the credit of the different provinces in the debt account should remain there, only the interest at the rate of five per cent being withdrawn. But in 1874 an act was passed which permits the governor in council to advance at his discretion to any province such sums as may be necessary for local improvements, provided that the sums advanced are not in the aggregate greater than the amount by which the debt allowance of the province exceeds the actual provincial debt for which the Dominion is responsible. Later, in 1885, the passage of a provincial statute was made a necessary preliminary to such applications for advances. The apparent intention here is not to confer a right to use these funds for the ordinary purposes of government, but merely to allow of their use by the provincial government for local improvements, with the previous sanction of the provincial legislature.

Several of the provinces have availed themselves of the opportunity thus offered of obtaining advances to assist in meeting the expense of provincial public works. Manitoba has in this way drawn on the capital of her debt allowance to the extent of \$475,816, thus reducing the amount standing

to her credit to \$7,631,684, yielding at five per cent an annual income of \$381,584. As both the Dominion government and the provincial governments can borrow in the open market at much less than five per cent, it is clearly not in the interest of the latter, under ordinary conditions, to reduce the capital sum of their allowances, however convenient it might be for the Dominion that they should do so. Saskatchewan, according to the latest available statement, that given in the public accounts for the financial year ending February 29, 1912, has not diminished the capital of her debt allowance, the annual interest on which is given as \$405,375. In the case of Alberta the statement of revenue reveals nothing on this head, giving as it does merely the total annual subsidy and not its constituent elements separately. But the capital of her debt allowance also is untouched.

The interest on debt allowance is, however, only one, and that not the most important, of the items in the annual grant known to those familiar with the provincial accounts as the Dominion subsidy. The other items are a grant or subsidy of eighty cents per head of population, an allowance for government and legislation, and an allowance in lieu of public lands.

The Eighty Cents per Head Subsidy.—While the Dominion at Confederation took over many of the functions formerly discharged by the authorities of the different colonies, there still remained to the provinces several important and costly functions, including the administration of justice, education, the establishment, maintenance, and management of prisons, asylums, hospitals, and eleemosynary institutions, the provision of municipal institutions, roads and bridges, etc. The subsidy or grant of eighty cents per head of population is a contribution towards the expense involved in the discharge of these duties.

On its entrance into the Dominion in 1870 Manitoba was granted an annual subsidy of eighty cents per head on an estimated population of 17,000. This was to be augmented in proportion to the increase of population shown by the census of 1881 and each subsequent decennial census until the population reached 400,000, after which the amount

of the grant was to remain fixed, and to be in full settlement of all future demands on Canada. In accordance with this provision the *per capita* grant was increased in 1882 by taking the estimated population as 150,000, and this was to be further augmented with the growth of population as shown by each quinquennial census and intermediate estimates till the fixed population limit of 400,000 was reached. The policy of fixing the exact amount at eighty cents *per capita* on the basis of a limited population is open to the criticism that it seems to have taken account only of the estimated minimum cost of the absolutely necessary functions still left to the provincial governments. No allowance was made for the natural and inevitable increase in expenditure, through the growth in variety and in costliness of the admitted functions, which the progress of civilization inevitably involves. History, however, furnishes an ironic commentary on the idea of the fixed limit and the finality of legislative enactments. The allowance scheme was again revised in 1907 and a scale was fixed for all the provinces by the British North America Act of that year. Under that act the annual payment is to be at the same rate of eighty cents per head, but on the population of each province as ascertained from time to time by the last decennial census—in the prairie provinces the last quinquennial census—till the population reaches 2,500,000, and then at the rate of sixty cents per head for any excess of population over that limit. The inevitable statement follows that this 'shall be a final and unalterable settlement.' Under this arrangement Manitoba now receives annually eighty cents per head on a population, as ascertained by the census of 1911, and including that of the territory added in 1912, of 461,630, or \$369,304.

Alberta and Saskatchewan, on their establishment, were granted an annual allowance of eighty cents *per capita* on an assumed population of 250,000, *i.e.* \$200,000, as a minimum; and this was to increase till the population reached 800,000. But their allowances, like that of Manitoba, are now governed by the British North America Act of 1907.

This subsidy clearly violates the sound constitutional and economic principle that upon those who spend the money

should rest the responsibility of finding it. But necessity knows no law, and without such a provision the provinces would have declined to enter Confederation.

Allowance for Government and Legislation.—The next item in the subsidy is the grant to each of the provinces forming the Dominion of a specific sum annually towards the expenses of its government and legislature. The manner in which this sum is to be expended is left entirely to the discretion of the provincial governments. Under this head Manitoba, on being created a province of the Dominion, received a grant of \$30,000 annually, increased to \$50,000 in 1882, while Alberta and Saskatchewan, on their establishment as provinces in 1905, were also each granted \$50,000 annually. In 1907 a scale was adopted for all the provinces under which those with a population less than 150,000 receive \$100,000 annually; those with 150,000 to 200,000, \$150,000; those with 200,000 to 400,000, \$180,000; those with 400,000 to 800,000, \$190,000; those with 800,000 to 1,500,000, \$240,000. In accordance with this arrangement Manitoba's present allowance is \$190,000, that of Saskatchewan \$190,000, and that of Alberta \$180,000.

Apart from the specific annual sum, Saskatchewan and Alberta were each granted an additional sum of \$93,750 for five years, or \$468,750 in all, towards the expense of public buildings. Manitoba under the agreement of 1912 received a like sum, less \$267,026 expended by the Dominion on the existing public buildings in the province, *i.e.* \$201,724.

Allowance in Lieu of Public Lands.—No subject connected with the financial relations of the Dominion and the provinces has aroused more controversy than that of the crown lands. At Confederation the older provinces, including British Columbia on its admission in 1871, were allowed to retain all their lands, mines, minerals, and royalties, and all sums then due or payable therefor. They have, moreover—save in the case of Prince Edward Island, which has no public lands—derived a large percentage of their revenue from this source. But the position of the prairie provinces has been very different in this respect. In taking over the debts of the provinces the Dominion government took over also the

assets in the form of canals, railways, and other public works for the construction of which the debts had been for the most part incurred. The crown lands, however, were in a different position. They had been transferred by the British crown to the original colonies long before Confederation, and they were the source from which the provinces were now expected to derive a large, if not the chief, part of their revenue. But when Canada bought out the territorial rights of the Hudson's Bay Company, it was a natural assumption that the new territory thus acquired would be held for the benefit of the whole Dominion. In accordance with this view, when the Province of Manitoba was created in 1870 she did not receive from the Dominion the title to public or ungranted lands within her borders. It was provided that these should be 'vested in the Crown, and administered by the Government of Canada for the purposes of the Dominion.'

Whatever may be said for this policy in point of strict justice, there is unquestionably here a striking contrast between the generous treatment of the original colonies by the mother country and that meted out by the Dominion to its western offspring. The policy, however, in all its rigidity, could not be adhered to in practice, for it meant leaving Manitoba without any territorial source of revenue such as played an important part in the finances of the older provinces; and this constituted at once a financial grievance and a subject of political agitation in Manitoba. Thus in 1882, when Manitoba's *per capita* grant on population was increased, she received also from the Dominion, as an indemnity for her public lands, an annual subsidy of \$45,000. But the discontent throughout the province on this subject continued and found frequent expression till it again forced the hand of the Dominion government, and in 1885 the indemnity was raised to \$100,000. At the same time further concessions were made. An endowment not exceeding 150,000 acres of land 'of fair average quality,' to be selected by the Dominion government, was granted to the University of Manitoba 'for its maintenance as a University capable of giving proper training in the higher branches of education.' Further, all crown lands in Manitoba shown to the satisfac-

tion of the Dominion government to be swamp-lands were transferred to the province 'to enure wholly for its benefit and uses.' Under this arrangement 2,012,416 acres of swamp-lands were at different dates transferred to the province, of which 848,274 acres had been sold by the province for \$3,189,168 prior to the agreement embodied in the Manitoba Boundaries Act, 1912. By this act the 1,164,142 acres unsold by the province were retransferred to the Dominion, and Manitoba's allowance in lieu of public lands was placed on the same basis as those of Saskatchewan and Alberta.

On the establishment of these provinces in 1905 the same policy had been followed of retaining the crown lands in the hands of the Dominion and allowing the provinces an indemnity. But the allowance granted to them had been much more generous than that of Manitoba. Each had been granted in lieu of lands an annual sum based on population as ascertained by the result of each quinquennial census. The population being then assumed as 250,000, the sum payable was to be \$375,000 till 400,000 was reached, then \$562,500 up to 800,000, and thereafter \$750,000 till the population reached 1,200,000, beyond which it was to be \$1,125,000.

The act of 1912, as already mentioned, has given identical terms to Manitoba. In other words, Manitoba now receives annually in lieu of public lands \$562,500, but from this she has to allow to the Dominion \$153,493, being five per cent interest on (a) \$300,000 for the university lands, (b) \$2,769,857, this being the value of the swamp-lands sold by the province (for \$3,189,168) after deducting the cost of inspection formerly charged against the province (\$211,943) and the allowance for administration (\$207,368). This leaves an annual sum of \$409,007 to be received from the Dominion by Manitoba as indemnity for her public lands.

School Lands Fund.—In addition to the annual subsidy there appears in the public accounts of the different provinces, under the head of receipts from the Dominion of Canada, another item, namely the revenue from the school lands. By the Dominion Lands Act, sections 11 and 29 in every surveyed township in Manitoba, Saskatchewan, and

Alberta are set apart as an endowment for purposes of education, and are designated school lands. These lands may only be sold by public auction, the governor in council having first fixed an upset price not less than the fair value of corresponding unoccupied lands in the same township. The moneys thus from time to time realized are invested in securities of Canada to form a school fund, the interest of which, less cost of management, is paid annually to the provincial government 'towards the support of schools organized and carried on in accordance with the law of the Province.' It is clear, however, that this revenue is not at the disposal of the provincial governments for other than the purpose for which it is assigned. They are in respect of it simply trustees to carry out the provisions of the act.

PROVINCIAL TAXATION

There remains to notice the provision made by the British North America Act, 1867, for the financial needs of the provinces in the way of taxation. Article 92, as interpreted by the Privy Council, grants to the provincial legislatures exclusive authority in respect of: (a) direct taxation within the province, in order to the raising of a revenue for provincial purposes; (b) shop, saloon, tavern, auctioneer, and other licences, in order to the raising of a revenue for provincial, local, or municipal purposes.

But while the provinces were thus granted the right of direct taxation, it seems clearly to have been the expectation that their financial needs would be adequately met by the subsidies already described, supplemented by the territorial revenue where the province was fortunate enough to possess public lands. Experience, it is true, very early showed this expectation to be but ill-founded. So great, however, has been the prevailing prejudice in Canada against any form of direct taxation, that the provincial governments, before resorting to it, naturally sought relief in other directions. This led, on the one hand, to repeated attempts by the provinces, individually and collectively, to secure increased subsidies from the Dominion government, the latest

fruits of which are seen in the British North America Act of 1907 and the Manitoba Boundaries Act of 1912. On the other hand, it led the provincial legislatures to leave as far as possible certain expensive services, such as the making of roads, to the municipalities, thereby shifting the unpopularity incident to the levying of direct taxes on to the shoulders of the local authorities. The increase in the number and in the expensiveness of the necessary public services which could not be thus shifted has, however, especially within the last twenty years, compelled the provincial legislatures to exercise more and more fully their right of direct taxation. The need of this was especially apparent in the case of Manitoba, which had no 'territorial' revenue save that from the swamp-lands transferred to the province under the arrangement of 1885.

The most important direct taxes imposed by the provincial legislatures are the liquor licences, corporation and railway taxes, and succession duties. Other direct taxes, such as the general property tax and the income tax, have as a rule been left to the municipalities, for the right of the provincial legislature to impose direct taxation was held to include the right to impose such taxes upon a particular locality for a local purpose, and hence also the right to delegate the exercise of this power to any local authority within the province. It is interesting to observe that the policy in this respect of the Canadian provinces is that towards which the States to the south are moving. There the tendency is to hand over the general property tax to the local bodies, and to rely for state revenue more and more upon taxes on corporations, inheritances, and licences.

In the development of her tax system, Manitoba has, generally speaking, followed the example and profited from the experience of Ontario. This was so in the case of the Corporations Taxation Act and the Railway Taxation Act of 1900, which transferred these corporations from the sphere of municipal to that of provincial finance save in respect of their real estate. Under the former act provision is made for the taxation of banks, insurance companies, loan and trust companies, street railway, telegraph, telephone, gas,

electric lighting, and express companies, while the Railway Taxation Act is applicable to steam railways only.

Similar acts were passed by the legislatures of Saskatchewan and Alberta in 1907 and 1908. But for the methods of taxation, and the rates imposed on the different classes of corporations, reference must be made to the terms of the statutes themselves.

The taxation of railways, however, calls for special mention. Under the charter granted by the Dominion government to the Canadian Pacific Railway Company in 1881, the property of the company was to be free of all taxation, and in the Alberta and Saskatchewan Acts of 1905 the company's property and capital stock is declared exempt from taxation. The Saskatchewan legislature, however, holding that this exemption applied to real and personal property only, attempted, in its Railway Taxation Act of 1908, to make the company contribute to the provincial revenue by levying a tax on the gross earnings of railways. The company contests the claim, but the point at issue has not yet been legally decided, and in the meantime the company has by agreement been paying to the Saskatchewan government the sums for which it would be liable under the act. The exemption granted in the company's charter, however, can apply only to the main line and branches built under that charter, and not to the other lines now operated by the company within the limits of the province. It would appear to be applicable also to the Canadian Pacific Railway Company's main line running through the western part of the Province of Manitoba, which was added to the original province in 1882. On this ground the Manitoba government, instead of taxing the Canadian Pacific Railway, according to statute, two per cent of its gross earnings, has agreed to accept from it a lump sum of \$100,000 ; and it has extended equally generous treatment to the Canadian Northern Railway, accepting from it \$40,000 per annum in lieu of two per cent of its gross earnings, although the latter has no legal claim to exemption.

Succession duties were introduced in Manitoba by the act of 1893. A graduated scale with rates varying from one

to ten per cent was adopted, and levied on all estates exceeding \$4000. The scale of progression was based not on degree of relationship but simply on the amount of property in question. Relationship was taken account of only to the extent of exempting \$25,000 passing to direct heirs, and \$7000 passing to one individual in the direct line.

In Saskatchewan and Alberta the system of succession duties in force is identical in the two provinces, and is in fact, with but slight modification, an inheritance from an ordinance of the North-West Territories of 1903. Estates not exceeding \$25,000 are exempt when passing to direct heirs, and up to \$5000 when passing to one direct heir. But when not exempt the estate is taxed on the full value, and the rates vary with relationship, being for direct heirs from one and one-half to five per cent according to the amount passing, a uniform five per cent for collaterals and ten per cent for others.

Arch. B. Clark

THE JUDICIAL SYSTEMS OF THE
PRAIRIE PROVINCES

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I

THE JUDICIAL SYSTEM AND COURTS OF MANITOBA

GENERAL HISTORY OF THE JUDICIAL SYSTEM

ADIP into the pages of history will help towards a clear understanding of the judicature of the Province of Manitoba and the system of law prevailing therein at the present time.

To Pierre Esprit Radisson—designated, by a modern historical romancer, the ‘prince of pathfinders, prince of pioneers, prince of gamesters’—and his brother-in-law Chouart, Sieur des Groseilliers, is ascribed the distinction of being the first of all white men to penetrate beyond Lake Superior into the country afterwards known as the Red River Settlement. In a valuable monograph, *The Rise of Law in Rupert's Land*, Archer Martin says: ‘These dauntless traders were the first to penetrate into a part of what is now Manitoba, preceding the gallant La Vérendrye by about seventy years.’ True, there are some authorities who stoutly assert that La Vérendrye’s claim to pioneer honours in this territory is indisputable. But be this as it may, it is abundantly clear that Radisson and Groseilliers were primarily responsible for the activity displayed by Prince Rupert in furthering British occupancy of the shores of Hudson Bay and contiguous territory. After having failed to interest their compatriots in Canada and France in the project of establishing settlements there, these two adventurers offered their services to the

English for a like purpose. In England they found response to their appeal—*Quae caret ora cruore nostro?* Obtaining an interview with Prince Rupert, they persuaded him of the feasibility of their proposals. As a result they had the influence of the prince in the business of securing two ships in the port of London and fitting them out for a voyage to Hudson Bay—the *Eaglet*, Captain Stannard, and the *Nonsuch*, Captain Gillam. Radisson sailed with Captain Stannard and Groseilliers with Gillam. The two vessels became separated by a storm, but according to Oldmixon¹ Groseilliers and Gillam on the *Nonsuch*

pass'd through Hudson's Streights and then into Baffin's Bay to 75 Degrees, and thence Southward to 51 Degrees, where in a river, afterwards call'd Prince Rupert's River, he had a friendly Correspondence with the Natives, built a Fort, named it Charles' Fort and returned with Success. . . . When Gillam returned, the Adventurers concerned in fitting them out apply'd themselves to King Charles II for a Patent, who granted one to them, and their Successors, for the Bay called Hudson's-Streights.

Much has been written about the Hudson's Bay Company and the adventures of its pioneers in the great lone lands of the North and West, so much indeed that the writing has lost its piquancy for the ordinary reader. But to the student of political history the career of this great corporation is of abiding interest and value. When Adam Smith expressed the opinion that 'the government of an exclusive company of merchants is perhaps the worst of all governments for any country whatever,'² he had in mind the principle of trade monopoly and its potential evils, rather than any view of the great chartered companies of Britain as factors in colonial expansion. Whatever its past record as a monopoly, the commercial side of the Hudson's Bay Company may now safely be left to the tender mercies of its trade competitors. But its importance in the domain of empire-building only ceased with the surrender of all the company's territory (save certain blocks of land adjoining each of its posts or stations

¹ *British Empire*, vol. ii. pp. 544-55.

² *Wealth of Nations*, chap. vii. pt. ii.

—amounting in the aggregate to some 45,160 acres) in British North America, and of all its rights of government, and other rights and privileges therein except those of trading and commerce, to the Dominion of Canada in the year 1869. Down to that time the political status of the company, in relation to the sovereignty of Great Britain over the territory granted to it, was that of an *imperium in imperio*.

The political or governmental rights of the company,¹ involving both legislative and juridical functions, are found in the following provisions of the charter of 1670 :

We do grant unto the said Governor and Company &c. that it shall and may be lawful to and for the said Governor and Company &c. from time to time to assemble themselves for or about any of the matters, causes, affairs or business of the said trade, in any place or places for the same convenient, within our Dominions or elsewhere and there to hold Court for the said Company and the affairs thereof ; and that also it shall and may be lawful for them and the greater part of them, being so assembled, and that shall then and there be present, in any such place or places whereof the Governor or his Deputy for the time being to be one, to make, ordain and constitute such, and so many reasonable laws, constitutions, orders and ordinances as to them, or the greater part of them being then and there present, shall seem necessary and convenient for the good government of the said company, and of all governors of colonies, forts and plantations, factors, masters, mariners, and other officers employed or to be employed in any of the territories and lands aforesaid, and in any of their voyages ; and for the better advancement and continuance of the said trade, or traffic and plantations : And the same laws &c. so made to put in use and execute accordingly, and at their pleasure to revoke and alter the same, or any of them, as the occasion shall require. And that the said Governor and Company, so often as they shall make, ordain or establish any such Laws, constitutions &c. shall and may lawfully impose, ordain &c. such pains, penalties and punishments upon all offenders contrary to such

¹ For the proprietary rights of the Hudson's Bay Company see section 1. p. 166 *et seq.*

laws &c. as to the said Governor and Company &c. shall seem necessary, requisite or convenient for the observation of the same laws &c. : All and single which Laws &c. to be made We will to be duly observed and kept under the pains and penalties therein to be contained : So always as the said Laws &c. be reasonable and not contrary or repugnant, but as near as may be agreeable to the Laws, Statutes or Customs of this Realm. . . . And We do further . . . grant to the said Governor and Company of Adventurers of England trading into Hudson's Bay that all lands, islands, territories, plantations, forts, fortifications, factories or colonies, where the said Company's factories and trade are and shall be . . . shall be immediately and from henceforth under the power and command of the said Governor and Company &c., saving the faith and allegiance due to be performed to Us, Our heirs, &c. : And that the said Governor and Company shall have liberty, full power and authority to appoint and establish Governors and all other officers to govern them, and that the Governor and his Council of the several and respective places where the said Company shall have plantations, forts, factories, colonies or places of trade within any of the countries, land or territories hereby granted, may have power to judge all persons belonging to the said Governor and Company, *or that shall live under them*, in all causes whether civil or criminal, according to the laws of this Kingdom, and to execute justice accordingly. And in case any crime or misdemeanor shall be committed in any of the said Company's plantations &c. where judicature cannot be executed for want of a Governor and Council there, then in such case it shall and may be lawful for the Chief Factor of that place and his Council to transmit the party, together with the offence to such other plantation &c. where there shall be a Governor and Council, where justice may be executed, or into this Kingdom of England, as shall be thought most convenient, there to receive such punishment as the nature of his offence shall deserve.

The foregoing clauses of the charter would seem to confer plenary legislative and juridical authority upon the company and its functionaries over the general inhabitants of Rupert's

Land ;¹ but it can be readily understood that the commercial interests of the company would be the prime concern of its early career, and that legislation and the systematic administration of justice would consequently suffer more or less neglect.

It will be observed from the portions of the charter above transcribed that 'Rupert's Land' was the general designation of the whole geographical area granted to the company. For more than a century this vast and sparsely settled territory was controlled by the company by means of forts and trading-posts erected here and there wherever convenience dictated.

The boundaries of Rupert's Land were never determined with precision. 'Speaking roughly, the country known by that name comprised the territory watered by streams flowing into Hudson Bay ; but the Company had extended their operations and assumed jurisdiction over other parts of the North-West Territory.'² In 1811 the company granted to the Earl of Selkirk some 116,000 square miles of land, comprising what was thereafter known as the Red River Settlement, reserving from such grant all the company's 'rights of jurisdiction' arising under its charter. Lord Selkirk's project was to settle a Scottish colony upon the lands thus acquired. Captain Miles Macdonell was appointed, by the Hudson's Bay Company, governor of the District of Assiniboia, by which name the Selkirk settlement was called in the records of the company. Settlers began to arrive in the colony from Sutherlandshire and other parts of Scotland in 1812 and 1813 ; and shortly afterwards trouble arose between them and the French and half-breed employees of the North-West Company by reason of a land surveyor, in laying off the lots for the Scottish settlers, running one of his lines through the middle of the garden of the North-West Company's post.³ This difficulty was rendered acute by Governor

¹ See Report of Sir F. G. Johnson, C.J., acting as special commissioner to investigate the state of the Laws of Manitoba, *Boundary Report*, 1880, p. 101 *et seq.*

² W. H. P. Clement, *Canadian Constitution*, 2nd ed. p. 367.

³ Archer Martin, *Hudson's Bay Company's Land Tenures*, p. 9.

Macdonell's formal notice to the North-West Company, in October 1814, to quit its posts and premises at the Forks of the Red River, and culminated in the massacre at Seven Oaks on June 19, 1816, of Governor Semple, of the Hudson's Bay Company, and twenty-seven of his men by their rivals. The scheme of colonization so inauspiciously begun never bettered its fortunes. Lord Selkirk died in 1820, and his executors found that the venture had cost his estate some £85,000—'an amount the colony would not have realized had it been sold off at auction even twenty years after it was founded.'¹ In the end the interest of the Selkirk estate in the lands of the colony was purchased by the Hudson's Bay Company about the year 1836, and the title reverted to the company.

It was in the Red River Settlement (or the District of Assiniboia, as we have seen the country was designated in 1811) that an organized judicature first came into existence in any of the territories controlled by the Hudson's Bay Company. Even so early in the nineteenth century as 1803, the Colonial Office felt it necessary to the maintenance of law and order in the unorganized portions of British North America to extend the jurisdiction of the courts of Upper and Lower Canada to offences committed there. To effect this purpose the imperial act, 43 Geo. III, cap. 138, was passed, and some doubts having arisen as to whether that act applied to the Hudson's Bay Company's territories, by 1 and 2 Geo. IV, cap. 66 (1821), intituled 'An Act for regulating the Fur Trade and Establishing a Council and Civil Jurisdiction within certain parts of North America,' it was enacted that the first-mentioned statute should extend to and be in full force in and through 'all the territories heretofore granted to the Company of Adventurers of England trading into Hudson's Bay.' But nothing was done in a concrete way towards the effective administration of justice in Rupert's Land (beyond, indeed, the appointment of sheriffs for the Districts of Assiniboia and Moose by a general court of the company held in London in May 1815) until the creation by the company under the authority of their charter of a general court of Assiniboia in

¹ Alexander Ross, *Red River Settlement*, p. 171.

1839. In the spring of that year, Adam Thom, of the Montreal bar, arrived at Red River and entered upon his duties as recorder. Thom also acted as legal adviser to the governor of Assiniboia, and was the senior member of the governor's council.¹ At the trial of Ambrose Lépine in 1874 for the murder of Thomas Scott at Fort Garry in 1870, exception was taken to the jurisdiction of this general court of Assiniboia. It was argued with great force by eminent counsel for the prisoner that from the time of the resignation of the council of Assiniboia in 1869, until Canada assumed the control of the courts by act of parliament in 1871, the cognizance and jurisdiction of criminal cases arising within the territory of Assiniboia was vested in the imperial government. They contended that under the imperial act of 1821 above mentioned, criminal cases committed in the North-West as a whole could only be tried by the courts of Upper and Lower Canada; that this jurisdiction was transferred to the courts of the united provinces of Canada by the imperial act of 1841; that such last-mentioned act was itself repealed by the British North America Act, 1867; that the Rupert's Land Act, passed in 1868, provided that from a certain day to be fixed by order-in-council, Canada should possess all rights of government in Rupert's Land; that such order-in-council was not passed until June 1870 (subsequent to the murder of Scott); that the Manitoba Act under which courts in the province were constituted was not passed until 1871, and contained express provision against its retroactivity. In view of all of which it was submitted that the court should dismiss the case and liberate the prisoner. Edmund Burke Wood, C.J., sitting with Justices Betournay and M^cKeagney, who concurred, delivered an exhaustive judgment, in the course of which he declared that the general authority and jurisdiction of the court was not statutory but prerogative, being wholly derived from the powers conferred upon the Hudson's Bay Company by the charter of King

¹ While acting in the last-mentioned capacity on the trial of James Calder for murder in 1848, Thom maintains the expediency of criminals being tried by the courts created by the company instead of being haled to the Canadas for arraignment.

Charles II. In his opinion jurisdiction over the case then before the court was clear and unassailable, for not only had the imperial government been aware of the existence of the court and its operations for some thirty years, but its jurisdiction and authority were recognized and continued in force until altered by the parliament of Canada by the provisions of section 5 of the Rupert's Land Act, 1868 (Imp.).

A perusal of the late Justice Killam's judgment in *Sinclair v. Mulligan*,¹ where he deals in a most interesting and instructive way with the history of the general court of Assiniboia, will lead to the conclusion that the laws administered by Recorder Thom in that tribunal were those which existed in England at the date of the Hudson's Bay Company's charter, so far as they were applicable to the colony.

By ordinance of April 11, 1862, the council of Assiniboia declared that

in place of the laws of England of the date of the Hudson's Bay Company's charter, the laws of England of Her Majesty's accession, so far as they may be applicable to the colony, shall regulate the proceedings of the General Court, till some higher authority or this Council itself shall have expressly prescribed either in whole or in part to the contrary.

By a similar ordinance of January 7, 1864, the council declared that

the proceedings of the General Court shall be regulated by the laws of England not only of the date of Her present Majesty's ascension, so far as they may apply to the colony, but also by all such laws of England of subsequent date as may be applicable to the same ; in other words, the proceedings of the General Court shall be regulated by the existing laws of England for the time being, in as far as the same are known to the Court and as applicable to the condition of the colony.

On appeal in *Sinclair v. Mulligan*,² Taylor, C.J., construed these two ordinances as regulating the procedure in

¹ 1886, 3 Man. Rep. at p. 487.

² 1889, 5 Man. Rep. at p. 23.

the general court only, and not extending to matters of substantive law in the colony.

A practical example of the application of English law to such a question as the descent of real property in the colony is to be had in the case of *Re Tait*.¹ Killam, J., expressing the opinion of the Court of Queen's Bench, there declares that in the case of any land being held in Manitoba between July 15, 1870, and the passing of the first Intestacy Act on May 3, 1871, for an estate of such character and tenure as by the law of England would descend to the eldest son upon the death of the holder, such land would descend in the same way in that province, *i.e.* according to the rule of primogeniture.²

By section 146 of the British North America Act, 1867, it was enacted that Rupert's Land and the North-West Territory might be admitted into the Canadian Union upon terms and conditions therein mentioned. By the Rupert's Land Act, 1868, all the lands and territories claimed to be held by the Hudson's Bay Company in British North America were authorized to be surrendered by the company to the crown. By a deed of surrender between the company and the crown, dated November 19, 1869, all such lands and territories (some 45,160 acres being excepted, as appears *supra*) were conveyed to the crown in order that Rupert's Land (defined by the last-mentioned act to include all such lands and territories) should be admitted into the Dominion of Canada. On May 12, 1870, the Manitoba Act (33 Vict. cap. 3, Can.) was assented to, whereby provision was made for the admission of Rupert's Land and the North-Western Territory into the Dominion of Canada by an imperial order-in-council. Provision was also made thereby for the formation of a province out of such land and territory, to be called the Province of Manitoba, *ipso facto* upon the order-in-council being passed. On June 23, 1870, an order of Her Majesty in council was passed providing for the admission of the regions in question into the Dominion on July 15 of

¹ 1890, 9 Man. Rep. at p. 622.

² See also the observations of Chief Justice Mathers in *Larence v. Larence*, 1911, 21 Man. Rep. at p. 148.

that year. The Province of Manitoba (with boundaries that have since been altered and considerably extended) sprang into being as a part of Canada on the last-mentioned date. The Dominion statute known as the Manitoba Act was confirmed by the imperial statute known as the British North America Act, 1871.

It is important at this stage to examine the several statutes bearing upon the constitution of the courts in the new province and upon the system of laws administered therein. By the Rupert's Land Act it was provided that until otherwise enacted by the parliament of Canada all the powers, authorities, and jurisdiction of the several courts of justice then established in Rupert's Land should continue in full force and effect therein. A provision much to the same effect was contained in section 6 of the Dominion Act of 1869, *i.e.* 32-33 Vict. cap. 3. By the Manitoba Act (33 Vict. cap. 3, sec. 36) the Dominion parliament continued the last-mentioned act in force until the end of the session of parliament next succeeding the first day of January 1871. In 1871, by 34 Vict. cap. 2, the legislature of the Province of Manitoba established the Supreme Court of Manitoba, now known as the Court of King's Bench. It provided (section 38) that 'as far as possible consistently with the circumstances of the country, the laws of evidence and the principles which govern the administration of justice in England shall obtain in the Supreme Court of Manitoba.' This is probably to be treated as legislation touching procedure only.¹ The fact is that the Supreme Court of Manitoba was not really organized and brought into operation until the appointment of a chief justice to the court was made in 1872. Alexander Morris was sworn into office as chief justice on August 14, 1872. Between the coming into existence of the Province of Manitoba on July 15, 1870, and the first sitting of the court at Winnipeg in the autumn of the year 1872, the general court of Assiniboia continued to exercise its jurisdiction.

¹ Cf. *Sinclair v. Mulligan*, 3 Man. Rep. at p. 489.

COURT OF KING'S BENCH

At the present time the constitution and jurisdiction of the Court of King's Bench of Manitoba is regulated by chapter 40 of the Revised Statutes of Manitoba, 1902, and amending acts. The court consists of a chief justice styled the 'Chief Justice of the Court of King's Bench,' and five puisne judges. The court possesses all such powers and authorities as by the laws of England are incident to a supreme court of record of original civil and criminal jurisdiction in all matters civil and criminal whatsoever. From the time of the organization of the court down to the year 1906 the judges of the King's Bench sitting *en banc* exercised jurisdiction as the ultimate court of appeal within the province. In that year a court of appeal was created which relieved the King's Bench of its chief business in appeals, a matter to which we refer at length *infra*.

In respect of the practice and procedure of the court, it is impossible here to do more than indicate its general features. Suffice it to say that the system is not only modelled upon but almost wholly borrowed from that prevailing in England at the present day. To that end the Queen's Bench Act, 1895, effected a fusion of law and equity jurisdiction in the court both in respect of substantive and adjective matters. For the removal of all doubts and ambiguity it was expressly declared by that act (section 26) that the Court of Queen's Bench should have the like jurisdiction and powers as by the law of England were on July 15, 1870, possessed and exercised by the Court of Chancery in England in respect of the following matters relating to : (a) fraud, mistake, and accident ; (b) trusts, executors and administrators, copartnerships and accounts, mortgages and awards, or to infants, idiots, or lunatics and their estates ; (c) the staying of waste ; (d) specific performance of agreements and contracts ; (e) discovery of documents or facts, or such as may be wrongfully withheld from the party claiming the benefit of the same ; (f) multiplicity of actions ; (g) the decreeing of the issue of letters patent from the crown to rightful claimants ;

(*h*) the decreeing of the repeal of letters patent issued improvidently or by mistake or fraud ; (*i*) the administration of justice in all cases in which there exists no adequate remedy at law ; (*j*) injunctions staying waste ; and (*k*) damages in cases where the remedy is an equitable one. The court has also power to relieve against a forfeiture for breach of a contract in a lease to insure the lessor against loss or damage by fire in certain cases. Jurisdiction in actions for alimony and for criminal conversation is exercisable in this court, the law applying to such cases being that which obtained in England prior to the abolition of such actions. A judgment for alimony upon registration binds the lands of the defendant in the same way as the charge of a life annuity on his lands.

The court also has the same jurisdiction as that exercisable by the Court of Chancery in England on July 15, 1870, in respect of leases and sales of settled estates, and in regard to enabling infants, with the approbation of the court, to make binding settlements of their real and personal estate, or marriage. Questions affecting the validity of last wills and testaments are also cognizable before this court. The court also has certain powers in respect of probates, administrations and matters and causes testamentary concurrent with those of the surrogate courts.

Further matters of jurisdiction inhere in the court's power over lunatics and infants and their property, and in respect of partitions and sales of real estate as provided by the Partition Act, chap. 128, R. S. Man., 1902.

The judges of the Court of King's Bench exercise criminal jurisdiction under the provisions of the Criminal Code of Canada.

THE COURT OF APPEAL

The present Court of Appeal for the province was created in the year 1906. It consists of a chief justice and four puisne judges. By a statute passed in 1911 the chief justice of the Court of Appeal, or, in the case of his absence or illness, any two judges of that court, may request any judge of the Court of King's Bench to sit as a member of the Court of Appeal and to take part in the hearing and decision of any appeal

or matter coming before that court. The chief justice and judges of the Court of Appeal are also *ex officio* judges of the Court of King's Bench, and may preside over any civil or criminal trials therein. The appellate jurisdiction exercisable by the Court of King's Bench sitting *en banc* before the coming into force of the act creating the Court of Appeal is now vested in the latter court. Appeals lie to the Court of Appeal from the judgment of a single judge of the Court of King's Bench, the verdict of a jury therein, the judgment of a county court judge or verdict of a jury therein, in civil and criminal cases.

There are five regular terms of the court in each year, but the judges of the court, or any three of them, may appoint special sittings of the court *en banc* to be held at any other time for hearing and disposing of appeals or applications which in their opinion should be heard before the next regular sitting of the court.

COUNTY COURTS

For the purposes of the county courts the province is divided into a number of judicial districts in which one or more of the county court judges exercise jurisdiction. At the present time there are five of these districts, styled respectively the eastern, the central, the western, the northern, and southern judicial districts, the first mentioned being subdivided into the northern and central divisions. Under the provisions of the County Courts Act (R. S. Man. cap. 38) the lieutenant-governor in council may alter the existing judicial divisions and establish new ones at any time. All the expenses of maintenance of the county courts and of the officers connected therewith, except the payment of clerks and bailiffs, are borne by the municipalities constituting the judicial division in which such courts exercise jurisdiction.

The salaries of the county court judges are paid by the Dominion government. More than one county court judge may be appointed for any judicial district or county court division within the province, the judge last appointed in such case being designated as the junior judge. Provision is also made in certain cases for any county court judge to act in

the place and stead of another judge of such court. The judge must reside within the district or division over which he has jurisdiction. Deputy judges may also be appointed in the county courts. The county court judges are prohibited from practising the profession of attorney or solicitor for profit or emolument while holding office. Every county court judge is *ex officio* a justice of the peace for the province, and possesses all the powers of two or more justices of the peace. Power to make rules of practice and procedure in the county courts is vested in a judicial board composed of all the county court judges in the province. The lieutenant-governor in council appoints the clerks and bailiffs of the county courts and may remove them at pleasure. These officers are paid by fees fixed by the lieutenant-governor in council, which are recoverable by judgment and execution against the party liable for the same.

The county courts have jurisdiction in all actions for legal or equitable claims and demands of debt, account or breach of contract, or covenant or money demand, whether payable in money or otherwise, when the amount or balance payable does not exceed \$400. They have jurisdiction also in respect of actions of tort for damages in any amount not exceeding \$250, and for replevin of goods not exceeding \$250 in value. They are expressly debarred from jurisdiction in the following cases: (a) actions for any gambling debt; (b) actions for spirituous or malt liquors drunk in a tavern, hotel, saloon, or alehouse; (c) actions on notes of hand given wholly or partly for a gambling debt, or for spirituous or malt liquors drunk in a tavern, hotel, saloon, or alehouse; (d) actions of ejectment or for the recovery of land, or actions in which the right or title to any corporeal or incorporeal hereditaments, or any toll, custom, or franchise, comes in question; (e) actions in which the validity of any demise, bequest, or limitation under any will or settlement may be disputed; (f) actions for malicious prosecution, libel, slander, criminal conversation, seduction, or breach of promise of marriage; (g) actions against a justice of the peace or other peace officer for anything done by him in the execution of his office if he objects thereto.

The rules of practice and procedure in the county courts

may be found in the Revised Statutes of Manitoba, 1902, chapter 38. Such amendments as have been made since the publication of that revision are contained in the annual statutes of the provincial legislature. The rules provide for the reference of any case pending in the court to arbitration. This may be done by the judge upon consent of parties. Matters of mere account may be referred to an arbitrator by the judge without consent of parties. In case of any reference to arbitration under such provisions, the award, when filed with the clerk of the court, shall be entered as a judgment in the proceedings unless contested. Upon notice by either of the parties that he desires to contest the award, the case will be entered on the trial list at the next ensuing sittings of the court for disposition by the judge then presiding.

In actions where the amount sought to be recovered exceeds twenty-five dollars, either party may have a jury upon notice given for the purpose. But in any case before the court the judge has power to order a trial by jury.

Any judgment obtained in the county court for a sum exceeding forty dollars may be registered under the Registry Act (R. S. Man., 1902, cap. 150), and such registration binds all interest or estate of the judgment debtor in lands situate within the registration district (except lands subject to the Real Property Act), the same as though the judgment debtor had in writing under his hand and seal charged the lands with the amount of the said judgment. A certificate of such judgment may also be registered under the Real Property Act (R. S. Man., 1902, cap. 148) to bind the lands of the judgment debtor subject to the provisions of the last-mentioned enactment. Process for attachment for debt arising upon contract and for garnishment may also be had in the county courts. Provision is also made in the rules for the commitment of a debtor in certain cases under a judgment summons.

An appeal will lie from the judgment of a judge of the county court or verdict of a jury in civil cases to a judge of the Court of Appeal for Manitoba where the amount in question, or the value of the goods in question, does not exceed the sum of fifty dollars, and to the Court of Appeal where such amount or value exceeds the sum of fifty dollars.

The county courts of the several judicial districts also exercise criminal jurisdiction. By chapter 39 of R. S. Man., 1902, it is provided that in each judicial district there shall be a court of record, known as the County Court Judge's Criminal Court, for the trial without a jury of any person committed to gaol on a charge of being guilty of any offence for which such person may be tried under the Criminal Code of Canada, and in respect of which the person so committed consents to be tried speedily and without a jury. The courts so constituted are declared to have, and shall be deemed to have had, on and from July 23, 1883, the powers and duties which the Criminal Code, or any other act of the parliament of Canada passed in reference to such courts and trials, purports or purported to give, so far as the legislature of the Province of Manitoba can give the same. Any such court may be presided over by a judge of the county court within his judicial district, or by a judge of the Court of King's Bench for Manitoba, if and as long as, under the said acts of the parliament of Canada, it shall remain lawful for any such judge to do so.

SURROGATE COURTS

Under the provisions of R. S. Man., 1902, chapter 41, there is a court of law and record constituted in each judicial district in the province known as the Surrogate Court. The senior county court judge of each district is *ex officio* judge of the Surrogate Court. There are officers of this court designated the surrogate registrar and surrogate clerk respectively. The surrogate courts have jurisdiction in relation to all matters and causes testamentary, and in relation to the granting or revoking of probate of wills and letters of administration of the effects of deceased persons having estate or effects in Manitoba. Generally, the surrogate courts are clothed with the same powers as the Court of King's Bench acting as a court of probate.

Probate and administrations are granted on the affidavit of the person applying for the same setting forth the place of abode and real and personal estate of the testator or intestate. This affidavit is for the purpose of giving a particular surro-

gate court jurisdiction, and is conclusive for such purpose unless it is made to appear to the judge before whom any matter is pending that the affidavit is incorrect. In such case the judge may stay all further proceedings.

The practice of these courts is based upon the English probate practice as it existed on July 15, 1870. Changes in the rules may be made from time to time by the order of any two judges of the Court of King's Bench.

The lieutenant-governor in council is empowered to appoint official administrators for each of the judicial districts of the province. Trust companies are authorized by law to act as official administrators.

MINOR COURTS

There are courts of inferior jurisdiction in the province presided over by stipendiary magistrates and justices of the peace which are similar in their procedure, both in respect of civil and criminal matters, to courts of a like kind in the older provinces of the Dominion. To make any elaborate examination of these courts here would serve no useful purpose, as a reference to what is said about the civil and criminal jurisdiction of stipendiary magistrates and justices of the peace in the sections of this work dealing with Ontario and the Atlantic provinces will sufficiently disclose the powers and duties of these functionaries in Manitoba and the character of the tribunals over which they preside.

II

THE JUDICIAL SYSTEMS AND COURTS OF ALBERTA AND SASKATCHEWAN

THE Provinces of Alberta and Saskatchewan were carved out of the North-West Territories in the year 1906, under the authority of legislation passed by the parliament of Canada for the purpose.

What has been said in the section of this work which deals with the judicial system of Manitoba, in respect of the

early political history of the vast tracts of country constituting Rupert's Land and the North-Western Territory down to the year 1869, need not be repeated in treating of the Provinces of Alberta and Saskatchewan.

In the year 1869 the Dominion parliament passed 'An Act for the temporary government of Rupert's Land and the North-Western Territory, when united with Canada.' By this statute provision was made for the appointment of a lieutenant-governor of the territory to act under instructions from the governor-general in council. The lieutenant-governor was to be assisted by a council of not more than fifteen or less than seven members appointed by the governor-general in council. It was further provided in this statute that all the laws in force in Rupert's Land and the North-Western Territory at the time of their admission to the Union should, so far as they were consistent with the British North America Act, 1867, remain in force until altered as prescribed in the statute. By the Manitoba Act, 33 Vict. (Dom.) cap. 3, it was provided that the lieutenant-governor of Manitoba should also be commissioned as lieutenant-governor of the 'North-West Territories'—the official designation of the remaining portions of Rupert's Land and the North-Western Territory after the Province of Manitoba was erected. On July 15, 1870, these territories became a part of Canada, and as the acts of the two previous sessions respecting the territories had expired, the 34 Vict. (Dom.) cap. 16 was passed containing the same provisions as had been made by those acts. By the British North America Act, 1871, it was provided that 'the Parliament of Canada may from time to time make provision for the administration, peace, order and good government of any territory not for the time being included in any province.' From the time the territories became a portion of the Dominion down to the appointment of Lieutenant-Governor Morris with a council of eleven members to assist him in administration, their affairs were, at least nominally, in the control of the lieutenant-governor of Manitoba. By order of the governor-general in council of February 12, 1873, the lieutenant-governor of the North-West Territories was authorized, by and with the

advice of his council, to make provision for the administration of justice in the said territories, and to pass ordinances for the maintenance and enforcement of peace, order, and good government therein. These ordinances were not to have the force of law until they were approved by the governor-general in council, except in certain cases especially provided for.

Doubts having arisen as to the validity of the method of enacting ordinances in the territories in 1873, the act 36 Vict. cap. 34 was passed providing that the local legislative powers committed to the lieutenant-governor and his council should be exercised by the lieutenant-governor *acting by and with* the advice and consent of his council.

By chapter 35 of the Dominion statutes of the same year, entitled 'An Act respecting the Administration of Justice, and for the Establishment of a Police Force in the North-West Territories,' a step was made towards the organization of a judiciary for the territories. Provision was made for the appointment of stipendiary magistrates with jurisdiction to try summarily, and without a jury, certain minor classes of criminal cases. Criminal offences, in respect of which the maximum punishment did not exceed seven years, were to be tried summarily, and without a jury, by the chief justice, or any judge of the Court of Queen's Bench of Manitoba, or any two stipendiary magistrates sitting together as a court. Authority was also given to any justice of the peace or stipendiary magistrate or any judge of the Court of Queen's Bench of Manitoba to send certain offenders to Manitoba for trial before the Court of Queen's Bench there. By the North-West Territories Act, 1875, 38 Vict. (Dom.) cap. 49, the first attempt at establishing a regular judiciary for the territories after their admission into the Dominion was made. Authority was given to the lieutenant-governor, by and with the advice of the council of the territories, to pass ordinances relating to the administration of justice, including the maintenance and organization of courts of justice of criminal and civil jurisdiction, together with the procedure therein. The appointment of judges thereto was, however, reserved to the governor-general in council. Provision was also made for the establishment of judicial districts throughout the

territories, wherein courts of civil and criminal jurisdiction should be held at such times and places as the lieutenant-governor might appoint. This statute limited to some extent the jurisdiction within the territories of the judges of the Court of Queen's Bench of Manitoba, as the same existed under previous legislation ; but, on the other hand, that court was given appellate jurisdiction over the territorial tribunals, and for some years it continued to be the only territorial court of appeal. More drastic changes in the judiciary of the territories were effected by the Dominion act 40 Vict. cap. 7. The provisions of the act of 1875 were modified so that the jurisdiction of the judges of the Court of Queen's Bench of Manitoba, in respect of crimes committed in the territories punishable with more than seven years' imprisonment, was done away with, and jurisdiction in the like cases vested in a stipendiary magistrate and a justice of the peace together with a jury of six. In capital cases a stipendiary magistrate and two justices were empowered to hear and determine the same. Stipendiary magistrates were also given summary jurisdiction to hear and determine claims arising out of wrongs where the damages sought did not exceed five hundred dollars, and claims arising out of contract where the amount sought to be recovered did not exceed one thousand dollars. By this act proceedings before the courts of the territories were authorized to be conducted in either the English or the French language.

On August 2, 1878, an ordinance of the lieutenant-governor in council entitled 'An Ordinance respecting the Administration of Civil Justice' was passed. By it judicial districts were created as follows :

1. The Saskatchewan District
2. The Bow River District
3. The Qu'Appelle District.

Provision was also made for subdividing such districts. Courts of civil jurisdiction, styled District Courts, were directed to be held in every judicial district. The stipendiary magistrate, resident in each judicial district, was empowered to act as judge of the district court. These courts were

given such jurisdiction within their respective districts as the several courts of law and equity in the Province of Ontario exercised.

These district courts were also empowered to exercise jurisdiction similar to that of the surrogate courts in Ontario.

The next important change touching the judiciary was made in 1886 by the 49 Vict. (Dom.) cap. 25, which created the Supreme Court of the North-West Territories, composed of five judges appointed by the governor in council by letters patent under the great seal. This court was declared to have and possess 'all such powers and authorities as by the law of England are incident to a superior court of civil and criminal jurisdiction.' The court was, furthermore, declared to have all the rights, incidents, and privileges which, on July 15, 1870, were exercised and possessed by any of Her Majesty's Superior Courts of Common Law, or by the Court of Chancery, or by the Court of Probate in England. The court was required to sit *en banc* at the seat of government in the territories, at such times as prescribed by the lieutenant-governor in council, for the purpose of hearing appeals. It was further declared by the statute of 1886 that, subject to repeal or modification by competent authority, the laws of England relating to civil and criminal matters as they existed on July 15, 1870, should obtain in the territories so far as applicable. This act repealed all former acts inconsistent therewith. In the following year the territories were divided into five judicial districts, consisting of :

1. Eastern Assiniboia
2. Western Assiniboia
3. Southern Alberta
4. Northern Alberta
5. Saskatchewan.

Under the Dominion statute of 1888 (51 Vict. cap. 19) radical changes were made in the political constitution of the territories. The territorial council was abolished, and in its place a legislative assembly was created, composed of twenty-two members elected to represent that number of electoral districts into which the territories were divided.

In addition to this, three legal experts were allotted seats in the legislative assembly. These experts, however, were not permitted to vote. It was provided that any judge of the Supreme Court of the North-West Territories might be appointed a legal expert in the assembly and receive the sessional indemnity in addition to his salary as judge. Subsequently the appointment of legal experts to the assembly was done away with, and in the end changes were effected in the political constitution of the territories which invested the legislative assembly with most of the power enjoyed by like bodies in the various provinces of the Dominion.

In the year 1882 a portion of the North-West Territories was organized into four provisional districts, namely Assiniboia, Saskatchewan, Alberta, and Athabaska. They were delimited as follows :

Assiniboia, bounded on the east by Manitoba, on the north by latitude 52, on the west by longitude $111\frac{1}{3}$, and on the south by latitude 49, containing in all some 89,535 square miles.

Saskatchewan, bounded on the south by Manitoba and Assiniboia, on the east by Lake Winnipeg and Nelson River, on the north by latitude 55, and on the west by longitude $111\frac{1}{3}$, comprising some 107,092 square miles.

Alberta, bounded on the south by latitude 49, on the east by Assiniboia and Saskatchewan, on the north by latitude 55, and on the west by British Columbia, containing some 106,100 square miles.

Athabaska, bounded on the south by Alberta, on the east by longitude $111\frac{1}{3}$ and the Athabaska River, on the north by latitude 60, and on the west by British Columbia, embracing an area of 104,500 square miles.

On September 1, 1905, in virtue of 4-5 Edw. VII (Dom.), cap. 3 and cap. 42 respectively, the territory comprised in the provisional districts of Assiniboia and Saskatchewan became the Province of Saskatchewan, and that of the provisional districts of Alberta and Athabaska became the Province of Alberta. The seat of government for the Province of Saskatchewan is at Regina, and that of the Province of Alberta is at Edmonton.

With reference to the judicatures of the new provinces, it was provided (4-5 Edw. VII, cap. 3, sec. 16, 4-5 Edw. VII, cap. 42, sec. 16) by the Dominion parliament that the provincial legislatures might, for all purposes affecting either of them, abolish the Supreme Court of the North-West Territories and the offices, both judicial and ministerial, of such court. The Dominion parliament also continued in force within the new provinces the laws of the North-West Territories existing at the time of the creation of such provinces, so far as they were not inconsistent with the provisions of the new enactments.

PROVINCE OF SASKATCHEWAN

On March 8, 1907, the legislature of the Province of Saskatchewan passed a judicature act whereby (section 3) it was enacted that 'for all purposes affecting or extending to the Province of Saskatchewan, the Supreme Court of the North-West Territories and the offices both judicial and ministerial thereof, as well as the jurisdiction, powers and authority belonging or extending to the said Court, are hereby abolished.' By other provisions of the act a Supreme Court for the province was constituted and established, which, in addition to exercising the jurisdiction, rights, powers, incidents and privileges, and authorities which, immediately prior to the coming into force of the act, were capable of being exercised by the Supreme Court of the North-West Territories, was endowed with all the jurisdiction, powers, and privileges vested in the following courts of England prior to the passage of the Supreme Court of Judicature Act, 1873, by the parliament of Great Britain: namely the High Court of Chancery, the Court of Queen's Bench, the Court of Common Pleas, the Court of Exchequer, the Court of Probate, the courts created by Commissions of Assize, of Oyer and Terminer, and General Gaol Delivery.

Procedure and practice in the new tribunal are regulated by rules of court made in pursuance of the act, and where no special provision is to be found in the act itself, or in the rules, its jurisdiction is to be exercised in accordance with the

practice of the Supreme Court of Judicature in England as it existed on January 1, 1898. The judges, individually, are deemed to have conferred upon them by the act the same jurisdiction as was exercisable by the judges of the Supreme Court of the North-West Territories. The court sitting *en banc* at the seat of government of the province has all the appellate powers and jurisdiction as had the Supreme Court of the North-West Territories, sitting *en banc*, immediately prior to the passing of the new act, as well as the appellate jurisdiction of any divisional court of the High Court of Justice, or the Court of Appeal, in England on January 1, 1908. Any three judges of the court constitute a quorum of the court sitting *en banc*. It is not necessary for all the judges who have heard the argument to be present in order to constitute the court for the delivery of judgment in any case, but the judgment may be delivered by a majority of those present at the hearing. Any judge who has heard the case, but is absent at the delivery of judgment, may hand in his opinion to be read or announced in open court. No judge whose judgment is appealed against may be present at the hearing of such appeal by the court sitting *en banc*. At present the bench of the court consists of a chief justice and four puisne judges appointed by the governor-general in council. The chief registrar of the court resides at Regina. There are local registrars of the court appointed in and for the various judicial districts.

The judges of the district courts, except the judges of the district court for the judicial district of Regina, when sitting at the seat of government are *ex officio* local masters of the Supreme Court. Rules of court have been made under the authority of the Judicature Act based upon the English Judicature Rules.

The lieutenant-governor in council may appoint an 'official guardian' for infants in and for each judicial district. Such 'official guardian' must be a barrister of at least three years' standing.

Under the provisions of chapter 9 of the acts of the legislature of Saskatchewan the province has been divided into eight judicial districts with a court, called the 'district

court,' established in each. These courts are presided over by a judicial officer called the 'district judge.' The district judges must reside in their respective judicial districts, and cannot carry on the practice of the legal profession while holding office. In addition to their jurisdiction in civil matters, which is similar to the civil jurisdiction of the county court judges in Ontario, the district judges exercise certain criminal jurisdiction under sections 823 to 842 (part LIV) of the Criminal Code of Canada. When sitting in the exercise of his criminal jurisdiction, the district judge's court is styled the District Court Judge's Criminal Court.

The principal ministerial and executive officers of the district courts are the clerks, the sheriffs (each judicial district constituting a bailiwick), and the bailiffs.

The procedure in the district courts is similar to that prevailing in the Supreme Court, the judges of the Supreme Court having power to make rules of practice for the district courts from time to time. Appeals lie to the district courts from the courts of justices of the peace. From the decision of a district court in every civil action where the amount in controversy is over fifty dollars, an appeal lies to the Supreme Court *en banc*.

Under chapter 10 of the acts of Saskatchewan for the year 1907 there is a court of record established under the name of the Surrogate Court. The judge of each district court is clothed with jurisdiction as surrogate court judge within his district. There is also a surrogate registrar, deemed by the act to be an officer of the Supreme Court, appointed by the lieutenant-governor in council. In and for each court there is a ministerial officer known as the clerk of the surrogate court. By the 17th section of the act it is provided that the surrogate court shall have jurisdiction voluntary and contentious in relation to matters and causes testamentary, and in relation to the granting or revoking probate of wills and letters of administration of the effects of deceased persons having estate or effects in Saskatchewan, and all matters arising out of, or connected with, the grant or revocation of probate or administration, as was vested in or exercised by the Supreme Court of the North-West Territories immediately

prior to the coming in force of the act. This provision, however, is not to be taken as depriving the Supreme Court of Saskatchewan of jurisdiction in such matters. An appeal lies from the judgment of a surrogate judge to the Supreme Court of Saskatchewan.

By chapter 14 of the acts of the legislature of Saskatchewan for the year 1907 provision is made for the appointment of police magistrates for the incorporated towns in the province, by the lieutenant-governor in council. These police magistrates are paid salaries by the municipal authorities for their services. They are rigidly chosen from the members of the bar, no other person being qualified for appointment. Each of such magistrates has the jurisdiction exercisable by two justices of the peace in civil and criminal cases before the erection of the province.

PROVINCE OF ALBERTA

On February 11, 1907, by chapter 3 of the acts of that year, the legislature of the Province of Alberta passed the Supreme Court Act, which abolished so far as that province is concerned the Supreme Court of the North-West Territories, and created a superior court of civil and criminal jurisdiction styled the Supreme Court of Alberta. This court now consists of a chief justice and five puisne judges appointed by the governor-general in council. It is much the same in respect of its constitution and jurisdiction, both at common law and in equity, as the Supreme Court of Saskatchewan, described *supra*. The rules of equity applicable to the subjects of equitable jurisdiction specified in the act are declared to be the same as those which governed the Court of Chancery in England in like cases on July 15, 1870. The practice and procedure of the court are based on those prevailing in the Supreme Court of Judicature in England at the present time. The court sitting *en banc* has all the jurisdiction and powers possessed by the Supreme Court of the North-West Territories *en banc* immediately prior to the coming into force of the act, and has all the appellate jurisdiction over inferior tribunals as any divisional court of the

Supreme Court of Justice, or the Court of Appeal, in England. Trial judges are not allowed, except in special circumstances, to sit *en banc* on the hearing of appeals from their decisions.

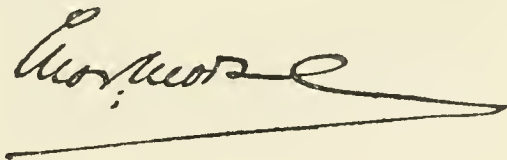
The chief ministerial and executive officers of the court are the sheriffs and the clerks in the several judicial districts (of which there are six at the present time).

The Province of Alberta has a system of district courts similar to those of the Province of Saskatchewan, and exercising the like jurisdiction. The judge of every district court, with certain exceptions defined in the District Courts Act, exercises in his district the power, authority, and jurisdiction of a local judge of the Supreme Court of the province. The district courts also exercise jurisdiction, within their territorial limits, in respect of probate and administration.

An appeal lies to the Supreme Court *en banc*, subject to certain limitations, from the decision of a judge of the district court; but where the parties agree in writing before the decision is pronounced that the same shall be final, no appeal can be asserted against such decision. This is an ouster of jurisdiction calculated to make the legal Quintilian stare and gasp! Even so broad-minded a man as the late Lord Bowen once said, touching the right of appeal in a certain class of cases: 'If no appeal were possible I have no great hesitation in saying that this would not be a desirable country to live in. . . . If there is no appeal at all possible the system would be intolerable.'

The district judges also exercise certain criminal jurisdiction within their respective districts, under part LIV of the Criminal Code. In this behalf the court presided over by a district judge is called the District Judge's Criminal Court.

There are also inferior courts in the province presided over by justices of the peace and police magistrates. These courts exercise civil and criminal jurisdiction of the same character as that appertaining to minor tribunals in the other provinces of the Dominion.



MUNICIPAL INSTITUTIONS

MUNICIPAL INSTITUTIONS

GROWTH OF MUNICIPAL INSTITUTIONS

IN the prairie provinces, as elsewhere in Canada, municipal institutions owe their existence to the enactments, and are subject to the jurisdiction, of the provincial legislatures, in accordance with the British North America Act of 1867. They are the agencies called into being by the provincial legislatures for the management of purely municipal and local affairs, and their character has been determined by the circumstances under which they have arisen and the needs they have been called upon to meet.

The first legislature of Manitoba in 1871 was at once confronted with the necessity of providing some form of local organization. Two acts were passed in that year dealing with local finance—the County Assessment Act and the Parish Assessment Act. The County Assessment Act provided for the annual preparation of a general tax roll for the province, at a meeting of the county assessors convened for the purpose by an officer known as the clerk of the peace. At the court of sessions held at Fort Garry the grand jury submitted a statement of the sums required in the different districts for the maintenance of roads, bridges, ditches, etc. The clerk of the peace then apportioned this among the taxpayers on the roll in proportion to their assessments, the actual collection of taxes being left to the constable. This somewhat primitive system was probably not ill-suited to the conditions then existing in Manitoba with its thirteen thousand square miles of territory and a mixed population of about twelve thousand. Under the Parish Assessment Act each of the five counties—Selkirk, Provencher, Lisgar, Marquette East, and Marquette West—

was divided into parishes. Purely local improvements in these parishes were secured by a formal resolution passed at a public meeting of the heads of families and presented to the clerk of the peace, who thereupon assessed the inhabitants of the parish.

The first general municipal act for Manitoba was passed in 1873. Under it two-thirds of the male freeholders of twenty-one years of age, in any district containing not less than thirty freeholders, might, on petition to the lieutenant-governor in council, secure the issue of letters patent constituting a local municipality with powers for the construction of roads, bridges, slaughter-houses, etc., and for raising the necessary revenue by taxation, limited, however, to one per cent of the value of the real estate.

In 1883 a new system was introduced based on the principle of the Baldwin Act, which since 1849 has governed municipal institutions in Ontario. The province was divided into twenty-six counties, each with its county council and officers as in Ontario, and the counties were in turn grouped into three judicial districts, each with its board formed by the county wardens and the mayors of incorporated cities and towns within the district. Each board prepared an estimate of the funds required for the maintenance of its court-house and gaol, and levied this sum on its own group of counties. So faithful indeed was the imitation of the Ontario system that many of the provisions of the law proved quite unworkable in the conditions then prevailing in Manitoba. The system proved expensive and inefficient, and the dissatisfaction thereby engendered led to the abolition of the district boards and a return to the old system. The duties performed by these boards now fall within the purview of the attorney-general's department of the provincial government. The system of smaller administrative districts was then introduced, and the law now governing municipal organization in Manitoba outside the city of Winnipeg is embodied in the general municipal act of 1902. Under this act the inhabitants of every city, town, village, or rural municipality become a body corporate, with all the powers and privileges essential to the management of exclusively local affairs, and subject

to all the liabilities of a corporation. The supreme power of the provincial government is asserted in restriction of the amount of taxes which may be levied by the municipality, and in supervision by a municipal commissioner and his staff, but otherwise the provincial government abstains as far as possible from interference in municipal affairs. The department of Municipal Affairs as a branch of the provincial government is, it should be mentioned, as yet peculiar to the three prairie provinces.

In order to secure incorporation as a village there must be a population of over 500 within an area of 640 acres, or over 2000 within 800 acres. For a town the necessary population is 1500 to 2000 within 640 acres, and for every additional 160 acres there must be another 1000 inhabitants. A village of over 1500 may by proclamation of the lieutenant-governor be erected into a town, and a town containing over 10,000 into a city. Prior to the recent (1912) great extension of territory, the Province of Manitoba was divided into four city municipalities—Winnipeg, Brandon, St Boniface, and Portage la Prairie—forty-two town and village municipalities, and one hundred and four rural municipalities. The council of a rural municipality consists of the reeve and six or four councillors, as determined by by-law. That of an incorporated village consists of the mayor and four councillors. The town council consists of the mayor and in general two councillors for each ward, while the city council consists of the mayor and two aldermen for each ward.

Up to September 1, 1905, the country that now forms the Provinces of Alberta and Saskatchewan was governed by the ordinances of the North-West Territories, and it is in these ordinances that we find the origins of municipal government in this part of Canada. Municipal development in the two provinces has been governed by similar conditions and has naturally followed similar lines. The case of Saskatchewan may therefore be taken as representative. There were in Saskatchewan, in February 1912, four cities, sixty-one towns, two hundred and eight villages, and one hundred and seventy-two rural municipalities. The population necessary to attain the status of a city is

five thousand, that for a town five hundred. A village must have a population of fifty within an area of 640 acres. When the density of population is less than this, there is the rural municipality or the local improvement district. The legislation now governing these different grades of municipal institution is embodied in the city, town, village, and rural municipality acts and the amended Local Improvements Act of 1908 and 1909, with some later amendments.

Of the cities and towns comparatively little need be said. Save in respect of assessment and taxation, to be dealt with later, their system of government is on the whole like that prevailing in Manitoba. It should, however, be noted that the necessity for concentration on the work of city government, and for the expert skill and vigilance which can only be thus obtained, is becoming felt in the West as elsewhere. The system of government by commission has already been adopted by Regina, Saskatoon, and Prince Albert. But in these cities the commissioners are appointed, not as the controllers are in Winnipeg by a direct vote of the citizens, but by the council, to which they are responsible and by which only they can be removed. This system practically amounts to the delegation by the council of those branches of city government which require expert skill and special knowledge to men who tend to become virtually permanent officials, only the broader questions of policy being reserved for decision by the council.

Saskatchewan is above all an agricultural province, and it is in the case of the smaller municipalities that her experience is most instructive. Under the Village Ordinance of 1895, for example, it was possible to form a village when there were ten houses within three hundred and twenty acres. As if this were not sufficiently extensive, the Village Act of 1906 recognized as a possible village an area of 1280 acres having fifteen dwelling-houses. The tendency, however, has since been to insist on greater density of population as essential. The Village Act of 1908, therefore, limits the area to 640 acres with a population of not less than fifty, and there is said to be a strong tendency to insist on a

minimum population of one hundred. The older system under which the village overseer was practically supreme has been superseded by the act of 1908 which requires the ratepayers to elect three councillors, who in turn elect one of their number as chairman or 'overseer' and appoint a paid secretary-treasurer from outside their own body. This system has made representative government in the village a reality. For current expenditure the council may arrange a temporary loan not exceeding sixty per cent of the taxes of the current year; and, subject to the approval of the minister of Municipal Affairs, it may by by-law secure loans by debenture extending over fifteen years, and may provide for the general government of the village, including health protection, the care of the sick, and a fuel-yard in case of need.

The rural municipalities and local improvement districts especially deserve attention. In 1884 an ordinance provided for the establishment of a number of rural municipalities, but under it the system of government proved too expensive for the stage of development then reached by these small western communities, and this led to further legislation with a view to attaining the ends of local self-government by a less expensive method. Under the Local Improvement Ordinance of 1898 each district, covering 'on an average one township, elected an overseer who was responsible for the improvement of roads and similar work. In 1903 these one-township districts were superseded by districts including on the average four townships or 'divisions.' There was a council board of four to which each 'division' elected a councillor. This system was practically re-enacted by the Local Improvements Act of 1906. But in 1904 preliminary steps had been taken by the legislature of the North-West Territories towards a systematic inquiry into municipal organizations in general. This inquiry was carried through by the government of Saskatchewan, which appointed a commission for the purpose. The result was the establishment of the department of Municipal Affairs in 1908, and the passing in 1908 and 1909 of the series of acts, already mentioned, covering all grades of municipalities. The

province was then divided into 'territorial units,' the normal unit including nine townships. The rural municipality and the local improvement district each embrace a territorial unit. The two are thus identical in area, and it is left entirely to the ratepayers of any given unit to decide whether it is to be a local improvement district or a rural municipality. The chief advantage of the latter is that it constitutes a permanent corporation, able to construct durable public works such as good roads, since within certain limits it can arrange debenture loans, and thus distribute the burden between present and future taxpayers. In this as in many other matters the rural municipality is subject to the supervision of the minister of Municipal Affairs. But so general has been the appreciation of the reality of the advantage referred to, that within three years after the passing of the Rural Municipality Act the greater part of the province had discarded the local improvement district organization, and it was therefore proposed in the government measure of 1912 to transform the remaining local improvement districts into rural municipalities.

MUNICIPAL TAXATION

We have seen that the British North America Act gives to the provincial legislature exclusive authority in regard to direct taxation within the province for provincial, local, or municipal purposes. This power has, however, as already mentioned, to a considerable extent been delegated to the municipalities, together with the responsibility for certain public services which the provincial governments might otherwise have been constrained to undertake. Among the sources of revenue thus placed at the disposal of the municipalities are: the taxation of real estate, the personal property tax or its modern substitute the business tax, the income tax, and the special franchise tax, and licences on a variety of occupations.

Taxation of Real Estate.—Throughout Western Canada the most important source of municipal revenue is the taxation of real estate. In the cities, towns, villages, and

rural municipalities of Manitoba all real and personal property may be assessed at less than actual value, or in some uniform and equitable proportion of actual value, so that the rate of taxation shall fall equally upon the same. For the purpose of assessment, 'real property' is taken to include lands, buildings, and improvements, while 'personal property' includes all goods and chattels and all plants and machinery of any kind, also buildings when not the property of the landowner. Actual value is defined as 'the fair market value of such property regardless of a prospective increase or decrease, either probable, remote, or near.' An estimate of market value as thus defined is clearly an unattainable ideal, since fair market value will certainly be affected to the extent of the discounted present value of any expectation of a change in value. But in practice actual value is taken to mean what the estate is estimated as competent to fetch on forced sale at short notice, or the value a trustee would attach to it in settling an estate.

Lands are assessed separately from buildings and improvements, and this system is generally held by the tax officials to have rendered possible a more accurate and equitable assessment than could be obtained by a system in which land and improvements are valued together.

In Winnipeg land is assessed at its actual cash value, and in practice up to 1909 buildings were assessed at a little under actual value. But under an act of that year amending the city's charter, buildings are now assessed at two-thirds of their value ; and already there is a considerable party in favour of the total exemption of improvements.

In Alberta and Saskatchewan the policy of exempting improvements from taxation, inherited in an optional form from a North-West Territories village ordinance, has been carried much further than has yet been attempted in Manitoba. The system was introduced by the city of Edmonton in 1904, and since then it has steadily gained ground throughout both provinces. In the local improvement district and rural municipalities of Saskatchewan land alone is taxed. Formerly the general practice was to levy a flat rate per acre on land irrespective of its value.

But in the session 1910-11 of the Saskatchewan legislature the assessment of land on its value apart from improvements was made optional on the part of the local councils. And now a government measure introduced in the session 1912-13 abolishes local improvement districts and makes compulsory in the rural municipalities from 1914 onwards the assessment of land on 'its actual cash value, exclusive of any increase in such value caused by the erection of any building thereon or by any other expenditure of labour or capital.'

In the villages land is assessed at its fair actual value and buildings and improvements at sixty per cent of their value. But any village council, on the signed petition of two-thirds of the resident electors, may fix a date after which the assessment shall be based solely upon the value of the land exclusive of improvements. In like manner a village which has exempted improvements may repeal the by-law, thereby returning to the old system of assessment. Something like seventeen villages adopted the policy of exempting improvements for the 1911 assessment.

In the towns and villages of Saskatchewan under the act of 1908 land is assessed at its fair actual value and buildings and improvements at sixty per cent of their actual value. But in 1911 the City and Town Acts were amended, making this percentage the maximum, and allowing any city or town the option of reducing the assessment of buildings and improvements by an amount not greater in any year than fifteen per cent of their actual value. In other words, any city or town was permitted to abolish by stages all taxation of buildings and improvements within not less than four years from 1911. This scheme of taxation—commonly but somewhat inaccurately described as the single tax—is, according to the latest report, ever increasing in popularity throughout the province. Among the first to avail itself of the option allowed by the City Act of 1911 was Regina, which by 1915 will entirely exempt improvements from taxation.

In Alberta, as already noticed, the city of Edmonton in 1904 led the way in exempting improvements. Strathcona followed in 1907, and in 1912 Calgary and Lethbridge each

took a long step in the same direction, the former exempting seventy-five per cent of the value of buildings, while Lethbridge exempts thirty-three and a third per cent of the value of buildings and imposes on vacant lots in the business district a super-assessment of fifty per cent. In the villages of Alberta the optional exemption of improvements, inherited from the North-West Territories régime, was continued by the Village Act of 1907, and the number of villages which exempt improvements is steadily increasing year by year. In the Town Act and the Rural Municipality Act of 1912 the policy of concentrating taxation on the unimproved value of land has been definitely adopted. All municipal and school rates are to be levied equally upon all ratable land in the town. And land is to be assessed at its actual cash value as it would be appraised in payment of a just debt from a solvent debtor, exclusive of the value of any buildings thereon or any other increase in value thereof caused by any other expenditure of capital thereon. In towns the council is not to levy in any one year more than twenty mills in the dollar—exclusive of debenture, school, and local improvement rates—upon the total value of the assessable property within the town. In rural municipalities the uniform tax is not to exceed in any one year one per cent of the assessed value of the land, unless for debenture or hail insurance.

There is in all this, however, little to justify the claim that the prairie provinces are moving towards the adoption of the policy advocated by adherents of the doctrine of the single tax. On the tax system of Manitoba this ideal has certainly as yet had little influence. In the rural districts of Alberta and Saskatchewan, it is true, land is the sole subject of taxation. But it has necessarily always been either the sole or the chief source of local revenue, 'improvements' in the shape of buildings being of relatively small value. The towns and cities have all of them other taxes such as the personal property tax or its modern substitute the business tax, and in Alberta and Saskatchewan the income tax, which, however, is a vanishing item.

But while this is so, there is undoubted evidence that in

Western Canada as in Australasia the system of local taxation is being moulded with a view to the attainment not merely of fiscal but of social ends. In both cases the prevailing idea is that the concentration of taxation on unimproved land values will check the holding of land in the hands of absentee owners and speculators, and will thus stimulate building and improvements. But in the first place it may be objected that the successful speculator does not buy to hold, and it is therefore exceedingly difficult for the taxing authority to appropriate by taxation a share of the gains of speculation in the shape of the 'unearned increment' in land values, in the hands of those to whom it is really unearned. An annual tax on unimproved land values will certainly not avail for this purpose, though something in that direction may be done by the *Wertzuwachssteuer* or 'increased value' tax—a graduated tax on the increase in the value of land on the occasion of changes of ownership—first introduced in Frankfort-on-the-Main and adopted in 1910 as a national tax in Great Britain. There is *a priori* no reason to expect that an annual tax on unimproved land values will seriously check speculation in land; and the argument from experience, that the exemption of improvements from taxation has materially stimulated the growth of cities, is generally of the *post hoc ergo propter hoc* order, ignoring entirely the complexity of the causes on which the growth of cities depends. The effect is altogether disproportionate to the cause assigned.

The Business Tax.—As in Ontario, the personal property tax was early adopted in Manitoba, and, as in Ontario and elsewhere, it very soon became productive of glaring inequities. It failed to reach all classes of personal property, and consequently fell all the more heavily on those which it did reach. In practice, in short, it became an onerous tax on the merchants' stock-in-trade. This led to its abandonment by the city of Winnipeg in 1893, and the introduction in its place of a business tax such as already existed in Montreal and Quebec, based however not, as in the case of these cities, on the rental value of the premises, but on measurement of floor space occupied for business or professional purposes. This method was applied where the rental value

was in excess of seventy-five cents per square foot, but where less than this the tax was based on the capital value of the rent, and varied from three and one-third to five per cent. The basis of floor space measurement seems to have been introduced to meet the objection to the rental basis that under the latter wholesale merchants would escape lightly compared with retailers, whose premises are usually located on main thoroughfares where rents are high. It was estimated that under this system wholesale merchants paid on the average about fifteen per cent of their rental values, as against ten per cent paid by all others save retail dealers.

But while for small towns floor space measurement may be a fair index of rental value, it clearly bears no definite and fixed relation to the amount of capital invested or to the net profits of the business, and the discrepancy becomes marked in a large city with skyscrapers and high rentals, such as Winnipeg now is. In 1907, therefore, the city council secured the passing of an act enabling it to impose a tax at the uniform rate of eight and one-third per cent of the rental value of all business premises. This system was maintained only for the year 1907-8, and then, owing to difficulties arising in connection with the assessment of hotels, there was a reversion to the old system based on space measurement, under which the hotel-keeper paid not on the basis of the rental of his business premises, but merely on the number of square feet in the bar. The rental basis, however, was recognized as the more equitable, and in 1909 the system was established under which business taxes are levied at the rate of six and two-thirds per cent of the annual rental of the business premises. In the case of hotels the business assessment is limited to the annual rental value of the ground floor of the hotel building. Certain classes of business too, which are subject to municipal licence, such as theatres, public halls, restaurants, dairies, boarding-houses, laundries, hospitals, boot-blackening establishments, business colleges, skating rinks, etc., are exempt from the business tax.

The abolition of the personal property tax with its excessive burden on the stock-in-trade of the merchants, and the substitution therefor of the business tax, was

believed to be partly responsible for the rapid development of Winnipeg as the great distributing centre of the West. Thus the city of Brandon in 1900 obtained an act authorizing it to levy a tax of twelve and a half per cent on the rental of business premises ; and in 1906 the business tax was made generally available throughout the incorporated towns and villages of the province. The Manitoba assessment act of that year comes into force in any particular town or village upon the proclamation of the lieutenant-governor in council to that effect, which is issued at the request of the council of the town or village and may be revoked in the same manner. The act provides for the abolition of the tax on all personal property in the incorporated towns and villages of the province, and the substitution of a business tax, not exceeding twelve and a half per cent of the annual rental value of the premises occupied, on 'all trades, manufactures, financial and commercial institutions, occupations, arts, professions or means of profit or livelihood.' In the case of hotels, restaurants, and clubs where spirituous liquors are sold, the business tax is on a graded scale, varying from \$15 where the assessed annual rental does not exceed \$300, to \$150 where the annual rental is from \$2000 to \$2400, with an increase of \$25 tax for each additional \$400 or fraction thereof. Social and political clubs are subject to the tax. The actual rental value in the judgment of the assessor, not the bona fide rent paid, is taken as the basis of the assessment. The statute also provides for the imposition of a special tax on the owners of lumber-yards, and of horses, cattle, and vehicles not kept for business purposes. There can be little doubt that the substitution of the business tax for the personal tax in the cities, towns, and villages of Manitoba has, by altering the basis of assessment from the stock-in-trade of the merchant to the real estate occupied, released the springs of commercial development and enterprise. But the annual rental value is, as between different classes of business, a very imperfect index of the income earned in the business. So far, therefore, the Manitoba flat rate on rental values falls short of the ideal of taxation. Some approximation to this ideal is made by differentiating between different classes of

industry, as is done for example in the Ontario system introduced by the Assessment Act of 1904. There, however, as it happens, the basis of the classification is inequitable, since it represents the personal property assessment as it stood at the date of the act—an assessment from which the bulk of personality escaped.

In Alberta and Saskatchewan also the personal property tax is being rapidly displaced by the business tax. In Edmonton the latter has been in operation since 1904, and under the system then adopted the assessor fixes a rate per square foot of the floor space of business premises, and as far as practicable classifies the businesses and fixes a different rate for each. In all save the case of banks and financial institutions, for which \$10 per square foot is the maximum limit, this rate is not to exceed \$5 per square foot. The amount to be raised by taxation having been determined, the rate of taxation is uniform for all classes of taxable property.

It is quite clear that this Edmonton method, though it conforms to Adam Smith's canon of certainty inasmuch as the amount to be paid is 'clear and plain to the contributor and to every other person,' is open not only to the objection already taken to any system based on floor space measurement, but also to the further criticism that the adjustment of the differential assessment rates is a purely arbitrary process. So great, however, in comparison with the inequities of the old personal property tax, are the merits of the Edmonton method, that it has spread rapidly throughout the West. In Saskatchewan the cities of Regina and Saskatoon secured acts of the provincial legislature in 1906 abolishing for these cities the personal property tax, and substituting a system based on the assessment of lands, businesses, incomes, and special franchises, the last mentioned being an assessment on real estate together with plant, etc., taken at actual cost. The Saskatchewan Municipal Commission of 1907 recommended the extension of this system to all the cities, towns, and villages of the province, and this was provided for by the City and Town Acts of 1908. The new business assessment, tried for the first time in 1909, is said to have proved very satisfactory in its working.

The Income Tax.—In the municipal revenue system of Manitoba the income tax has no place. But in the cities of Alberta and in the cities and towns of Saskatchewan, as in those of Ontario, it appears side by side with, and supplementary to, the taxation of lands and businesses. But the industrial conditions of the prairie provinces are less favourable than those of Ontario to the direct taxation of income, owing largely to the less settled character of the population of western cities. It causes much irritation and is difficult to collect, and, in short, infringes alike the canons of convenience and economy. Naturally, therefore, it is not a thriving part of the tax system. In the cities of Alberta it has in some cases, such as Calgary and Lethbridge, already been abolished, and where it survives it is a factor the importance of which is steadily diminishing. The same is true, only in a less degree, of the cities of Saskatchewan.

Statute Labour and Poll Taxes.—In respect of statute labour and poll taxes the system prevailing in the prairie provinces is similar to that of Ontario. In the rural municipalities of Manitoba every person assessed upon property liable to taxation, for a sum not exceeding \$200, is liable for one day's statute labour per annum. When the assessment is between \$200 and \$500 the liability is two days' statute labour, with one day for every additional \$500 or fraction thereof. The council of a rural municipality may, however, by by-law levy in place of statute labour a money tax not exceeding \$1.50 for every day of statute labour. In the cities, towns, and villages of Manitoba there is as a substitute a poll tax of \$2. There are similar provisions in the Provinces of Alberta and Saskatchewan, in several of the cities of which the poll tax is \$3.

Taxation of Franchises.—In Manitoba the Corporations Taxation Act, 1900, expressly removes corporations from the jurisdiction of the municipalities save in respect of their real estate. But an exception is made of any right of the city of Winnipeg, under the provisions of its charter, to collect such taxes. Winnipeg therefore retains the privilege conferred by its charter of taxing gas, electric light, street railway, waterworks, telephone and telegraph companies, not

by valuing their different properties, but by assessing them in a lump sum. The telephone system, however, has since 1906 been the property of the Manitoba government, and is thus exempt from taxation, while the waterworks are owned and operated by the city itself. The gas, electric light, and street railway franchises are now all owned by one corporation—the Winnipeg Electric Street Railway Company—from which the city received \$86,741 for the year 1911-12. From other franchises in private hands, however, Winnipeg's revenue is both relatively and absolutely insignificant, being less than \$1000 for 1911-12. But in the municipal tax system of Saskatchewan, under the City and Town Acts of 1908, the taxation of 'special franchises' plays an important part. A 'special franchise' is defined as the authority to construct, maintain, or operate within the town or city, on any highway, public place, or public water, any poles, wires, tracks, pipes, conduits, buildings, erections, structures, or other things for bridges, railways, tramways, or for the supply of water or heat, light, power, transportation, telegraphic, telephonic, or other service. The owner of a special franchise is not assessed in respect of business or income, and is not liable to pay a licence fee to the town or city in respect of the same business or special franchise; but in addition to an assessment on land, he is assessed on the actual cost of the plant and apparatus, less a reasonable deduction for depreciation.

Licences.—The system of licences is at the best only a rough-and-ready method of raising revenue. The scale of fees is, as between different occupations or even individuals, quite arbitrary, and bears no uniform and necessary relation either to ability to pay or to benefit received from the municipal government. But it is convenient, at least for the tax collector, and the licence cannot be readily evaded. The individual may go out of business before he is assessed for the business tax, or between the dates of assessment and collection, but the licence fee can be collected whenever and wherever the holder of the licence is found. The system is thus especially suitable for businesses of a temporary character. The taxing authorities, too, seem to rely on it as a means of lessening the inequities, from the standpoint

of faculty or ability to pay, which may result from the imposition of a business tax, whether on the Winnipeg or the Edmonton plan.

In the fiscal year 1911-12 Winnipeg received from licences \$113,879. These cover a great variety of occupations, from the circus which pays from \$150 to \$500 according to the number of railway cars used per day, to the 'Exhibit one's self in a window,' which is taxed \$50 per annum or \$5 per day. Where no business tax is paid, there is a business licence amounting to six and two-thirds per cent of the monthly rental.

THE CITY OF WINNIPEG

The city of Winnipeg was incorporated by special act of the Manitoba legislature in 1873, and, down to the granting of its charter in 1902, it remained subject to the general municipal acts of the province. From time to time it was specifically exempted from the operation of certain clauses of these acts, while other clauses, now omitted from the general municipal act, were inserted in these earlier acts for application to Winnipeg alone.

Under its charter, as amended from time to time, the government of the city is carried on by a council consisting of a mayor who is chief magistrate, four controllers who form with the mayor the board of control, and fourteen aldermen—two from each of the seven wards into which the city is divided. The mayor and controllers are elected annually by a vote of the city, while the aldermen are elected by the wards they represent for a term of two years, and one member for each ward retires annually. The Board of Control, created by statute in 1906, is the supreme body in the financial and general administration of the city. It nominates the heads of departments, is responsible for the raising and expending of the city's revenue and for the investment of its funds. It awards contracts and supervises the execution of all work done for the city. The police force of the city is under the control of the Board of Police Commissioners, which is composed of the mayor of Winnipeg, the county court judge, the police magistrate, and two aldermen of the city appointed by



WINNIPEG

- (1) OLD FORT GARRY IN 1870
(2) FORT GARRY PARK, 1913

the council. The Public School Board, consisting of fourteen members elected annually by the ratepayers—two members from each of the seven wards—is responsible for the public schools of the city, both primary and secondary. The school system is subject to the supervision of the provincial department of Education.

The civil government of Winnipeg is markedly progressive and has adopted and extensively applied the principle of municipal ownership. Thus the city owns and operates an asphalt plant, a stone quarry from which it obtains a supply of road metal and crushed stone for granolithic pavement, a street-lighting system, a fire-alarm system, and a high-pressure plant to assist in the protection of the city from fire. Since 1899 the city has also owned and operated the waterworks system. At present (1913) the water-supply is obtained from a series of Artesian wells to the north-west of the city. Till quite recently the supply was adequate. But the rapid growth of the city has made certain the need of a larger supply in the immediate future, and the preliminary steps towards securing a reliable supply from a visible source are now being taken. For water-supply purposes the city is divided into three districts, and the rate charged for domestic use depends on the number of rooms in the house, the allowance being twenty gallons per room per day. In the case of works using large quantities special rates are fixed. The most recent, and next to the water-supply the most important, of Winnipeg's municipally owned public utilities is the hydro-electric power plant by which the city has since 1911 been supplied with light and power, generated at Point du Bois on the Winnipeg River. The municipality, however, has not a monopoly of the supply of light and power to the citizens, but has to compete with the Winnipeg Electric Street Railway Company, which not only operates the street car system and supplies the citizens with gas for fuel and lighting purposes, but also furnishes from its generating plant at Lac du Bonnet on the Winnipeg River a considerable proportion of the light and power consumed within the city limits.

The revenue of the city from all sources for the fiscal year ending April 30, 1912, amounted to \$3,543,286, of which

MUNICIPAL INSTITUTIONS

\$2,706,361 was contributed by direct taxes, licences, and franchise rights as follows :

General taxes (less rebates)	\$2,505,741
Licences	113,879
Franchise rights (Winnipeg Electric Street Railway Company)	86,741
	<hr/>
	\$2,706,361

The balance was made up of :

Waterworks revenue	\$477,550
Light and power dept. revenue	67,972
Works dept. engineering	96,420
Police court fines	41,565
Market rents and fees	14,001
Miscellaneous	139,417
	<hr/>
	\$836,925

The ordinary expenditure amounted to \$3,510,665, leaving an excess of revenue over expenditure of \$32,621.

In the expenditure the heaviest items are :

Protection of life, health, and property (<i>i.e.</i> police, fire, and health depts., street lighting, etc.)	\$868,004
Education (Winnipeg Public School Board)	595,500
Hospitals	126,544
Financial management (assessment com- missioner's, comptroller's, and treasurer's offices, etc.)	79,698
Public highways and sewers (works com- mittee and street commissioners' dept.)	319,409
Waterworks	508,030
Light and power dept. operating	79,219
Public parks board	104,053
General interest (on debentures, stock, and bank overdraft)	259,132
Sinking fund	119,787
Miscellaneous	451,289
	<hr/>
	\$3,510,665

The above shows merely the ordinary expenditure of the city and not the outlay on capital account.

The gross debt of the city (debentures and stock outstanding) on April 30, 1912, was \$30,134,483, against which there was a sinking fund in hand of \$3,205,530.

Arch. B. Clark

HISTORY OF EDUCATION
IN MANITOBA

HISTORY OF EDUCATION IN MANITOBA

EARLY POPULATION: SOURCES AND CHARACTER

IN the absence of definite records, it is not possible to state with absolute accuracy the number of people inhabiting the Red River Settlement during the earlier years of its existence, but when the Scots and Irish arrived there must have been several hundred Frenchmen and half-breeds within the area of land acquired by Lord Selkirk.¹ The number of the Selkirk colonists can be determined more accurately. It is probable that when Lord Selkirk visited the Red River in 1817 there were about one hundred of them all told. As time went on there was considerable immigration of Scotsmen and Orkneymen, and a large number of half-breeds of English, Scottish, and French descent joined the colony and settled down to farming in the various parishes, whose names indicate the nationalities of the early inhabitants. In 1829 some thirty-six Orkney families, four English families, and twenty half-breed families came to Red River from James Bay. By the beginning of the third decade there were not less than fifteen hundred people in the settlement.

The population thus fell naturally into two classes, on the basis of language and religion, and organized educational effort proceeded along two distinct lines. It will be convenient to trace these two movements separately.

EDUCATION AMONG THE FRENCH-SPEAKING POPULATION PRIOR TO 1870

The missionaries of the Roman Catholic Church were first upon the ground and devoted themselves to the in-

¹ See p. 19 *et seq.*

struction of the French population. In 1818 Bishop Plessis of Quebec appointed the Rev. Joseph Norbert Provencher of Kamouraska to establish a mission at Red River. This step was taken on the advice of Lord Selkirk and in view of a petition signed by some twenty-three French inhabitants of the district. Father Provencher with two companions, Father Dumoulin and Guillaume Étienne Edge, arrived in July 1818, and before the summer was over, a house, part of which served as a chapel, was erected at the mouth of the Seine River upon land granted by Lord Selkirk as a seigniory. Father Provencher organized a school and conducted it in the chapel, teaching reading, writing, and the catechism to the children of the neighbourhood. A few months later Father Dumoulin established a school at Pembina and placed Edge in charge. Sixty children were enrolled. In 1821 Sauvé, another unordained ecclesiastic, succeeded Edge. He had six scholars studying Latin grammar, and presently asked his superiors for 'more primers, some grammars, epitomes, and other little school books,' as well as 'works on history and books of devotion.' It is recorded that one of the main channels of expense in connection with the mission was the educational work. The extremely unstable character of the population added another difficulty. In 1823 the mission was withdrawn from Pembina, an accurate survey having shown it to be within the United States. Many of the people moved north to St Boniface and St François-Xavier.

Provencher in the meantime became Bishop of Juliopolis. His consecration took place at Quebec in 1821, and during his absence the school at St Boniface was under the care of Father Destroismaisons. On his return he brought with him a young student-ecclesiastic, Jean Harper, whom he placed in charge of the primary department, Father Destroismaisons going to a mission at St François-Xavier. Advanced instruction was provided for older scholars. The nature of this instruction is indicated by the requests of the teachers for four Latin-French and four French-Latin dictionaries, the works of Cicero, Sallust, and Quintus Curtius, elementary books, and other school necessities. In 1824 mention is made of two

young men fairly well endowed intellectually who had completed the elementary and were ready to go forward to a collegiate course. One was a Métis named Chenier, whose father had come to Pembina from Lachine; the other a Canadian named Senecal.

Efforts were made, not without success, to instruct the Indians in agriculture. As early as 1822 the bishop induced the Saulteaux to sow wheat in four different localities, he himself giving personal instruction in handling the plough. Unsuccessful experiments were made with imported fruit-trees and seeds.

Bishop Provencher greatly desired to train natives for the service of the church. Such assistance would have proved invaluable also in the work of education if it could have been secured. But no half-breed, it is stated, was ever elevated to the priesthood during the lifetime of Provencher or his successor. It was reserved for Angelique Nolin, the daughter of a former officer of the North-West Company, Louis Nolin, to be the first of that race to employ her knowledge and talents in the instruction of her compatriots. This young lady and a younger sister had been sent to Canada to be educated, and in 1829, at the earnest solicitation of the bishop, undertook the management of the first school for girls ever organized in the settlement. Besides the ordinary branches, the young people later on were taught the art of weaving. For several years Miss Nolin taught also at Baie St Paul.

In 1833 the Rev. Georges Antoine Belcourt undertook to establish an experimental school at Baie St Paul, now St Eustache, with a view to training the natives for the pursuit of agriculture, and five years later he founded a similar institution at the junction of the Winnipeg and English Rivers. He also prepared a grammar of the Chippewa language, and is said to have enriched that tongue 'with compounds which faithfully and vividly expressed, as far as possible, the foreign ideas of civilization and Christianity.'¹

Instruction in the art of weaving was made possible by an

¹ A. G. Morice, O.M.I., *History of the Catholic Church in Western Canada*, vol. i. p. 138.

arrangement with George (afterwards Sir George) Simpson, governor of the Hudson's Bay Company and head of the council of Assiniboia, who agreed that the company should pay the salary of two women instructors for three years while the Catholic mission furnished them with board and lodging. This industrial school, therefore, was opened in 1838, with two expert teachers from Canada in charge, and in a short time it was making satisfactory progress. But in 1839 the school was burned, and 'all the machinery,' writes Bishop Provencher, 'for making cloth, the looms, cards, wool, cotton, tow, all were burned. . . . The Company has given me 250 piastres towards rebuilding my industrial school. . . . After the fire I did not know where to lodge the mistresses and their pupils. I have given them my stone house and am lodged in my old sacristy, which gives me shelter from bad weather in summer but does not render the same service in winter; the wind prevents the making of a fire; it is a building long since abandoned and is in very bad order.'

In 1843 Bishop Provencher, after many unsuccessful efforts to secure the assistance he required for his educational work, decided to invite to his aid some volunteers from the eastern establishments of sisterhoods. He met with no success in the American cities which he visited, but when he reached Montreal and appealed to the Grey Nuns, the ladies of that order decided to send four of their sisters to St Boniface: Sisters Valade, Lagrave, Coutlée, and La France. The fact that the famous La Vérendrye's nephew and lieutenant, La Jemeraye, was the brother of the venerable foundress of the order, Madame D'Youville, may have had a certain weight in reaching this decision. The ladies arrived in June 1844 by way of the south, and were accorded a warm welcome from all classes in the settlement. In August sixty girls were enrolled in the St Boniface school, and in June 1845 the sisters had eighty children in their classrooms. The bishop had now under his direction five schools, 'besides less regular institutions.' By 1858 there were three convents in operation, at St Boniface, at White Horse Plains, and at St Norbert, the last named having been founded by Sisters Laurent and Dandurand. The problem of securing assistance for religious

and educational work was largely solved when the first contingent of Oblate Fathers came to St Boniface in 1845. Bishop Provencher had personally applied for assistance to the head of that order, Monseigneur de Mazenod, Bishop of Marseilles. Fathers Aubert and Taché were the first to arrive. The latter, Alexandre Antonin Taché, at that time a young man of twenty-three, succeeded Provencher as bishop eight years later. Three more brethren came in 1846, and a large number arrived in 1857. In 1874 the Sisters of the Holy Names of Jesus and Mary, a purely teaching order, established the school which grew into St Mary's Academy, and since that date these ladies have organized six other schools and convents.

Meantime the college at St Boniface had been steadily growing. A beginning was made in 1823, and four years later there were students in residence. In 1834 there was a class of six students. In 1855 Monseigneur Taché began the erection of a special building, thirty-four feet by sixty, which was completed in 1857, and fifty pupils were enrolled, the junior classes being in charge of the Christian Brothers, while the Oblates directed the seniors. Fathers Lefèche, Vegreville, and George Dugas in turn were engaged in the management until 1877, when it was affiliated in the new University of Manitoba, along with the sister colleges of St John's and Manitoba. It had one hundred and fifty students in attendance, with nine professors, the Rev. Forget-Depatis being rector. An important change in management took place a few years later. The Oblates are a missionary, not a teaching order, and they gave place to the Jesuits, who assumed charge in 1885 and have remained ever since. The Rev. Father Lory, S.J., was the first of that order to act as head of the college. Its affiliation in the university did not interfere with its free choice of professors and methods of teaching. It controls its internal affairs, studies, worship, and religious teaching, and its own special courses in history, French, literature, and philosophy are accorded full recognition by the university.

EDUCATION AMONG THE ENGLISH-SPEAKING POPULATION
PRIOR TO 1870

The general movement of education among the Roman Catholic population of French and French half-breeds having been indicated, it is now necessary to trace the progress of a similar activity among the Selkirk settlers of Scottish, Orkney, and Irish descent, and the English-speaking half-breed population.

Lord Selkirk's promise to send to the Scottish settlers a regularly ordained clergyman of their own was not redeemed. Nor were the plans he conceived for education in the colony carried into effect. It was not until 1820 that any regular school was established. There are records of a school conducted on shipboard by the members of the fourth party of colonists in 1815. The shipmaster states that 'school hours were from 11 to 2 o'clock,' and that 'English bibles were the only books they read ; which greatly facilitated their learning the English language ; and they certainly made great progress in both learning the language and learning to read.' This was not quite in line with Lord Selkirk's plans. In appointing K. M^cRae as educational supervisor of the colony in 1813, he wrote to Miles Macdonell, the governor : 'K. M^cRae has the improved method of Mr Jos. Lancaster. Get a young man of cool temper to assist him as master. Teach them [the pupils] to read and write their native tongue. I care not how little they learn of the language of the Yankees.' Others letters of Lord Selkirk indicate clearly that he aimed at forming a Gaelic colony, and that he believed a difference in language would counteract any tendency to amalgamation with the Americans.

So inadequate were the arrangements for the reception of the successive parties of immigrants on reaching Red River, so arduous the struggle of the settlers for a bare existence during the first years of the settlement, harassed, threatened, and maltreated as they were amidst the violent disorders and conflicts of the servants of the rival companies, that there was no possibility of any organized effort towards the establish-

ment of schools until the arrival of Lord Selkirk in the summer of 1817. Even then the only progress made was the setting apart of two lots of land 'ten chains frontage each,' one for a church and manse, the second for a school, and 'for a help to support your teacher.'

It was not, indeed, until 1820 that a clergyman appeared. This was the Rev. John West, chaplain to the Hudson's Bay Company; but his coming was a disappointment to the Scottish colonists, who had been promised a minister of their own faith. West was of the Church of England. He had been instructed to open schools as well as to minister to the spiritual needs of the colony, and he immediately set about the performance of this part of his duty. His first essay in this direction was to bring with him from York Factory a half-breed lad as the first pupil for a school which he desired to establish. 'I drew up a plan which I submitted to the Governor for collecting a certain number of them to be maintained, clothed, and educated upon a regularly organized system.' Soon after his arrival he secured the use of a log-house about three miles below the fort. This building was repaired and was occupied by the schoolmaster as a dwelling and schoolhouse. From twenty to twenty-five of the settlers' children were brought together and the school organized. The teacher was George Harbridge. In 1822 Harbridge was assisted by his wife, who instructed the girls in reading, writing, and household science.

In the course of his missionary work about the country West collected a number of native children, and a residence was built for them upon the school lot above mentioned. Of his efforts with the native population he writes :

I now had several [Indian boys] under my care who could converse pretty freely in English, and were beginning to read tolerably well, repeating the Lord's Prayer correctly. The primary object of teaching them was to give them a religious education ; but the use of the bow was not to be forgotten, and they were hereafter to be engaged in hunting, as opportunity and circumstances might allow. As agriculture was an important branch in the system of instruction, I had given them some small

portion of ground to cultivate ; and I never saw English schoolboys more delighted than they were in hoeing and planting their separate gardens.

When West returned to England he was succeeded, in 1824, by the Rev. D. T. Jones, who found on his arrival a church, a school, and two small houses for resident pupils. Jones succeeded in effecting an arrangement with his Scottish parishioners which was highly creditable to him and them. 'He laid aside such parts of the liturgy and formulas of the Episcopalian church as he knew were offensive to his Presbyterian hearers.'¹ The settlers placed themselves under the care of the minister, and for many years attended the services thus modified to suit their needs. Jones, assisted by his wife, continued the schools begun by his predecessor for two years, until the arrival of the Rev. W. Cochrane, who, as he said, was to be 'minister, clerk, schoolmaster, arbitrator, peacemaker, and agricultural director.'

In 1828 a school was established for the education of the daughters of gentlemen of the Hudson's Bay Company's service. At that time there were, under the direction of the minister, 'four daily schools besides Sunday Schools,' and the number of Indian children maintained and educated by the establishment was about thirty. Three years later a school-house was erected at St Andrews. 'A young gentleman of fair educational attainments had been engaged to teach. On entering on his duties he took the male portion of the pupils under his care, while Mrs Cochrane devoted five days a week to the instruction of the girls who attended. But the Reverend gentleman was, when not engaged in other duties, in the school examining the pupils, praising the diligent and reproving the slothful.'²

In 1833 a school was built by Cochrane twelve miles from the 'grand rapids.' This building was twenty feet by forty, with residence for the master at one end, and a loft above to serve as a granary. The purpose was chiefly to give instruction to the people of the *Saulteaux* tribe in the rudiments of agriculture. The institution was opened in the fall with

¹ Donald Gunn, *The History of Manitoba.*

² *Ibid.*

thirty-two children. Joseph Cook, whose father was an Englishman and whose mother was a Cree, was appointed schoolmaster. In 1846 the Rev. Abraham Cowley writes concerning this school as follows: 'I have introduced the carding and spinning of wool into the school to assist in clothing the children, and to teach them habits of industry and economy. In this, as well as in reading and writing, they are making, I think, very satisfactory progress. Some have commenced arithmetic.' In July 1848 there were thirty-five pupils attending, eighteen Indians and seventeen half-breeds, boys and girls.

Meantime the school founded by West had grown and prospered. In 1833 it was carried on as a boarding-school under the headmastership of the Rev. John MacCallum, who was in charge of it until the arrival of Bishop Anderson, the first bishop of Rupert's Land, in 1849. MacCallum died on the very day of the bishop's arrival, and the latter immediately assumed the responsibility of the school. He extended the scope of the work with a view to the training of men for the ministry, and gave the institution the name of St John's College. Shortly before the resignation of Bishop Anderson in 1864 it was discontinued for lack of funds, and was not revived until after the arrival of Bishop Machray. A school conducted by the Rev. S. Pritchard in the neighbouring parish of St Paul's was incorporated with the older school, and upon this as a foundation St John's was instituted on November 1, 1866, as a college and high school. The staff consisted of Bishop Machray, Archdeacon M^cLean, and Pritchard. There were three students in theology and eighteen in the preparatory department, and within two years the attendance had increased to forty. The college was incorporated in 1871, and three years later there were seven instructors and sixty students. The present home of the college was built in 1883.

The Scottish residents of the colony, who had petitioned and waited for many years for a clergyman of their own faith, were at last rewarded by the arrival of the Rev. John Black, who came to them, not from the old country, but from Canada in 1851. The settlers had already, in 1849, organized

a school in Kildonan. It was of course supported wholly by voluntary contributions. The first teacher, John Inkster, began work in a dwelling-house. Later a log structure was erected which served until 1864, when, under the supervision of the Rev. James Nesbet, a stone schoolhouse was built. The roll of early teachers includes Inkster, Matheson, Adam M^cBeth, Hector M^cBeth, Ross, Harper, Polson, Whimster, and Munroe. At a time when fifty cents per day was a fair wage for a farm hand, a yearly salary of sixty-five dollars for a teacher was not considered inadequate. Desks were fixed in a row around the wall for writing exercises. The pupils faced toward the middle of the room for recitations, the benches having no backs. Bibles were the reading-books as soon as the preliminary difficulties of reading were mastered, and the Shorter Catechism had its place. Much attention was devoted to penmanship and spelling. The older pupils studied Euclid, the History of England, and Lindley Murray. Advanced education was more fully provided for by the Rev. D. B. Whimster in 1869, the Rev. John Black giving instruction in classics and mathematics.

The College of Manitoba was founded upon this school in 1871. There were seventeen students in attendance at the outset. The Rev. George Bryce, Dr Black, and an assistant were the first teachers. The Rev. Thomas Hart, a minister of the Established Church of Scotland, was appointed to the staff in 1872 as professor of classics and French. Two years later the institution was transferred from Kildonan to Point Douglas, where it continued, in rented quarters at first but later in a building of its own, until 1882, when the present site was occupied. In 1883 the Rev. John King, D.D., was appointed principal.

THE EDUCATIONAL ACT OF 1871

The colony of Assiniboia became a province of Canada in 1870 under the name of Manitoba. A provincial legislature consisting of a council and an assembly took the place of the old council of Assiniboia. In 1871 a law was passed establishing a system of schools for the province. A board of

education was formed which was to consist of two sections, Protestant and Roman Catholic. The first board included eight ecclesiastics and four laymen—Archbishop Taché, the Rev. Joseph Lavoie, the Rev. George Dugas, the Rev. Joseph Allard, Pierre de l'Orme, and Joseph Dubuc; and Bishop Machray, the Rev. Dr Black, the Rev. Cyprian Pinkham, the Rev. George Young, John Norquay, and Dr Bird. Joseph Royal and Molyneaux St John were appointed superintendents and joint secretaries of the board. Twenty-four school districts corresponding to the twenty-four electoral divisions were named to begin with, twelve of them to be considered Protestant school districts and twelve of them Roman Catholic. The parish schools were taken over and operated under the law, which with slight amendments remained in force until 1890.

The population of the young province was close to 12,000—1565 whites, 5756 French half-breeds, 4083 English and Scottish half-breeds, and 558 Indians. It had more than doubled since the middle of the century. A census taken in 1849 gives the total figure at 5391, and there were at that time twelve schools. At the beginning of the provincial era there were thirty-three in actual operation.

The English-speaking population increased rapidly by immigration from Eastern Canada, and in 1876 there were thirty Protestant schools with 1600 pupils enrolled, while the Roman Catholics had twenty-two with an enrolment of 1134. In 1883, following a period of considerable immigration, there were forty Roman Catholic schools with 1941 in attendance, and two hundred and seventy-one Protestant schools with an enrolment of 10,831. By the end of the decade there were 90 districts under the Roman Catholic section of the board, and 629 under the Protestant section, or 719 in all.

About ten years after the admission of Manitoba to the Dominion settlement began to extend beyond the Red River valley, and in a few years the great undulating plains traversed by the Pembina, the Souris, the Little Saskatchewan, and the Bird Tail Rivers were occupied by newcomers from Eastern Canada and the British Isles. In 1881 the boundaries of the province were extended. The extension

of its limits west, north, and east increased its area to about 73,000 square miles. Every encouragement was offered to the incoming settlers to build and equip schools in the newly occupied districts. Any group of people who could agree as to the size of a school district and the location of a school site might form a school, if there were fifteen children of school age within the neighbourhood. Trustees were elected and were empowered to borrow money and issue debentures in order to carry on the schools. There was a legislative grant, which was divided between the two sections of the board of education in proportion to the number of children of school age in Protestant and Roman Catholic school districts according to the yearly census returns; this was distributed among the schools actually in operation. There was a municipal levy not to exceed \$240 annually to each school. The balance required was raised by a special tax on the district.

The setting apart of two sections of land, 1280 acres in every township of thirty-six square miles, as school lands by the Dominion government was intended to lighten the heavy burden borne by the sparsely settled communities. But the school lands were administered by the Dominion government, the sale of these lands was very slow, and the province received only the interest on the fund.

The attendance at the rural schools was largely composed of children between five and twelve or thirteen years of age. There were a few pupils in the higher classes, but the services of boys and girls in their teens on the farm and in the household are very valuable under pioneering conditions, and consequently older boys and girls attended but slightly, except in those districts where winter schools were conducted. For many years it was difficult to keep the schools open all the year round, until settlement was further advanced and winter trails could be kept open. The conditions were better in this respect in the older settlements along the Red and the Assiniboine Rivers, where the old system of survey existed. There the long narrow lots fronting on the river gave the advantage of a compact neighbourhood, the houses being close together and forming an unbroken line of settlement.

Reading, writing, and arithmetic, with their usual accompaniments of spelling and composition, formed the staple subjects of the course of study for the juniors, while English grammar, history, and geography in addition were studied by the older pupils. The schools were opened and closed with religious exercises, which consisted of scripture readings and prayer. There was provision for religious instruction. The teachers in Protestant schools were required 'to observe and to impress upon the pupils the principles and morals of the Christian religion.' In the Roman Catholic schools the teachers, in accordance with the requirements of the course of study, devoted more time relatively to religious instruction than was given to it in the Protestant schools. The course included the study of prayers, of catechism, and of sacred history. Religious instruction was the more readily communicated in these schools by reason of the fact that many of the teachers were ecclesiastics and members of teaching orders.

The supply of teachers for the Protestant schools came mainly from Eastern Canada. In 1877 only three out of the thirty-six teachers employed were natives of the province. It was not until 1882 that the Protestant school board of Winnipeg established a high school, which for some time was in charge of but one teacher. Within two years, however, there were fifty pupils attending, and two teachers giving instruction in teachers' courses, and also preparing students for the university matriculation. Normal school training was provided at St Boniface in 1882 under the Roman Catholic section of the board, and at Winnipeg in 1884 under the Protestant section. The inspection of the schools was conducted almost exclusively by local clergymen until 1888, when the Protestant board appointed a regular staff of five men whose whole time was given to the work.

THE ACT OF 1890 AND THE 'SCHOOL QUESTION'

In 1890 the legislature abolished the denominational system of public education, and enacted that the Protestant and Roman Catholic school districts should be subject to the

provisions of the Public Schools Act. That act provided that the public schools should be non-sectarian and free, that religious exercises should be conducted according to the regulations of an advisory board, that such religious exercises should be held just before the closing hour in the afternoon, and that they should be held entirely at the option of the school trustees of the district. There was a conscience clause requiring the teacher to allow children to withdraw during these exercises on notification by parents or guardians. Another act created a department of Education to consist of the executive council or a committee thereof, and an advisory board of seven members, four to be appointed by the department of Education, two to be elected by the public and high school teachers of the province, and a seventh to be appointed by the university council. The advisory board was to make regulations regarding the text-books and courses of study, the qualifications of teachers, and the appointment of examiners, as well as the forms of religious exercises for the schools. The Public Schools Act declared that any school not conducted in accordance with the provisions of the act or the regulations of the advisory board should not be deemed a public school within the meaning of the law, and should not participate in the legislative grant.

The Manitoba school controversy, while forming part of the history of education in the province, was itself obviously an instrument of education. It naturally quickened the interest of all classes of the population in educational affairs generally ; it stimulated a desire and an effort for educational improvement ; and it involved a more or less serious effort to form a consistent theory of the meaning of education and the relation of education to the state.

The conflict revealed a wide divergence of opinion in respect to some of the events which occurred in the country just prior to its admission into Canada. One opinion was that the acts of the leaders in the movement at Red River were of the nature of rebellion and usurpation, that the country was in fact in a state of rebellion which made necessary a military expedition, and that the Manitoba Act was in no sense a treaty requiring the approval of the people. In another

view, the formation, with the express sanction of the governor of Assiniboia, of a provisional government by the inhabitants of Assiniboia for the preservation of the public peace, the resolution to treat with the government of Canada before agreeing to enter into the Confederation, and the acceptance, by the convention or assembly, of the Manitoba Act as a satisfactory guarantee of their rights, including those relating to education, form a series of proper and praiseworthy steps which were taken by loyal British subjects in defence of their natural and constitutional rights. The disputants were generally agreed in condemning the grievous error of the British government in neglecting to keep a sufficient military force in a colony on the eve of a transfer of political relations, the equally serious mistake of the Dominion government in sending a body of men to survey land in a colony over which Canada had as yet no authority whatever, and the most lamentable blunder of all, that committed by Riel in the execution of one of his prisoners.

The controversy raged with great violence, particularly between 1890 and 1897, and has arisen from time to time since then. It engaged the attention of the whole of Canada, and employed the energies of many able politicians, lawyers, journalists, and pamphleteers. The history of the negotiations which preceded the entry of Manitoba into the Dominion was reviewed with extreme minuteness by both parties to the dispute. The quality of the instruction afforded by the Roman Catholic schools was keenly criticized and as warmly defended. One party urged the difficulty of maintaining two systems of schools in a sparsely settled country, and the desirability of a single efficient national system in which all classes of the population might come together in the interest of a united national sentiment and for the cultivation of mutual understanding and good citizenship. The other strongly asserted their right to furnish to their children the type of education which satisfied their religious convictions. They declared that no national or civic unity could be achieved on a basis of compulsion. They affirmed that constant efforts had been made, and would be made, to remove any deficiencies in the instruction given in their schools. The advocates of

national schools pointed to the law which required that the schools should be non-sectarian, and to the fact that the religious principles inculcated by the teachers were not those of any church or sect, but the common tenets of Christians. In reply it was urged that no real change had taken place in the religious character of the schools which had been transferred from the Protestant system to the public system, that they were still in reality Protestant schools in the same sense that they were Protestant before 1890. The one side stated that the spirit and atmosphere of the public schools was Christian in the best sense and served the ends of a public educational system, whereas the church and the home could very well look after the inculcation of special creeds. The other side contended that apart from the teaching of positive religious doctrine the general tendency of such schools would be to lose the spirit and atmosphere spoken of and to become godless. The Anglican or the Presbyterian who consented to omit from the religious teaching in the school the special tenets of his creed in the interest of agreement upon essentials, was usually unable to conceive why the Roman Catholic should refuse to join in what seemed an economic method of achieving a national project. The Roman Catholic was equally unable to understand why, in view of his well-known desire for a system of education into which religion must enter as a predominating element, he should be expected to concur in an arrangement which reduced the religious element to what he regarded as the merest vestige.

Meantime the passing of the act was followed by a series of legal actions. The right of the legislature to make laws respecting education is subject, according to the Manitoba Act, to the provision that any right or privilege with regard to denominational schools which any class of persons enjoyed by law or practice in the province at the time of the union, must be respected. An application was made (November 1890) to quash a by-law of the city of Winnipeg passed under the authority of the statute. The application was dismissed. An appeal was taken to the full court, which affirmed this order. A further appeal to the Supreme Court of Canada resulted in a reversal of the order, the judges unanimously

declaring the act to be *ultra vires*. On a further appeal to the Privy Council, that court gave judgment (July 30, 1892) reversing the decision of the Supreme Court, and declaring the act of 1890 to be a valid act. The judgment stated that there was no law in respect to education in force at the time of the union, that the practice was for Roman Catholics to establish and maintain schools at their own expense in accordance with their own religious tenets, and that they were still free to do so.

The Manitoba Act provides for an appeal to the governor-general in council from any act or decision of the legislature of the province affecting any right or privilege of the Protestant or Roman Catholic minority of the queen's subjects in relation to education. The Judicial Committee of the Privy Council having decided that the circumstances existing gave the right to the Roman Catholic minority to appeal against the act of 1890, the governor-general in council heard an appeal in February 1895, and decided to issue a remedial order requiring the Province of Manitoba to restore to the minority the right to conduct their schools as denominational schools, to share proportionately in educational grants, and to be exempt from contributions in support of any other schools. After some communications had passed between the Dominion and Manitoba governments, which failed to secure the compliance of the latter, the Dominion government in 1896 introduced a remedial bill to secure relief for the Roman Catholics in Manitoba. Before the bill could be carried through the house, the parliament reached the limit of its existence, expiring 'by effluxion of time.' In the general elections which followed, the government of Sir Charles Tupper was defeated and Wilfrid Laurier became premier.

Under the new government negotiations were opened with Manitoba looking to a settlement of the difficulty, and certain additions, which aimed at making the public schools acceptable to the minority, were made to the Schools Act. Religious teaching was to be permitted, if authorized by the trustees, or on petition of ratepayers, between 3.30 and 4 o'clock in the afternoon, or on specified days of the week. In any schools in cities and towns where the average attendance of Roman

Catholic children was forty or more, and in villages and rural districts where it reached twenty-five, the trustees must, if petitioned by the parents or guardians of the children, employ at least one Roman Catholic teacher. There was to be no separation of the pupils by religious denominations during the secular school work, but they might be placed in different rooms for religious teaching. Provision was also made for teaching on the bilingual system if ten French-speaking pupils were in attendance or ten pupils speaking any language other than English.

When these provisions were embodied in the school law, the Roman Catholic schools of the province, with the exception of a number of parish schools in Winnipeg and Brandon, came under the general operation of the act, accepted the legislative grant, and were visited by the government inspectors. Up to 1894, according to the report of the government inspector of French schools, of the ninety-one districts under the control of the Roman Catholic section of the old board, twenty-four had been disbanded for various reasons, some having been organized in districts where the Roman Catholic population was insufficient to support them, others having been maintained for a short time only; and twenty-seven of the old districts, together with nine newly formed ones, had accepted the public school system. Now, with the exceptions above noted, the Roman Catholic schools became public schools. Efforts are still being made to arrange terms by which the remaining schools may be brought under the act, but up to the present time without success. Meantime, in 1898, a representative Roman Catholic accepted a seat on the advisory board of education.

PROBLEMS DUE TO FOREIGN IMMIGRATION

The difficulty of establishing a single system of schools in a population composed of elements differing in language and religion is further illustrated by the case of a colony of German people of the Mennonite faith who settled in Southern Manitoba in 1874.¹

¹ See 'Immigration and Population,' section iv. p. 534 *et seq.*

About ten years after their settlement in the province grants were paid to certain schools conducted on the Mennonite reserve by the Protestant section of the board. The number of schools receiving aid varied from twelve to twenty. Twice this number of schools would not have been sufficient for the children at that time. The inspector reported also that the people preferred to conduct private schools and to carry on a course of study consisting almost wholly of religious exercises. Under these circumstances progress in the ordinary branches was extremely slow, the teachers being ill-qualified and in some cases almost illiterate. In 1891 there were only eight district schools in operation. A training-school for teachers was opened at Gretna with twelve students in attendance. In another year eleven public schools were in existence with an average enrolment of thirty-five, in 1893 there were twenty, and by the end of the century forty.

This slow progress in inducing the people to take advantage of the public school system results from religious conviction, the strictly orthodox holding it incompatible with their principles regarding government to take part in the election of trustees, collect taxes through the medium of municipal officers, or even accept the legislative grant. The less strict members of the community are willing to perform some civil duties, including those connected with schools. In 1905 a provincial law was passed requiring school trustees to fly the Union Jack during school hours, and this resulted in the withdrawal for a time of a number of Mennonite schools from the list of public schools until the prejudice or misunderstanding could be removed. Further, it had been the custom in many schools to teach a number of public school subjects in the German language. The intention of the law is that English should be employed. In 1910 the inspector was able to report that the teachers now speak English when teaching public school subjects, and German when teaching that language. In most of the schools the German teaching is limited to the last hour of the day.

There is no bilingual problem in connection with the Icelandic and Scandinavian settlers, of whom there are over

sixteen thousand in the province. They learn English without the assistance of special schools. For the Galician and Polish immigrants (there are forty thousand of the former and twelve thousand of the latter) the department of Education has established two training-schools, one at Brandon for Ruthenians and the other at Winnipeg for Poles, in order to educate and train young men as teachers for the schools of their compatriots.

PROGRESS IN ELEMENTARY SCHOOLS SINCE 1890

During the last decade of the nineteenth century the ordinary course of study underwent no change of importance. Changes in educational programmes, when they occur, are due to influences outside of the school, and schools and teachers are usually slow in responding to the demands made upon them. Efforts have been made in Manitoba as elsewhere to modify existing courses of study, and to bring them more into line with social needs. The rural schools, it was thought, should be made less bookish and more practical, particularly in respect to a knowledge of agriculture. Accordingly provision was made on the programme for a practical study of elementary botany and chemistry. But the effect upon the schools was very slight. Later on attempts were made with better success to encourage 'nature study' rather than elementary science. Within the last few years some progress has been made in school gardening in both rural and urban schools. All teachers are now required to take a course at the summer School of Science in order to become acquainted with this branch of their work.

Improvements in the course of study, no matter how wisely conceived, cannot avail much where the attendance is small and irregular. Throughout the province, owing to various causes, nearly half the pupils registered ordinarily attended school less than half the time. Some of the schools showed the absurdly low average attendance of two, three, four, or five pupils, while the cost per pupil per annum in hundreds of instances was two and three times as great as in the average city system. In 1905 the department of

Education took the ground that a stop should be put to the practice of forming school districts on a scale which necessitated the establishment of small and inefficient schools, that steps should be taken towards consolidation of small districts into larger ones, and that in those districts which were too large or not so conveniently situated as to admit of consolidation, a system of conveyance of children to school at public expense should be inaugurated as soon as possible. The necessary legislation having been enacted, the movement towards consolidation began in 1906 with the union of Shane district with Virden and that of Dawson with Holland. In 1909 four more such unions were effected, in 1910 nine, in 1911 eleven, in 1912 fifteen, and, at the time of writing in 1913, five. Thus forty-six consolidated districts are now in operation, and some half-dozen or more are organized or in process of organization. The Goose Lake consolidated school district is the largest of these. It includes four districts and portions of three others, besides some territory not hitherto in any district. Its total area is one hundred and fifteen square miles, and it employs fourteen vans which daily convey one hundred and seventy children to a central school. The van routes are six to nine miles long.

It is expected that systematic co-operation and merging of interests will go far towards solving the problem of general education. A consolidation may include two or more of the old districts. The trustees must employ a sufficient number of suitable conveyances, heated in winter, with responsible drivers in charge. These vans driving swiftly over regular routes ensure safety and comfort as well as larger and more regular attendance, and enable pupils to enjoy the advantages of a larger and better-equipped school. There has been some agitation in recent years in favour of municipal school boards, and the people have been urged to abandon the plan of managing their educational affairs on the basis of a single school district governed by three trustees locally elected. It has been urged that a larger unit of administration would render educational effort much more effective and economical. Provision has recently been made in the school law for the establishment of municipal school boards

where the people desire to have them, but up to the present no advantage has been taken of this law.

In urban schools also efforts have been made to give a practical turn to school studies. School gardening has already been mentioned. In 1901 manual training for boys and domestic science for girls became part of the regular course for the higher forms of elementary schools in Winnipeg. The work was in wood at first, but after a few years metals and clays and other materials were introduced, and the younger children were also taught. Latterly, other centres have added these branches to their programme: Brandon, Portage la Prairie, Dauphin, Stonewall, Teulon, and others. This manual training is given as part of a general education and not with a special trade in view. The same is true, of course, of the sewing and cooking for the girls. These courses proved very popular in Winnipeg, and their success no doubt helped forward a still more recent movement in favour of technical schools of secondary grade.

Other features of educational advance in Winnipeg deserve notice. Elementary evening classes were established in which young men could improve their general education and non-English-speaking persons could learn to read and write English. These classes were opened in 1907 and are still continued during the winter months. Another way in which the schools serve the community is in giving school playgrounds over to the use of the children of the district and providing them with play instructors during holidays and vacation. Perhaps more far-reaching are the arrangements for medical inspection by a staff of physicians and nurses.

Since 1885 the supervision of the schools in Winnipeg has been in charge of Dr Daniel M^cIntyre. In addition to the officials of the medical inspection department there are several supervisors of primary and intermediate grades, and also of manual training, household arts, music, drawing, and physical drill.

A staff of twenty-six inspectors appointed by the provincial government visit and report upon the public schools. Under the divided boards prior to 1890 the inspectors were usually clergymen. In 1888 the Protestant section appointed

five men who devoted their whole time to the work. Until 1905 the duties of inspectors included besides inspection of schools the special instruction of young teachers in short training courses in the proper organization and management of schools and in methods of teaching, these courses being held at convenient centres throughout the province. Latterly the inspectors have devoted their whole time to inspection and examination of schools and matters connected with disputed elections of trustees, the selection of school sites, and the formation of union school districts.

For the professional training of teachers provision was made by both sections of the board as early as 1882. The Grey Nuns in St Boniface undertook the work for the Catholics, and continued until 1897, after which Inspector Rochon, and later Inspector Goulet, carried it on. In 1902 the St Boniface normal school was erected. From 1882 to 1890 the normal school at Winnipeg under E. L. Byington, and later under D. J. Goggin, gave instruction under the Protestant board. It was then taken over by the new department of Education. In 1893 Goggin retired, and since that time the school has been under Dr W. A. McIntyre. A commodious building was erected in 1905, which houses a model school of seven grades used as a practice school for the students. Prior to that date the practical teaching was conducted in the Winnipeg schools. The session for second-class teachers is four and a half months, followed by one month at the Agricultural College. The normal school offers instruction in the theory, history, and art of teaching, and furnishes practice in teaching and class management under expert guidance. The academic or non-professional side of the students' work is done at the high schools before entering the normal school. Local training-schools at Brandon, Portage la Prairie, Manitou, and Dauphin provide short courses for beginners. For twenty-five years it has been the policy of the authorities to require normal school training as an essential part of the legal qualification of a teacher. A series of teachers' excursions to Great Britain, under the management of Fred J. Ney, who is a member of the departmental staff, was inaugurated in 1910. In three years between six and seven hundred

teachers, more than half of them teaching in the province, have availed themselves of this means of becoming acquainted with British educational institutions. The movement has the sanction and strong approval of the department.

From 1890 to 1907 the department of Education consisted of the executive council of the province, one member of which acted as head of the department and exercised a general supervision of its affairs. The government in the latter year appointed Stanley M^cInnis as the first minister of Education. George R. Coldwell succeeded to the office on the death of M^cInnis. The law formally creating the portfolio was passed in February 1908, and Robert Fletcher, who had served as chief clerk since 1903, became deputy minister. The chairman of the advisory board is Archbishop Matheson, who in 1904 succeeded Archbishop Machray in that office.

In 1876, the first year for which we have complete records, the school population of the province was 4777, the number of districts 68, the number of teachers employed 53, the average attendance 1433, and the number of schoolhouses 53: in 1911 the school population was 98,812, the number of districts 1598, the number of teachers employed 2868, the average attendance 43,303, the number of schoolhouses 1449, and the number of schools in operation 2341. In 1911 there was paid in teachers' salaries \$1,452,629, on building and sites \$1,199,288, the total expenditure, including upkeep, debentures, and sundries, amounting to \$5,023,890.

THE GROWTH AND WORK OF SECONDARY SCHOOLS

As early as 1882 a collegiate department was established in connection with the Winnipeg schools, and within a few years a similar step was taken by Brandon and Portage la Prairie. In due time these grew into fully equipped collegiate institutes. The need of secondary schools in smaller centres was met in 1888 by the formation of intermediate departments assisted by special grants. The number of towns and villages supporting these schools increased with the growth of population, until it was found necessary in 1904 to establish

high schools at points where the local board could employ two teachers for secondary work. At present there are collegiate institutes, each employing four or more teachers, in seven centres outside of Winnipeg. Six towns support collegiate departments with three teachers, and thirteen have high schools. In forty-five centres intermediate departments with one teacher are maintained in which the number of students of secondary grade varies from half a dozen to fifty.

Owing to the pressing need of an adequate supply of teachers for service in the elementary schools, every school of secondary grade offers a course of study for teachers. The full teacher's course is four years. During that period the student at the end of each year may write on examinations which cover the work prescribed for third class (in two parts), second class, and first class respectively. As there is a constant stream of young people abandoning the vocation of teacher and seeking other employment, the secondary schools must supply the places thus left vacant, and large numbers of students with two or three years of high school training go forward to teach in the elementary schools. In addition to this it is found necessary, in order to supply the schools, to issue interim certificates to other persons on standing obtained elsewhere. Between two and three hundred interim certificates are issued annually.

Parallel with the teacher's course is that leading to university matriculation. In the intermediate schools this is rarely undertaken, but both it and the teacher's course are given in the high schools and collegiate institutes. These courses have much in common. A third course for commercial students is given in Winnipeg, Brandon, Portage la Prairie, Dauphin, Morden, and Killarney, the students receiving instruction for two years in bookkeeping, stenography, typewriting, commercial geography, and commercial law.

In 1911 an important step forward was taken by the Winnipeg school board in the erection of two technical schools. They are equipped with the best appliances procurable. Provision is made for the practical study of household arts for the girls and various branches of industrial art

for boys, including industrial drawing, woodworking, pattern-making and moulding, forging, machine shop practice, electrical work, plumbing, tinsmithing, and printing. All classes of students taking up technical work in university, teachers', or commercial courses spend one half-day per week in practical work in the shops. On the other hand, the demands of general education are fairly satisfied in that the students who are most extensively concerned in technical work are nevertheless required to devote seven-tenths of their school time to books, theory, and general scholastic pursuits.

There are strong indications that the secondary schools in agricultural communities will establish courses in agriculture. In 1910 sixty per cent of the students were reported as preparing themselves for teaching, thirty-four per cent as following the university matriculation course, and six per cent as studying commercial subjects. But a beginning has now been made in industrial, engineering, and domestic work in Winnipeg, and in 1912 the Stonewall board established an agricultural high school course. A class of six young men was organized and a course of study undertaken which followed closely the first year's work given at the Provincial Agricultural College. Similar work has been projected at various centres and will no doubt begin shortly. The minister of Education, George R. Coldwell, has recently announced his intention to encourage the establishment of high school agricultural courses by substantial grants, and it is fully expected that some of the recently consolidated school districts will undertake the new work within a short time.

The growth of secondary schools has been rapid. In 1885 there were only two high school departments with two teachers each, the number of pupils was 133, and the legislative grant \$400; in 1912, forty-three intermediate departments, each with one teacher, thirteen high school departments, each with two teachers, six collegiate departments, each with three teachers, seven collegiate institutes, each with four or more teachers, the total number of teachers being 186 and the pupils 4122, while the legislative grant was \$56,377.40.

THE UNIVERSITY OF MANITOBA

The University of Manitoba was first established in 1877 as a confederation of colleges. A bill was introduced in the legislature which provided for its formation on the model of the London University, with authority to prescribe and direct the studies, conduct examinations, and confer degrees, except in theology, but not to undertake teaching at the outset. Meanwhile the instruction of students was to be looked after by three constituent colleges—St Boniface, St John's, and Manitoba. The government of the university was confided to a council to consist of seven representatives from each of the affiliating colleges, a representative from each section of the board of education, and three representatives of the graduates of universities resident in the province. The colleges were to have control of their courses and degrees in theology, and could select their own text-books in mental and moral science. A bill granting a charter to Wesley College was passed during the same session, but the Methodists did not get their college under way till 1888. Meantime a medical college was established and incorporated in the university in 1883.

The establishment of the university on a plan which rendered it acceptable to all parties was an important step forward. In 1885 the Dominion government assigned to the new university 150,000 acres of land. By the will of the late Dr Isbister, a native of the country and educated at St John's College, who died in 1883, the sum of \$80,000 was bequeathed to the university as a general scholarship or prize fund for the encouragement of meritorious scholars and students in schools and colleges.

In 1889 the university council passed a resolution approving of the university undertaking the teaching of some subjects, and in 1892 the act was amended in order to provide that the university should have power and authority to give instruction in different branches of knowledge, as the council might from time to time direct. The first branches chosen were natural science and mathematics, as being at once costly

and non-contentious. Meantime in 1890 an arrangement had been effected by three of the colleges for inter-collegiate lectures in science. Later amendments to the University Act provided for the appointment of representatives of the provincial government in the council, representatives of the university teaching faculty, of a college of pharmacy, and of the Agricultural College.

The three older church colleges have already been mentioned. The Methodist Church established Wesley College in 1888. The classes were conducted at first in rented quarters. In 1896 the present building was erected. The college maintains an arts department and a department of theology, and is one of the federated colleges of the university. This institution developed rapidly and soon occupied a very prominent place in provincial educational life. The late Dr Sparling was the first principal.

The medical college has earned a reputation for efficiency. An inspection of the medical colleges of the United States and Canada by the Carnegie Foundation gave this college a high certificate. The Bulletin of the Foundation states that the college has employed its resources intelligently, that it possesses adequate, new, and steadily increasing equipment, that the instruction is competent, that there is a good dispensary and an excellent hospital, and that the relation between the school and the hospital is admirable. It also speaks favourably of the rigid entrance requirements and the five years' course.

Brandon College, founded in 1901 in connection with the Baptist denomination, has done good service in higher education in the western part of the province. There is a commercial department, an arts department, a department of theology, and a ladies' college with resident students. There is accommodation for eighty students in residence, and the total average attendance is about two hundred. The Rev. Dr H. P. Whidden is the principal. The staff numbers twenty teachers. The first principal was the Rev. Dr A. P. McDiarmid, who retired in 1911. The college is now controlled by the educational board of the Baptist Union of Western Canada, and is affiliated with McMaster University, Toronto.

The corner-stone of the first university building was laid in 1900 by the king, then Duke of York, on a site in the vicinity of the local legislative buildings. The council proceeded step by step to furnish instruction in various branches. Six new chairs were founded in 1904. In 1907 civil engineering was added, and in 1909 departments of electrical engineering, political economy, English, and history. The staff now consists of twenty-three, of whom eleven are professors. There are ten lecturers and two demonstrators.

The Manitoba Agricultural College was founded in 1903 with W. J. Black as principal. It was located a short distance to the west of the city of Winnipeg on the south side of the Assiniboine River. Generous provision was made for buildings, equipment, and staff, and the institution became at once highly popular. It provided short and elementary courses in agriculture as well as more advanced work. In May 1908 the college was affiliated with the university. It was soon evident that a more extensive site and larger buildings were necessary to meet the demands made upon it, and accordingly a new site was secured in St Vital, a few miles south of the city on the west side of the Red River. Much more space was secured and much more extensive buildings planned. In 1912 the college was withdrawn from affiliation with the university.

Upon the request of the university council the provincial government in 1907 appointed a commission of seven members to look into and report upon the affairs of the university with a view to improving upon its system of government and management. Questions relating to the constitution of the council, the financial status of the university, the relationship between it and the several affiliated colleges, the nature and scope of the teaching, and the matter of buildings and a permanent site had been very fully discussed in the council and in the public press. Accordingly these matters were referred to the commission and investigated. The results were set forth in the form of three separate reports, the commissioners finding it impossible to agree fully upon a line of policy acceptable to all the members.

Two of the commissioners were of opinion that the uni-

versity is a free, self-governing corporation, and that any serious change in its original character as a federation of colleges would imperil its land grant and endowment, bring about serious legal difficulties, antagonize church college interests, and create friction and bitterness with respect to higher education similar to that aroused by the school question. They suggested the annual appointment of a board of management by the council from its own members to look after the property of the university, the appointment of teachers and other officers, and business affairs generally, the remaining members of council to form a senate to have charge of academic matters. The institution would thus retain its character as a federation of colleges, and the rights and privileges of the colleges would be preserved. They were of opinion that, if necessary, a university college might eventually be organized to establish a standard. Higher education in arts and science being very well provided for in the meantime, and the chief educational need of the province being instruction in practical and vocational branches, they recommended a college of engineering and mechanic arts and a college of household arts for women. They advised also the retention of the present site, to be enlarged by purchase of adjoining property.

A second report, signed also by two members, advocated a reconstruction of the whole system, and the establishment of the university upon a provincial basis by the appointment of a board of governors with full control of financial and business matters, including the selection of a president and staff. The university professors were to form the senate, with power to adjust courses and deal generally with academic affairs. No representation on either of these bodies was to be granted to the denominational colleges. The financial support of the province as a whole, along with the present resources of the university, would, it was urged, amply provide for all future requirements. In order to ensure the future of the university it would be necessary to remove it from denominational control and place it squarely on the province, to be supported and controlled by the people. This report advised the selection of a site close to the Agricultural College.

The remaining commissioners took middle ground. They desired the appointment, by the provincial government, of a controlling board of twelve members. But they believed that the denominational and other affiliated bodies should be represented on the senate, and they advocated friendly co-operation between the university and those colleges, this co-operation to include suitable arrangements for exchange of lectures, recognition of college attendance by the senate, and, generally, conference and common action where possible. They advised the purchase of a large site with provision for both college and university buildings.

In view of this wide difference of opinion no changes were made in the University Act in respect to its constitution and method of government. A president, however, was appointed—Dr J. A. McLean, president of Idaho University—and a new site finally agreed upon in close proximity to the new Agricultural College buildings. This site contains a hundred and thirty-seven acres of land in a bend of the Red River a few miles south of the city.

S. E. Lang.

HISTORY OF EDUCATION
IN SASKATCHEWAN

HISTORY OF EDUCATION IN SASKATCHEWAN

THE pioneers in educational work in the West were the missionaries. When Bishop Plessis of Quebec in 1818 sent forth Fathers Provencher and Dumoulin as missionaries to the Red River, he instructed them 'above all to watch with a jealous eye over the education of youth and establish schools wherever practicable.'¹ These instructions they and their successors loyally obeyed. From the Church of England and other Protestant churches came missionaries equally zealous.

In 1871 there were in the district of St Albert five primary schools attended solely by Catholics. In 1879 Bishop M^cLean opened Emmanuel College in Prince Albert for the training of native helpers for the Church of England. Between 1866 and 1874 Rev. James Nesbet, Presbyterian missionary to the Crees, projected an academy in the same place, but it came to nought.

The state at first avoided responsibility for education. It was, however, persuaded to make 'grants in aid,' such as the grant of \$300 in 1877 towards the support of the bilingual school at St Albert. It was inevitable that the state should assume responsibility. This was done in 1884 when the state became responsible but invited the co-operation of the churches. Sectarian rivalries, prompted by conscientious differences, soon forced the state to seek a way of escape from its embarrassments. The escape was effected in 1892, and henceforth amazing progress was made. In 1901 the deputy commissioner of Education reported that 'of the many dis-

¹ Rev. A. G. Morice, O.M.I., *History of the Catholic Church in Western Canada*, vol. i. p. 97.

tricts that erected buildings during the year, Edmonton led with an expenditure of \$33,000 for a new central school.' Ten years later that same deputy, then minister of Education for one of the provinces, sanctioned the expenditure of a million dollars for university buildings.

Instead of tracing this progress year by year in wearisome detail, it seems wiser to consider separately the more important difficulties which were encountered in the development of the system of national education.

SEPARATE SCHOOLS

The history of education in the North-West Territories from 1875 to 1905 cannot be understood without reference to the demand for separate schools. The North-West Territories Act of 1875, section 11, made provision for the establishment of separate schools in these words :

The Lieutenant-Governor, by and with the consent of the Council or Assembly, as the case may be, shall pass all necessary ordinances in respect to education ; but it shall therein be always provided, that a majority of the rate-payers of any district or portion of the North-West Territories may establish such schools therein as they may think fit, and make the necessary assessment and collection of rates therefor ; and further, that the minority of rate-payers therein, whether Protestant or Roman Catholic, may establish separate schools therein, and that, in such latter case, the rate-payers establishing such Protestant or Roman Catholic separate schools shall be liable only to assessment of such rates as they may impose upon themselves in respect thereof.

Although this act was amended in 1880, 1884-85, and 1886, this provision was left intact. When the autonomy bill of 1905 was introduced into the Dominion house, it was found that the draughtsman had incorporated in clause 16 almost the exact words of this proviso. The storm that arose was unexpected by the premier. He did not realize that the territories had developed a system of education different to that of Quebec and yet within the provision of the North-

West Territories Act, and that the re-enactment of those provisions might lead to a renewal of the struggles of the eighties and nineties. The substitute for the clause finally adopted by parliament conserved the rights or privileges with respect to public schools as they were embodied in chapters 29 and 30 of the ordinances of the North-West Territories passed in 1901.

To understand the matter at issue, one must trace the legislation of the territories from 1884 to 1905.

The separate school system in operation in the territories in 1905 was quite different to that set up by the first ordinance in 1884. The first ordinance reproduced the Quebec system; the ordinance of 1892 authorized a system which closely resembles the system in operation in Nova Scotia.

The Quebec system provides for two boards of education, Catholic and Protestant, two courses of study, two sets of text-books, two systems of training and licensing teachers, two systems of inspecting, and, of course, two systems of district organization, assessment, and school buildings. The Nova Scotia system recognizes but one board, one course of study, one set of books, one system of training and licensing teachers, one inspectorate, one assessment, and one district organization. In the city of Halifax, however, a tacit understanding gives Catholics and Protestants a fixed representation on the school board, permits Catholic teachers and pupils to use one set of buildings and Protestants another, and in the appointment of teachers requires the wishes of the representatives most deeply interested to be consulted.

The main points at issue between the nationalists and the separatists in the territories have been the constitution of the board of education and the exemption of the ratepayer from the necessity of contributing to the support of public schools when he is contributing to the schools in sympathy with his religious beliefs. This exemption was secured by the act of 1875, and it has not been infringed by the ordinances of the territories. In 1912 the legislature made it obligatory for ratepayers of the religious faith of the minority to support the separate school, and for those of the faith of the majority to support the public school. Previously it was optional for

them to decide whether their taxes should be devoted to the public or separate school.

The struggle has centred around the constitution and powers of the board of education. The first ordinance relating to education, passed in 1884, provided for a board composed of two sections, one Protestant, the other Catholic. Each section prescribed for its own schools the subjects to be studied, the books to be used, the training and licensing of teachers, and the aims of the inspection. The ordinance of 1901 placed the administration of the schools of the province in the hands of a member of the executive council, and left but one vestige of the old system of denominational control. It is found in the educational council, which is composed of two Catholics and three Protestants, with powers of advice only.

The first bill was introduced into the North-West council in 1883 by Frank Oliver. It encountered serious difficulties and failed to become law. The next year an ordinance was passed. It made provision for the board of education mentioned above, and for the erection of separate as well as public school districts. A public school district could not exceed thirty-six square miles, or nine miles in length. Four heads of families, with at least ten children between the ages of five and sixteen, were necessary to constitute a district. Separate school districts could be constituted out of one, two, or more adjacent public school districts. In no case was a Catholic to be liable for taxes for a Protestant school or a Protestant for a Catholic school. This provision was modified two years later so as to prevent double liability for taxation, but not to enable an individual to escape taxation altogether.

The school extended over six hours, from nine to twelve o'clock and from one to four o'clock. Religious instruction was permitted between three and four, and the school could be opened with the Lord's Prayer if the trustees were agreeable. Later the afternoon session was reduced to two and a half hours, and the religious instruction limited to the last half-hour.

The grants to the schools were based in 1884 upon the number of days school was open, the attendance, and the

amount of the teacher's salary. The next year an amendment introduced such educational conditions as the grade of the teacher's licence, the inspector's report, and the advancement of the classes taught.

Within the year 1885 the North-West Rebellion had broken out and been suppressed, and an election had been held. These stirring events had their effect upon the legislation of the council that year. The governor in his address to the new council said :

At the last sitting of the Council our time was principally occupied with two important Ordinances, the School and Municipal Ordinances. To both of these I propose to submit some amendments. For the former, it being certainly the most important measure with which we have to deal, I shall ask your special attention, in order that such portions of it which have been found to be unworkable might be amended.

Since the passage of the School Ordinance I have had no less than sixty-five applications for the formation of school districts, sixty-four for Public and one for Separate Schools. Of these, thirty Protestant and eight Catholic have been proclaimed. These established districts represent a population of 1385 children of school age, of whom 918 were on the school rolls. In addition to the above, twelve schools with 301 pupils are receiving aid from the Government under the system inaugurated by my predecessor.

The struggle over the amendments was long and keen. To clear the atmosphere, the council adopted a resolution by a majority of two. This resolution called for the establishment of a board of education consisting of the lieutenant-governor as chairman with two Protestants and two Roman Catholics, and of the four members, exclusive of the lieutenant-governor, two were to be members of the council. The minority asked for three Protestants and three Catholics. Still, the opposition continued until a second bill respecting schools was introduced and accepted. This bill provided for the erection of eighteen Protestant and two Catholic public schools, and one Catholic separate school. It also appointed trustees for three public schools, two of which were

Protestant. Both bills passed. Apparently the settlement of the character of the school districts removed many of the objections to the system.

Other amendments to the school ordinance transferred the appointment of inspectors, the examining and licensing of teachers, from the separate sections to the full board, but left the question of text-books and the cancelling of teachers' licences with the sections.

In 1887 a board of examiners consisting of an equal number of Catholics and Protestants examined and licensed the teachers. The subjects of the examinations were the same for all candidates except that the denominational sections selected the books in history and science and could require additional subjects from their own candidates. In 1891, when the reforming spirit was again in the ascendant, the lieutenant-governor in council became responsible for the appointment of the inspectors and the licensing of teachers. This was but the prelude of a great change.

In 1892 the system was reorganized. The government of the day became directly responsible for the management of the schools. The board of education was abolished, and a council of public instruction, consisting of the executive council with two Protestants and two Catholics without votes, administered the system through a superintendent. This council established a normal school, revised the courses of study, and encouraged higher work in the schools. In 1901 the executive council undertook the administration of the school system through one of their number. The advisory appointees were thrust out into an educational council with purely advisory powers with regard to text-books, courses of study, licensing of teachers, and inspection. From 1892 the religious interests ceased to have a direct influence upon the management of the schools. They still retained, however, the right to organize districts separately and to be exempted from double taxation, *i.e.* for both the public and the separate schools.

Compulsory education had been enacted prior to 1888. It took two forms, compulsory opening of schools and compulsory attendance of pupils. The district was required to

keep schools open for the whole year if fifteen children of school age resided within a radius of one and a half miles, and for half a year if the number of children was but ten. Children between the ages of seven and twelve were required to attend school for at least twelve weeks each year.

The following table shows the growth of public and separate schools, first in the territories and then in Saskatchewan, from 1885, the first year of the organization; 1891, the year of the first radical change; 1895, the completion of the decade; 1901, the completion of the radical change; August 31, 1905, the date of the division of the territories; September 1, 1905, the date of the erection of the province; 1908 and 1911.

	Public		Separate		Total
	Protestant	Catholic	Catholic	Protestant	
North-West Territories—					
1885 . .	48	10	1	..	59
1891 . .	210	33	11	..	254
1895 . .	..	..	..	..	321
1901 . .	697	..	16	..	713
1905 . .	1451	..	16	..	1467
Saskatchewan—					
1905 . .	856	31	7	2	896
1908 . .	1703	31	11	2	1747
1911 . .	2841	19	11	2	2873

BILINGUAL SCHOOLS

Subordinate only to the religious question is that of language. Until recently the issue was between English and French. Now German and Ruthenian are claiming their share of attention. In not a few instances the interests of language are merged with those of religion.

The superintendent of education for the territories in his

report for 1898 wrote : ' One of our most serious and pressing educational problems arises from the settlement amongst us of so many foreign nationalities in the block or colony system. There are colonies of Swedes, Finns, Bohemians, Hungarians, Jews, Austrians, Germans, Russians, Icelanders, Mennonites, Galicians and Doukhobors.' The census of 1901 showed that three in every eleven of the people of the territories had been born on the continent of Europe and spoke another language than English, while another one in every eleven was of similar descent. This proportion had not materially changed in 1906. The census of 1911 reported 51 per cent of the people of Saskatchewan of British origin, 21½ of Teutonic, 12½ of Central European, 5 of French. Alberta received the larger proportion of Scandinavians, while to Saskatchewan came more Russians and Austrians. In Saskatchewan these foreign colonies were planted mainly in the Yorkton, Rosthern, Humboldt, Regina, and later in the south-western districts.

In 1907 Inspector Ball, of the Yorkton inspectorate, wrote : ' Over half of the schools [212 in his inspectorate] are in settlements in which the native language is not English.' Two years later he wrote : ' 23 per cent contain only foreign-speaking pupils and but 30 per cent of the pupils are altogether English-speaking.' Inspector Branion of Wolseley wrote in 1908 : ' One in every four of the schools I have inspected is composed of children the majority of whom do not speak English as their mother tongue. Of this number twenty-five are German and four French.' Inspector Barrett of Moose Jaw wrote in 1909 : ' The populous Mennonite colonies to the south of Swift Current are entirely without organized schools, as these people take practically no interest in education, and they appear to be adverse to their children learning English. In marked contrast to these are the advanced Mennonites about Herbert. In this vicinity over twenty school districts have been organized, and this number is likely to be increased in the near future.' ' School districts are being rapidly formed in the French settlements near Gravelburg. What I noted particularly was the eagerness of French-Canadians to secure competent teachers of English so that their children might become proficient in English.'

Religious interests and racial sentiments combine sometimes in their demands for separate and bilingual schools.

At the convention of German Catholics held in Regina in 1911, Father Bour is reported in the Regina *Leader* to have declared that all Catholics desire :

1. A voice in the Department of Education in regard to the schools of the province.
2. Also a separate school in districts where the Catholics are in the majority before the public schools are established.
3. That the Catholics should have a say in what books are to be used in the Separate Schools.
4. A right to have a voice in the inspection of Separate Schools.
5. That more time should be given to the German language in the Separate Schools ; at least one hour a day and preferably in the morning.

The non-English-speaking immigrants who have come from the United States, and they constitute about one-third of the American immigration, are usually familiar with a public school system similar to ours, and are keen in their appreciation of its advantages and ready to co-operate in supporting it. The Norwegians, Swedes, and Icelanders are unsurpassed in their appreciation of the public schools. The Germans vary greatly. Some inspectors report them as among the best supporters of the schools ; others are less complimentary. Inspector Ball in the report for 1909 complains that in the German districts with but two exceptions the buildings, grounds, and equipment are below the average, while ' the attendance is remarkably unsatisfactory.' ' On wet days the attendance is good, on fine days poor.' A school garden in one German district improved the attendance and awakened the interest of the parents sufficiently to cause them to visit the plots frequently.

The Ruthenians or Galicians have been thought to present the greatest difficulty. Mr Megas, supervisor of schools in Ruthenian settlements, in an early report advocated : the management of these schools by an intelligent and trustworthy official of the provincial department of Education ; the

establishment of a training-school for Ruthenian teachers and the enforcement of compulsory attendance. The first recommendation was made because of the ignorance, indifference, and incapacity of the average Ruthenian settler; and the second because of the difficulty of securing teachers of any kind. In 1910 he wrote :

I no longer complain of experiencing the same difficulty in organization work which confronted us some two or three years ago. The Ruthenian settlers of to-day are anxious to have schools in their midst. They are anxious to contribute to and generally support them; in fact, they are actively and seriously interested in the matter; they look at the school district adjoining them organized some three or four years ago, and they, although quite illiterate themselves, seem to have come to a more tolerant and appreciative stage. Even the reluctant, phlegmatic Doukhorbor has awakened and school districts are being organized in their very community settlements at their own request.

Two extracts from the report of Inspector Ball show what these settlers are capable of. In 1903 he wrote: 'The Galicians are generally poor and illiterate and are quite ignorant of the value of education. In some cases they are violently hostile to the school and to the direct tax for school purposes.' In 1909, speaking of the schools in the Ruthenian settlements in the same inspectorate, he writes: 'There is no type of school which shows so hopeful a prospect of ultimate excellence.' 'In the Ruthenian school the attendance of pupils, interest of ratepayers and trustees, care of the school grounds and buildings show general and distinct improvement. The attendance at the school in charge of Ruthenian teachers shows the largest average percentage of all the rural schools in my division.' Again, in 1910 he wrote :

Excellent results appeared in one school, Ukraina, after two summers' work; and the Ruthenian teacher in charge, an exceptionally bright student, positively affirmed that he would not return to the school for another year on the ground that his pupils were ready for a skilful English-speaking teacher. His idea was that the Ruthenian pupils should acquire the Canadian outlook

under the same sort of stimulus he was himself receiving as a student of the university. The spirit and desire of the Ruthenian people, as I know them, is indicated in this determination. They are anxious for an English education, but they feel, not without reason, that the first steps toward this should be taken under the guidance of men who understand their children and sympathize with their difficulties. That these people, good agriculturists undoubtedly, and as far as their intellectual advancement admits, good citizens, are willing to maintain the excellent schools so far organized, is a fact full of possibilities of future progress.

In 1910 a training-school for foreign-speaking students was opened in Regina under an English teacher. In 1911 there was an enrolment of thirty-eight students. The selection of students was made largely by the supervisor of Ruthenian schools acting in concert with the inspectors concerned. The experiment has proved a success.

As early as 1892 the language question received consideration in the legislative assembly. That year the school ordinance was amended as follows: 'All schools shall be taught in the English language, but it shall be permissible for the board of any district to cause a primary course to be taught in the French language.'

In 1901 a further amendment gave the trustees of any district power, subject to the regulations of the department of Education, to employ competent persons to give instructions in a language other than English provided the cost was borne by an extra assessment upon the persons wishing it, and provided it did not interfere with the regular work of the school. The regulations of the department direct that such instruction shall be between the hours of three and four of such school days as may be selected by the trustees, and 'shall be confined to the teaching of reading, composition, and grammar.' The commissioner authorized as text-books the Eclectic Series of German Readers, Primer, First, Second, Third, and Fourth; Bilingual Series, First (part I and part II) and Second Readers, where French was the vernacular. The Catholic Readers, First, Second, Third, and Fourth, were optional for Roman Catholic separate schools.

Doubt has arisen as to whether instruction in French is subject to the regulations of the department as provided for by the amendment of 1901. The attorney-general's department has ruled that it is not. What, then, is the status of French? Does the phrase 'primary course in French' mean an elementary course in reading, grammar, and composition in the French language, or does it mean that French may be the medium of instruction in the primary grades? The regulations of 1896 read: 'In the districts where French is the vernacular the Trustees may, upon obtaining the consent of an Inspector, use the Bilingual Readers, Parts I and II and the Second. In all standards above II the text-books are uniform, care being taken to authorize none written from a sectarian standpoint.' Apparently the regulations intended to authorize reading courses in French in standards I and II rather than to authorize French as the medium for instruction in such subjects as arithmetic, geography, etc. Instruction in French may be given at any time and is paid for out of the regular school funds. In this respect French occupies a position different to that of German or Ruthenian.

TEACHERS

The supply of teachers has been the most troublesome problem in recent years. How great has been the demand may be realized from the statement that in the six years 1906 to 1911 inclusive, 1586 new school districts were established. This is practically 265 a year, or more than one new school for every teaching day since the province was erected on September 1, 1905. The number of pupils increased from 31,275 in 1906 to 53,969 in 1909, and 77,000 in 1911, or 146 per cent in six years. If we allow twenty pupils to a teacher, this means 2285 new teachers in six years for the increase in the number of pupils alone, to say nothing of the number required to fill vacancies caused by resignation, etc. In the older provinces at least one-fourth of the teachers retire each year. In the west the leakage is even larger.

The number of permanent certificates issued during this period averaged about 186 a year. To meet the demand for

teachers provisional certificates were issued on the recommendations of the inspectors or the request of the districts. These permits increased from 187 in 1906 to 508 in 1909, and 915 in 1911. Many of these were granted to university students teaching during their vacation. A third kind of certificate called an 'interim certificate' is granted to teachers whose professional qualifications are not completed.

The number of interim licences granted in the years 1910, 1911, and 1912 was over 2592, but of this number only 187 were first class, while 1515 were third class. Saskatchewan supplies 1119 of these teachers, Ontario 906, Manitoba 227, Maritime Provinces 141, the British Isles 151, Alberta 20, Quebec 26, British Columbia and Australia 1 each. From Ontario came nearly three-fourths of the first-class teachers. Next to Ontario the Maritime Provinces stood highest in the percentage of first-class teachers, while Saskatchewan was near the bottom of the list. This means that the best positions in the town schools are filled with teachers from Ontario, and that the new rural schools are supplied mainly with local teachers; but these local teachers are usually newcomers.

It will thus be seen that immigration is the main source of supply. This movement is stimulated by the salaries, which range from \$50 to \$75 a month for third- and second-class teachers in rural schools. In graded town and city schools the principals receive from \$900 to \$2000 a year.

Though much is done to encourage the immigration of teachers, their professional qualifications are closely scanned. So far as their scholastic qualifications are concerned, the department of Education prior to 1912 recognized only certificates granted by other provincial departments in Canada and the British education offices. The professional training of candidates is even more severely scrutinized before permanent certificates are granted. This practically ensures that all the teachers will be more or less of the same type of scholarship and of professional skill, and represent the same ideals of social and civic life. This is a matter of far-reaching consequences, since the schools are the most effective agencies in the Canadianization of the immigrants. It means that the educational ideals of the schools of Saskatchewan are

Canadian, and mainly those of Ontario. In 1913 American certificates began to be generally recognized.

The present regulations require a course of professional instruction and a period of successful experience before a permanent certificate is issued. The normal training is broken into two parts—a preliminary period of nearly two months is followed by a year's teaching before the candidate is permitted to enter the final session of about four months' duration. For admission to the normal school a candidate is required to hold a certificate of at least the third class.

A professional training is provided by the provincial normal schools at Regina and Saskatoon, and by local normal classes, of about six weeks' duration, for third-class teachers held in different centres.

In 1889 the first professional instruction was given in the union school at Moosomin, but little was accomplished until 1893, when the normal school was established in Regina, and the council declared that 'A non-professional certificate shall not be valid as a licence to teach.' That year 62 entered the normal school. In 1910 the attendance was 449, and the next year there were 364 at Regina and 252 in local schools.

It is of interest to note that in 1910 there were 2066 teachers in the rural schools and 606 in the town. Of the town teachers sixty-three per cent held first- or second-class licences, while only fifteen per cent of the rural teachers held these licences. Inspector Nivines, however, reported that in his district, the oldest rural district in the province, over half of the teachers held first- or second-class licences. The percentage of male teachers in the towns was but thirty, while in the country districts it was over forty-two. The average number of pupils to a town teacher was forty, to a rural teacher nineteen.

HIGH SCHOOLS

The supply of local teachers depends upon the efficiency of the high schools.

In 1888 provision was made for instruction in the higher

branches. The following year two union schools, one in Regina, the other in Calgary, were opened. These schools united high school and common school work. The regulations required the principal to hold a university degree or an equivalent qualification and to receive a salary 'not to exceed \$1800.'

Until 1907 no separate provision was made for the establishment of high schools. In that year the Saskatchewan legislature passed the Secondary Education Act, which provided for collegiate institutes and high schools to be managed by high school boards and supported by a special assessment. In the high school system there is no provision for separate schools similar to that of the public school system. The distinction between collegiate institutes and high schools is based upon equipment, attendance, and the number of teachers. The courses of study, text-books, examinations, and inspectors are the same for both. A university degree, first-class professional certificate, and two or more years' successful teaching are the qualifications required of candidates for a high school or collegiate licence.

From the supplementary revenue fund, raised by a tax of one cent an acre on all lands, the high schools and collegiates receive a portion of their grants. In consequence of this, pupils from rural districts are exempt from all fees for high school instruction, though residents of the high school district may be required to pay fees not exceeding one dollar a month.

The courses of study for high schools, like that of public schools, is modelled after that of Ontario. In the early days an attempt was made to keep both courses in line with those of Manitoba. The high school course is divided into three forms, junior, middle, and senior, requiring at least four years' work. The department of Education holds examinations each year in July, and successful candidates are granted certificates of the third, second, and first class. The requirements for second- and first-class certificates are identical with those of junior and senior matriculation, save in the foreign languages.

In 1907 six high schools were organized with about three

hundred pupils. Four collegiates and eleven high schools were in operation in 1911, and about 3200 pupils were doing high school work.

COURSES OF STUDY

Ontario and Quebec supplied the models for the first courses of instruction—Ontario for the Protestant section, Quebec for the Catholic. A noticeable feature in the courses was the provision for instruction in agriculture. When Angus MacKay was beginning to discover the virtues of summer fallowing (or 'dry farming,' as it is now called), the Protestant section recommended a text-book in agriculture written for the Irish National Board. It is difficult to imagine a greater contrast than that between Irish and prairie conditions of agriculture, and yet the good bishop of the board of education was doing a public service when he advocated the study even of a poor book in agriculture. The Catholic section did not go as far afield for their text-book. Two or three years later the Ontario public school book in agriculture was prescribed. Ontario conditions, however, were nearly as remote from western as were the Irish.

The friends of Temperance Reform demanded the prescription of Palmer's text-book, but failed to convince the members of the board, who contended that the subject was receiving adequate treatment.

The reform of 1892 led to the appointment of D. J. Goggin, who discharged the duties of both superintendent of education and of principal of the normal school. His revision of the course of study was really an elaboration. Considerable emphasis was laid on literature and on nature study in its relation to agriculture. The Latin which had been prescribed for the first-class teacher's certificate was omitted. The work in this and the other foreign languages done in the high school departments was determined by the requirements of the Universities of Manitoba and Toronto.

The public school work was divided into five standards,

the high school into standards VI, VII, and VIII. In 1896 only two per cent of the pupils enrolled were in the high school standards, and fully eighty-eight per cent did not proceed beyond standard III.

In 1913 a commission consisting of D. P. M^cColl, superintendent of education, Dean Rutherford of the university, Principal Perrett of the Regina Normal School, Principal MacIntyre of the Normal School, Winnipeg, and Dr D. M^cIntyre, superintendent of schools of Winnipeg, was appointed to consider questions relating to technical education, consolidation of schools, provision for instruction in agriculture, etc.

THE UNIVERSITY

From two sources came the impulse to start a university in the North-West. In Prince Albert, the centre of the Indian work, two educational institutions were started, a college for the training of native helpers by Bishop M^cLean in 1879 and an academy or school by Rev. James Nesbet, who laboured in Prince Albert from 1866 to 1874. Bishop M^cLean's college, called Emmanuel College, led to a public demand for the establishment of a Saskatchewan university. In 1883 a Dominion act incorporated the University of Saskatchewan. Three years later courses in agriculture were offered and an experimental farm was started. Conditions, however, were unfavourable to a university. Emmanuel College became more distinctly an Indian college until 1907, when Archdeacon Lloyd brought out sixty catechists from England and undertook to provide for their theological training. Two years later Emmanuel College was transferred to Saskatoon, when the new university was opened.

Emmanuel College has a handsome stone building on the university campus, a staff of four professors and three lecturers, and an attendance of fully fifty students. It is making a notable contribution to western life through its system of bringing prospective divinity students from the United Kingdom, assisting them in securing their arts course, and giving them their divinity training, while they in turn

spend a portion of each year in the mission fields of the church.

The second movement started in Regina. It seems to have been prompted by the success of the University of Manitoba in securing a grant of land. In 1889 the North-West council, at the suggestion of the board of education, applied to Ottawa for a liberal grant. The Privy Council declined on the advice of the minister of the Interior, who stated that in his opinion 'the consideration of this question at the present stage in the history of the North-West was premature, and that not until the country had been divided and erected into provinces could a question of this nature be finally and advantageously dealt with.' The board returned to the attack with the suggestion that lands be selected and set apart for university purposes in the provisional districts of Assiniboia, Alberta, and Saskatchewan, so that they might be available when the country was divided.

The next year the university graduates residing in the territories were requested to meet in January 1891 in Regina to discuss the question of the formation of a university. This method of approaching the question is probably responsible for that peculiar feature of the constitution of the Universities of Alberta and Saskatchewan which makes convocation, or the university graduates residing in a province, the constituency of the university.

Apparently it was thought wise not to proceed with the formation of a university at once, but to ask 'the Faculties of the Eastern Universities to make arrangements for holding University examinations at one or more of the most important centres in the territories.' This was done by the board of education and consideration was promised by the universities. Bishop Pinkham was the chairman of the board at the time.

Until 1902 different courses were prescribed for candidates for teachers' certificates and for the matriculation examinations which were held in May. This system the superintendent of education stated 'had nearly doubled work in some of our larger schools.' In that year certain electives were introduced permitting teachers to offer Latin,

German, or science as equivalent to some portions of mathematics and science, and the courses in these subjects were harmonized with those of the University of Manitoba. That university agreed to accept the teacher's examination in lieu of a matriculation examination.

In 1903 a university ordinance was passed. It provided for the establishment of a university incorporating a chancellor, vice-chancellor, senate, and convocation. No provision, however, was made for its support. The senate was to be the governing body in matters financial as well as educational. It was to be composed of ten members elected by convocation, four appointed by the lieutenant-governor in council, and the commissioner of Education and chancellor *ex officio*.

Convocation, consisting of graduates in arts, science, law, and medicine of any university in His Majesty's dominions, became the electorate of the university, selecting more than half of the senate, the chancellor, and vice-chancellor.

This provision removed the larger part of the control from the government of the day and seemed to be designed especially to prevent party politics from becoming a controlling factor in the management of the university. Special provision was made for co-education and non-sectarianism.

Not until 1907, two years after the erection of the Province of Saskatchewan, was a university act, incorporating the best of the recommendations of the Toronto University commission, passed. This act, like the earlier ordinance, placed the university beyond the control of political parties, guarded against sectarianism, and admitted women on equal terms with men. Within two years teaching in arts and science was begun. A site of 1333 acres was secured in Saskatoon, and over a million dollars were spent in buildings and equipment prior to 1913. The most notable feature in the university is the place accorded to agriculture. Unique among Canadian universities, Saskatchewan brought agriculture to the same campus, placed it under the same board, and supported it out of the same funds as the faculty of arts and science and the professional schools. Through its extension department in agriculture the university reaches every part of the province, and not only makes the people realize that the university is

touching their daily life, but prevents the agricultural interests from becoming separated from the other interests of the province. It is expected that this union will prove of the greatest assistance in giving the educational system of the province the proper agricultural tincture through the teachers trained in the colleges of arts and of agriculture in the university. Further, the union should prove of great public service to the province. In the eastern provinces political leadership is supplied by the commercial and industrial centres, and the farmers have not yet learned the advantages of co-operation. In a province where agriculture will be paramount for generations, where the problems are not limited by provincial or dominion boundaries, and where the farmers are strongly organized, it is of very great importance that men engaged in farming should be prepared for the highest public positions. The problems involved in the export of wheat and other food products, problems of transportation, of finance, of tariff, and of international relations, are so intricate that safe guidance can be secured only by the use of the best expert advice. This the university should be prepared to provide, and this the future leaders of the farmers should get while at the university.

MATERIAL CONDITIONS

In his report for 1910 Inspector Stevenson writes : ' A few log-schools still exist, but these will shortly be replaced by frame buildings. Canora, Kamsack, and Foam Lake all have fine brick buildings well heated and lighted.' Here we have the extremes. On the treeless plains the log-schools were few. In some places the pioneer schools were made of boulders taken from creeks or river-beds, in others they were little better than sod shacks. As an illustration of the difficulties encountered even to-day may be cited the remark of Inspector Barrett of Moose Jaw in his report for 1910 : ' Several districts, distant 50 to 100 miles from the nearest lumber yards, built new frame schools, while other districts deferred building,' until the railways should come nearer. The box-car type of building is being gradually discarded and

greater attention is being given to lighting and ventilation. 'In the matter of equipment,' writes Inspector Hutchison, 'new districts are generally more enthusiastic than the old. Schools are generally fairly well equipped. In but a few cases are homemade seats in use, while many are putting in good large globes. School grounds, however, are usually neglected, and the absence of water gives them the parched and whitened appearance of the dry prairie.' Inspector Stevenson writes: 'About 40 (out of 163) school districts have built stables for the accommodation of the pupils' horses.' This provision is characteristically western.

Another light is thrown upon school conditions by the following extracts taken from reports for 1910 :

The water supply in most schools is usually unsatisfactory. The pupils generally bring their own supply in bottles or pails, but as this is naturally consumed early in the day, they must suffer considerably from thirst during the long hot summer afternoons. Of the 61 wells in my inspectorate, 28 are pronounced unsatisfactory, while many of the others are not much better and are often unfit for use. Many of these would be better if they had pumps placed in them and were cleaned out oftener.

This report comes from a fairly well watered section of the province. From a south-western inspectorate the report runs :

Of 163 districts, 24 districts have satisfactory wells, 7 districts unsatisfactory wells, and 132 districts or 80 per cent have no wells.

Another inspector reports :

In a third of the wells already sunk, the water is useless for drinking purposes owing to the presence of alkali in it, while sixty-one of the schools visited had no well, the water being brought generally by the pupils or teacher, from wells ranging from one-quarter of a mile to one mile distant from the school. In some instances pupils bring bottles of milk or tea with them from their homes.

Still another writes :

A reference to the summary will show that the question of water supply has not been solved as a general thing. A group of schools south-west of Regina have found that a cistern for rainwater was the most practical arrangement. It would appear to be the best course for most districts to follow their example, as in many parts it seems impossible to get a good well.

The improvement in the conditions of the schools is reflected in the reports of the expenditures. In 1910 the total expenditure for town and rural schools was \$4,088,583.22, while ten years earlier (1900) it was \$489,566.24. This ten-fold increase in ten years does not include the expenditure on the university in 1910, which amounted to more than \$500,000.

Possibly a better index of the growth of the schools is found in the government grants. In 1890 they amounted to \$72,311.16, in 1900 to \$150,606.56, and in 1910 to \$557,299.44. Of this large grant \$470,717.29 went in 1910 to rural schools and only \$34,136.40 to high schools and collegiates, the balance being paid to town schools.

The school grants come from two sources, the vote of the legislature and the supplementary revenue fund. The latter fund is raised by a tax of one cent per acre and is divided as follows : eighty per cent to primary education, ten per cent to secondary education, five per cent to a college of agriculture, and five per cent to the other colleges of the university. The total fund in 1910 amounted to \$280,869.41. The legislative vote was divided as follows : to public schools \$274,781.65, to Roman Catholic separate schools \$2738.28, to Protestant separate schools \$388.87.

In the apportionment of the grants to rural and town schools, according to the School Grants Act of 1909, several important principles are recognized. In the first place, a fixed sum is paid for every day the school is open, and an additional amount for every day it is in charge of a first-class teacher. A rural school receives an additional sum for every day the school is open in excess of a hundred and sixty days, and a town school an additional ten cents for every day

a room exclusively for pupils above grade VII is open, provided the daily average attendance is at least twelve. There is a further sum to new rural schools, fifty cents per diem the first year, thirty the second, twenty the third, and ten the fourth ; to new town schools the grant is thirty-five cents the first year and fifteen the second. Again, rural schools in districts of 7000 acres or less each receive an additional twenty cents for each day ; if the district is between 7000 and 8000 acres, fifteen cents ; if 8000 to 9000, ten cents ; if 9000 to 10,000, five cents.

This highly ingenious scheme takes as its fundamental principle the number of teaching days the school is open ; it aids new and struggling schools ; it puts a premium upon the employment of first-class teachers ; it encourages rural schools to remain open all the year and town schools to do good grade VIII work ; it also gives special aid to the smaller rural school districts. One can hardly refrain from excessive admiration for both the ingenuity of the plan and the emphasis which it places upon the most desirable things—open schools the year round, the best teachers, the establishment of new schools, the reduction of the distance from school, and the maintenance of the highest grades.

The high school grants recognize a distinction between the high schools and the collegiates. The high school must have an attendance, a staff, and an equipment above fixed minima. The collegiate receives a slightly larger grant. The grants in each case are based upon the number of teaching days, the number of teachers, the equipment apparatus and library, the inspector's report, and the provision of a commercial course.

MEN

As one goes over the educational legislation and reports of the territories and of the Province of Saskatchewan, one is greatly impressed with the wisdom and far-sightedness displayed. The credit for all this is due to two men. From 1892 to 1905 F. W. G. Haultain, a graduate of Toronto University, was commissioner of Education. He was respons-

ible for the legislation which placed the schools upon a satisfactory basis, and for the efficient and non-partisan administration of the system. In some respects the educational problems were the most important with which the Haultain government had to deal during the period from 1888 to 1905. His successor, J. A. Calder, a graduate of Manitoba University, had come to the Moose Jaw union school as principal in 1891, and had become inspector a few years later, deputy commissioner in 1901, and in 1905 was made commissioner. He has the unusual advantage of being familiar with every step in the educational development of the territories and of having seen the system in operation from every point of view. The tradition of the Education department, so well established by Commissioner Haultain, has been well maintained by Commissioner Calder.

Walter C. Murray.

HISTORY OF EDUCATION
IN ALBERTA

HISTORY OF EDUCATION IN ALBERTA

I

THE MISSION SCHOOLS

THE first educational efforts in that part of the North-West which now constitutes the Province of Alberta were directed by the early missionaries. The success of these efforts is not to be judged by the number of schools established, for long before schools were possible or necessary a great work was being undertaken among the original inhabitants of the country in the way of teaching them the elements of civilization. Most active in this work were the Catholic missionaries, who with zeal, and often with heroic self-sacrifice, laboured among the Indians, and sought to make them in as great a measure as possible peaceful and provident citizens. Though of course the supreme end was to teach the elements of religion, the endeavours of these missionaries were specially characterized by their practical and humanitarian aspects. No doubt they loved their church and their religion, but that love was realized in a practical way in relation to this primitive type of humanity which needed to be raised in the scale of being. And so they did not hesitate themselves to put their hand to the plough and teach the simple arts of life. The difficulties, in themselves great, were enhanced by the nomadic character of the various tribes. Yet considerable success seems to have been attained from the beginning, and gradually the influence exerted grew more and more permanent.

The first Catholic missionary to enter this part of the country was Father Thibault, who came to Fort Edmonton in 1842 and in the same year founded Ste Anne's Mission

about fifty miles farther west, which he used as a centre for his work among the surrounding tribes. Father Bourassa came to Ste Anne in 1844, and in 1845 there came to Fort Edmonton the famous missionary Father Lacombe, who has given his whole life to pioneer work and has without doubt had more influence on the Indians than any other man.

The Protestant missionaries, although not so numerous as the Catholics, contributed no small share to this important work. The Rev. Robert Terill Rundel, a Methodist, was the first Protestant missionary, in fact the first missionary of any church to reach this part of the West. He came in 1840 and laboured among the Indian tribes on the Saskatchewan at Edmonton, Pigeon Lake, and in the surrounding country. He lived among them, accompanied them on their wanderings and hunting expeditions, teaching and preaching with some success. He returned to England in 1848 and was succeeded in 1853 by the Rev. Thomas Wolsey, who continued the work among the Crees, Stoneys, and Blackfeet. The Church of England was represented in this early work by Archdeacon Hunter, who entered the northern part of this country in 1858, and by Archdeacon Kirby, who succeeded him a year later, from which time the work was steadily developed.

The earliest Catholic mission schools were organized by the sisters of charity the Grey Nuns of Montreal, and were opened as follows : at Lac Ste Anne in 1859, at Isle à la Crosse in 1860, at St Albert at Lac la Biche in 1862, at Fort Providence in 1867, and at Lake Athabaska in 1874. These were of course limited in their scope on account of the special needs of the various missions with which they were connected.

The first school doing regular work west of Manitoba was established at Edmonton in 1862 by Father Lacombe. It was held in the log chapel within the stockade of the fort. The teacher was an Oblate novice, Brother Scollin, the first Irishman to enter the priesthood in the Far West. There were about twenty pupils, mostly children of the clerks and servants of the Hudson's Bay Company. 'These,' says Miss Hughes, 'were not scholars of a conventional type. Many of them wore deerskin garments and leggings and carried lumps of pemmican or dried meat in their pockets as

dainties. At the sound of the voyageurs' songs or cheers in autumn, they flew like arrows from their bows out to the bank to welcome the brigade home. When gunboat signals arose from the southern bank, they rushed to see what stranger would return in the boat sent across from the Fort. They were wild as hares.'¹

Since 1874, the last date mentioned, many other schools have been opened by missionaries and nuns of the Roman Catholic Church, both before and after the organization of a system of education in the North-West Territories.

The first Protestant mission school was organized by the well-known pioneer Methodist missionaries the Rev. George M^cDougall and his son the Rev. John M^cDougall,² at White Fish Lake in the year 1863. The resident missionary, the Rev. Mr Steiner, assisted in the work, and the teacher was Mr Williston, who had started out for the Cariboo gold-fields but lost heart at the sight of the mountains. In 1864 the M^cDougalls established another school at Victoria, now Pakan, where James Connor was the teacher. The earliest schools in the south of the province were organized by the Rev. John M^cDougall. The first was in connection with the mission in the foothills near the present site of Morley, where a fort had been built. The teacher was Dr Very, a graduate of London. In 1877 a school was established in the old town of Macleod. The wife of Colonel Macleod assisted in the work and Miss Barrett was the teacher. Finally, in the winter of 1883, a school was opened in the Methodist church in the little town of Calgary, where the teacher was the Rev. James Turner, who had come to Alberta on account of his health.

These schools were attended by all children of school age in the district, as well as by some who came from a distance and made arrangement for boarding in the neighbourhood. The children of the Indians and of mixed blood as well as white children were admitted. The schools were kept up by local effort. Grants were first made in 1875 by the Methodist Church to assist in the work.

¹ Katherine Hughes, *Father Lacombe*, p. 88.

² The Rev. John M^cDougall, D.D., now residing in Calgary.

With the exception of a few schools which were established independently of the churches and maintained by public subscription in some of the growing centres of population, the mission schools were the only educational institutions in this part of the North-West till 1884, when the government of the North-West Territories became responsible for the administration of education. With the organization of regular school districts the mission schools began gradually to disappear. There are at present only a few in the northern part of the province, under the control of the Catholic and Anglican Churches, and these also are one by one giving place to regularly organized schools. Up to the time of provincial autonomy the Dominion government gave for educational purposes certain grants which were distributed by the lieutenant-governor of the North-West Territories, and similar grants were continued by the department of Education in Alberta to such mission schools as still remained in existence within the province. However, the Dominion government still assumes responsibilities for the education of the Indians, in the way of co-operating with the churches which have established schools on the various reserves. As day-schools have proved unsuccessful on account of the nomadic character of the Indians, the tendency has been to establish boarding and industrial schools, which have been productive of better results. In 1912 there were in the province and receiving aid from the Dominion government ten boarding-schools and one industrial school under the Roman Catholic Church, seven boarding-schools and three day-schools under the Church of England, and one industrial and two day-schools under the Methodist Church. There have been many discouragements in connection with this work with the Indians, but the general opinion is that the patient self-sacrifice of those who have devoted themselves to it has been rewarded with most beneficial results. Most significant perhaps of the mingled sense of success and failure in this respect are the words of the aged Father Lacombe, who has devoted himself so enthusiastically to the cause, and who was in fact one of the most influential men in the founding of the Indian school system in Canada. 'I have given my whole life for

the Indians of this country. We have done much. There is much to do. But I am an old man now. I am no more good.'

II

THE FIRST GOVERNMENT SCHOOLS

THE government of the North-West Territories took charge of educational matters in 1884, when the organization of regular school districts began. The circumstances leading up to the adoption of the policy of government control, as well as the problems which had subsequently to be dealt with, such as the separate school question and the bilingual school problem, have been fully discussed by President Murray in his article on 'Education in Saskatchewan' in this section, and so need not be dealt with here. It may, however, be interesting in this connection to give briefly the history of the organization of the first schools in Alberta under the new system.

The first school in the North-West Territories under government control was organized in Edmonton. An account published in a recent number of the *Edmonton Bulletin* of the events connected with its establishment, giving as it does an idea of some of the difficulties which were encountered, as well as affording a little sidelight upon life in the early days, deserves mention here. The account of what is described as 'one of the hottest fights that has ever been known in Edmonton, either in school or municipal matters,' runs as follows:

It happened in 1884. A public school had been maintained by voluntary subscription for three years. The cost of its maintenance was not borne by the citizens equally. A few, a very few, as they always do, sustained the burden.

The suggestion was therefore made that a regularly organized school district should be established. The Hudson's Bay Company, which owned the larger part of the school area, and some of the oldest settlers who

were afraid of the taxes, immediately raised a chorus of protest. There was a howl of indignation.

It was at the first election of trustees when the fun took place. The Hudson's Bay Company, which fought the proposal strenuously, brought in from Slave Lake, Calgary, and Athabasca Landing, those of their officers who had votes, and also influenced a large number of the local land-owners, in a big effort to swamp the supporters of the school. Matthew M^cCauley, the present warden of the penitentiary, was the returning officer, and in his own picturesque way he tells of the happenings of that eventful day.

It was at one o'clock on the day of the polling when matters began to get red-hot. The Hudson's Bay Company, which had told the people that they would be taxed for their flour and provisions and even their cook-stoves, if they voted for the proposal, brought in a number of their employees from the Fort who were not known to have votes, the men voting as tenants of rooms at the company's buildings. This put the anti-school party five or six votes ahead.

As a counter to this move, Donald Ross, of the Edmonton Hotel, brought up a big batch of his boarders. These had only one coon-skin coat among them, and one of them would go and vote and then 'hike' back and give the coat to the next man. 'Every time I saw the coon-skin coat coming,' says Mr M^cCauley, 'I knew it was another vote for the school.'

All these men, the *Bulletin* said at the time, 'swallowed the cast iron oath like little men.'

The votes were cast in three languages—English, French, and Gaelic, interpreters being required in the two latter to explain the oath.

One man, upon being asked by the returning officer which he wished to vote for—it was an open ballot—replied, 'Richard Hardisty.' Hardisty was then the chief factor of the Hudson's Bay Company. Upon being asked again he gave the same answer. Mr M^cCauley therefore rightly disallowed his vote, although, of course, he knew all the time that the man wished to vote against the school.

Another man, a Highland Scotchman, upon hearing the oath, muttered, as he heard the words, 'that you are of age and not an Indian,'—'My God! An Indian!

An' me a Hielandman of the first water !' He refused to vote—he was so disgusted.

At four o'clock the poll was declared closed, just as an anti-school voter appeared at the poll. The returning officer and scrutineers counted up the votes, and announced as the result 54 for and 43 against the organization of the school district.

Religious hatred in those days was practically unknown, a number of Catholics working for the establishment of the school district.

During the day, threatened destruction of the poll books did not materialize, but in the evening there were riotous scenes. There were free fights and black eyes which lasted for several days afterwards. Officials of the Hudson's Bay Company, and several prominent townsmen who opposed the establishment of the school district, were marked with representations of white fish, and the letters H. B. C., by opposing factions. It was a day which will long be remembered.

The first school to be erected in the North-West Territories was built at Edmonton, and the district would also have been the first to be organized but for the tactics of the opposition. The petition was held back, as a matter of fact, a year and a half, until at last the opposition was overcome by gerrymandering the boundaries. As it was, the district was the seventh to be organized in the West, and still is known as 'No. 7.'

The first school was erected on the present site of the M^cKay Avenue school. Four lots were secured. Some people wondered at the time why it was necessary to have so much ground, and said it would never be required. The first school teacher was James Harris, who received fifty dollars per month.

The school was four hundred dollars in debt when the district was organized, but the new trustees assumed that obligation. Mr M^cCauley was the first chairman of the board, the other members being W. S. Robertson and D. Ross. Mr M^cCauley has been a notable figure in school matters in Edmonton ever since, his period of service extending over nineteen years. The value of his services in that regard can never be over-estimated.

In Calgary a school district was organized in the spring of 1884. Previous to this time a school supported by public

subscription had been held in a log building known as Boynton Hall. The chairman of the first board of the new district was Howard Douglas, well known later as Parks commissioner. The teacher was J. W. Costello, who had formerly taught in Ireland and later became inspector of weights and measures in Calgary. There were about twenty pupils in attendance. In Macleod the first school board was elected in 1885 and the school was opened in the town hall in 1886. The teacher was Mrs Davis, widow of the late D. A. Davis, who was member of parliament for a number of years representing Macleod. Senator Talbot was also one of the early teachers. Evidently this school had its troubles. 'For the first three or four months,' we are told, 'Mr A. F. Grady and others rounded up the children every morning—two whites and five half-breeds—that the attendance might be kept up to the standard.' In Pincher Creek, where a district had been established in the spring of 1888, there were similar difficulties. They lost their grant in 1889. The Lethbridge and Medicine Hat districts were organized in 1885.

III

THE EDUCATIONAL SYSTEM SINCE AUTONOMY

AUTONOMY brought with it no radical changes so far as the administration of educational matters was concerned. A clause originally incorporated in the Autonomy Bill to provide for the establishment of separate schools and to make special provision for their maintenance aroused so much opposition in the house and in the country generally that it was dropped and a new clause substituted which provided for the continuation of such rights and privileges in regard to separate schools as existed in the territories up to that time. This arrangement seems to have worked in quite a satisfactory manner. It safeguards the rights of the minority and permits the Catholics, who have always conscientiously maintained that their schools are not only for secular but for religious education, to exercise the privilege of giving religious instruction in them. At the same

time the regulations providing for the same course of studies, a common system of training and certifying teachers, and a common system of inspection, afford a practical guarantee of the same standard of efficiency as is required in the regular schools.

The first minister of Education was A. C. Rutherford, who was also the first prime minister. D. S. M^cKenzie, who had been chief clerk and later deputy commissioner of Education under the territorial government, was appointed deputy minister. In 1909 John Ross was appointed chief inspector of schools. When the Rutherford ministry resigned in 1910, C. R. Mitchell took charge of the portfolio of Education in the Sifton government, and in the reconstruction of the cabinet in 1912 John R. Boyle became minister of Education.

A considerable amount of the work of the department has been in connection with the organization of new districts. These are usually established upon the initiative of the residents. Before a district can be formed, its limits must be approved by the department, and there must be at least eight children of school age residing within it, as well as four residents who own or occupy land that would be liable for assessment should the district be established. The maintenance of the schools is provided for by taxation and legislative grants. The ordinance provides that the board of trustees in any district may levy such taxes as may be deemed necessary to cover the estimated expenditures for the year. However, with the development of municipal organizations, this power is passing out of the hands of the school boards. They are now required to submit their estimates for school purposes to the councils of their respective municipalities, which look after the levying and collecting of the required taxes. This is true not only of the city, town, and village municipalities but also of the rural municipalities, which have recently been called into being. The legislative grants, which are among the most liberal given by any of the provinces in Canada, are based upon several considerations, each of which is calculated to stimulate efficiency in some particular aspect. In the determination of that portion of the grant which is based upon the number of days the school is kept open and

the average attendance, the difficulties with which the rural schools have to contend are recognized and a considerably higher rate provided as a basis of calculation. Special grants are made to schools doing secondary work and to those employing teachers with first-class professional certificates. There is also a special grant for efficiency with respect to grounds, buildings, equipment, government, and progress. This is based on the inspector's report, and it is provided that half of the amount paid to each school in this connection shall be expended on school libraries, the books for which are to be chosen from a catalogue supplied by the department.

An important feature of the system of liberal government grants is the central control which is vested in the department. The payment of grants is made subject to compliance with the regulations set down in the ordinance. This is a practical guarantee of the punctual and accurate discharge of those obligations which are incumbent upon the trustee boards or the municipalities concerned.

On September 1, 1905, when the province was established, there were 561 school districts in Alberta, which number was increased to 602 during the year. The following table will give an idea of the development since that time :

	1906	1912
No. of school districts	746	3,027
No. of pupils enrolled in rural schools	14,575	36,399
No. of pupils enrolled in urban schools	14,208	34,645
Total number of pupils enrolled	28,783	71,044
No. of teachers employed	924	3,054
Grants paid to school districts	\$170,315	\$430,932
Debentures issued	\$347,175	\$2,808,355

Salaries have materially increased, as the following averages indicate :

1905	.	First-class	Men	\$741.08	Women	\$615.63
		Second-class	„	620.90	„	572.10
1911	.	First-class	„	1028.54	„	738.19
		Second-class	„	747.92	„	697.77
1912	.	First-class	„	1013.46	„	739.13
		Second-class	„	776.49	„	697.27

A number of important advances have been made by the department, a few of which may be mentioned briefly.

1. *Free Readers.*—During the year following inauguration arrangements were made whereby Alberta and Saskatchewan might co-operate in the preparation of new readers. This was accomplished in 1908, when the Alexandra Readers were authorized and published. These are distributed free to the pupil as he requires them, and become his absolute property. He thus retains his set of readers as a souvenir of his school-days, while the objections which are commonly raised against free school-books from a sanitary point of view are avoided. Due precaution is taken by the department to guarantee that no abuse is made of this regulation.

2. *Education among the Foreign Population.*—One of the great problems of the West is the assimilation of the foreign population, and the government of the province, realizing that education is the most effective agency in the accomplishment of this end, has been fully alive to its duty. Shortly after the first government was formed, the prime minister was approached by representatives of some of the churches, who asked for grants to assist them in undertaking educational work among the foreigners. However, the government decided that it should take upon itself the responsibility of this work, and immediately plans for carrying it out were made and put into operation. In the report of 1906 the deputy minister writes :

One of the most satisfactory and hopeful features of the past year is the progress made and interest manifested in the organization and maintenance of schools among the foreign elements, especially in the Ruthenian colony east and north-east of Edmonton. Mr Robert Fletcher with headquarters at Wostok devotes his whole time to the work, giving every possible assistance to the non-English settlers in the establishment of school districts, the erection of schools, the employment of teachers, as well as routine work connected with the levying of taxes. When desirable he acts as official trustee, performing the duties of a school-board and its officers ; in other cases he exercises an oversight over the work of the respective districts until such time as the

elective boards are able to administer the affairs of these districts in accordance with the School Ordinance and departmental regulations.

In his first report Fletcher says :

During the first three months of my work very little progress was made in organizing school districts, but as misapprehensions were cleared away and a better understanding developed between the people and this department opposition to the work ceased. In the forty-eight school districts already organized only one dissenting vote was cast, and those Ruthenians living in unorganized parts of the colony are desirous of being included in some school district at once.

An inspector reporting in the same year says :

Since May 1st there have been twenty-two new districts formed mostly among the Galicians and Russians. . . . Let me say that my opinion of these settlers has changed since I have been among them. They are industrious, hard-working people and seem to take an interest in education when the work is once started. Though the majority of them still live in somewhat unsanitary conditions, yet a few are gradually adapting themselves to our mode of living. Where schools have been erected among these people the attendance is good and often does not vary more than two or three from day to day.

In 1907 another inspector says in his report :

The work done in the schools in the Ruthenian districts is very encouraging and should be a source of considerable gratification to the Department of Education. There were nine schools in operation in this inspectorate this year where none but Galician, Bukowinan or Ruthenian children attended, and six more that had a large percentage of these foreign children. In all of them the pupils were attentive and interested and were making rapid progress in their studies. This was particularly noticeable in their number work, which they seem to grasp more readily than the average Canadian or American child. Another feature of the work which makes it very pleasant for the teacher is the ease in maintaining the discipline of the school. These children apparently

never think of disobeying anything the teacher tells them. They seldom play in school or out, and in fact the teachers who are interested in their development teach them games and how to play them, during play-hours.

Finally, from Fletcher's report in 1911 we may obtain an idea of the success which has attended this work.

The organization of school districts in the large Ruthenian colony north and east of Edmonton has been practically completed during the year. There are a few scattered settlements, more backward from a material point of view than the others, yet needing to be organized. As the settlers see more clearly the advantages of the school they become more discriminating regarding the limits of school districts. Whereas at first they wanted large districts in order to keep down the taxes, now they favour moderate-sized districts, so that none of the children will have too great a distance to travel to school.

The school buildings are frame structures. They are roomy and well lighted. One brick school has been erected. The majority of the districts have erected dwelling-houses for the teachers. These teachers' houses are frame structures and are furnished with a cook-stove, table and bed, also cooking utensils and dishes. A number of the districts have also built stables for the convenience of those children who drive to school.

The Ruthenians have been fairly generous in furnishing and equipping their schools. The nucleus of a good library is being established in a number of them. A few of the schools have supplied supplementary readers.

I notice a decided change in the people in their ability for self-government. At first the ratepayers were loath to delegate the government of the district to a board of trustees. Although they conformed with the School Ordinance by electing a board of trustees, a majority of the ratepayers attended each trustees' meeting and apparently had as much influence in the administration of the affairs of the district as the trustees had. If anything out of the ordinary occurred they would probably be seized with a panic and the affairs of the district would remain at a standstill until the matter was settled. Now the trustees are given almost a free hand to administer the affairs of the district. If their administration is not

satisfactory the ratepayers usually exercise self-control enough to wait until the annual meeting takes place, and then they elect a trustee who will carry out their wishes better.

The ratepayers in these districts, although sometimes in struggling circumstances, are usually quite prompt in paying their taxes.

3. *The Course of Studies.*—In 1908 a committee consisting of representatives of the public and high school teachers of the province, of the inspectors and superintendents, and of the university was appointed for the purpose of revising the school curriculum. The work of the committee, which was presided over by Dr H. M. Tory, president of the university, extended over about two years, and resulted in the preparation of a report, which was presented to and adopted by the department, providing for a revision and expansion of the course of studies.

In the planning of the new courses a special endeavour was made to realize the highest ideal of social efficiency in the work of the schools, and to make it possible to put into practice educational methods which are at once natural and scientific. The creative impulse of the child, for example, is recognized as not exclusively belonging to the kindergarten, but as capable of continuous development in the diverse occupations which are incorporated in the courses for the primary grades, as well as still further in the industrial idea which is carried through the whole school course. In addition to revitalizing the common courses of study in the schools, the committee has effected an elaboration of the work in music and art, a skilful correlation of geography, nature study, and agriculture, and an enlargement of the scope of industrial training in bench work for boys and sewing and cooking for girls. A complete course of physical culture and military training, based upon the syllabus provided by the Strathcona Trust, has also been adopted; and closely related to this there is provided instruction in hygiene in which the formation of habits conducive to good health and morals is set above formal instruction in physiology. The authorization by the department of the appointment of medical inspectors

is a further provision for the more complete discharge of those responsibilities which belong to the schools.

The course of studies comprises twelve grades, each covering a year's work. The last four grades constitute the secondary or high school work. In these an endeavour is made to meet the various needs of the pupils, and by allowing liberal options to provide instruction corresponding to the demands for general, teachers', matriculation, and commercial courses. Considerable change has been made in the high school science course. The biology and physics of the first two years have been simplified and made practical and experimental, that part of the biological sciences relating to agriculture being emphasized.

4. *Consolidated Schools*.—Although provision had been made in the school law of the territories for the consolidation of two or more districts, there were no demands for the exercise of this privilege. The reason for this was the size of the districts, the majority of which contained from twenty to twenty-five sections. In fact, as the population became more dense there arose a demand for smaller districts, so that a scheme had to be devised which would overcome the difficulties involved and at the same time avoid the evils which had necessitated consolidation elsewhere. A step was made in this direction in 1901, when a provision was incorporated in the school ordinance empowering trustees to arrange for the conveyance to and from school of children residing within the district.

However, since that time a necessity for consolidation has grown up in some parts of the province, and to meet this more ample provision was made during the session of 1913. The ordinance was amended so as to enact that in each consolidated school district there should be paid, out of the legislative appropriation made for that purpose, the total amount of the grant which in the estimation of the minister would have been earned by each of the school districts united into the consolidated school district, as well as a definite sum per day for each conveyance employed by the district to carry children to and from school.

5. *The Training of Teachers*.—One of the great problems

of the department has been to supply the demand for qualified teachers, and in order to overcome the difficulty it has been necessary to have two normal school terms. These are each four months in duration.

The Calgary normal school was established in 1905. Instruction is given in the usual subjects for teachers in training, but special attention is paid to the practical work. The model school is a regular city school of eight grades which is conducted in the normal school building. Here training is given in systematic observation and practice under the constant supervision of the normal school staff, and the work is planned in such a way that the instruction in the normal school and the teaching in the model school are kept in harmony. The teachers in the model school are appointed by the department, which, in consideration of their special duties, grants bonuses over and above the regular salaries which are paid by the city. In addition to the model school, the other city schools as well as the collegiate institute are open to normal students for general observation.

Besides the regular classes, a special course, one month in length, is given for the benefit of teachers who have received their normal training in the British Isles. The object of this course is chiefly to make these teachers familiar with the course of studies, the school law and administration, as well as to instruct them in such methods of teaching as may be best adapted to the special needs of the province.

A second normal school was opened in Camrose in the fall of 1912, and a faculty of education is contemplated in the university to meet the increasing demand for teachers in secondary work, as well as the higher needs of the profession generally. A summer school has been initiated by the department at the university, where special instruction is at present given to teachers in nature study, gardening, and agriculture, as well as manual training, household art, fine art, and physical culture.

IV

AGRICULTURAL EDUCATION

FOR some time considerable attention has been given to working out a system of agricultural education which should be best adapted to the special needs of the province. In the meantime a number of short courses have been carried out by the department of Agriculture in various centres. However, for the past two years the departments of Agriculture and of Education have been co-operating in a larger scheme which, when fully realized, ought to give agriculture from an educational point of view the place it deserves, and at the same time aid in a very marked degree the scientific and economical development of the vast agricultural resources of the province.

Mention has already been made of the provision for agriculture in the courses of study. Following the nature study of the earlier grades, it begins as an elementary science of the soil and the plant, and is continued throughout the higher grades of the secondary work as one of the optional scientific subjects. In view, however, of the requirements of the rural schools in the matter of agricultural teaching, it has been made a compulsory subject for the teacher's course. Provision is further made in the university that teachers preparing to teach agricultural science along with general science in the high schools may take agriculture as one of the optional subjects. Thus both in the high schools and in the university it has been put upon the same basis as any of the other sciences, such as physics, biology, and chemistry, and like them it involves laboratory practice.

For the more practical side of the training, agricultural schools are being established in connection with the provincial demonstration farms which are located in various parts of the province, where the conditions of farming are more or less different. In these schools the scientific and technical branches will be more closely related. Already three such schools have been organized—in Olds, Claresholm, and

Vermilion.¹ In connection with these, consulting, demonstration, and experimental work will be carried on, and instruction will be given to those who wish to advance their knowledge of practical farming as well as to pupils who desire to qualify themselves specially to proceed with the more scientific or professional type of work in the university leading to a degree. It is planned that in the university faculty of agriculture the work of these schools will be correlated and continued, and that in addition research work will be carried on in regard to the various special problems, scientific and economic. This work, it is hoped, will be very fruitful in practical results so far as the future development of agriculture in the province is concerned.

V

THE CITY SCHOOLS

THE rapid growth of the larger cities has made the matter of school accommodation a very serious problem. When one reflects that thirty years ago no school in the province had an attendance of more than thirty-five students and then considers the size of the school population in the various centres to-day, one realizes something of the magnitude of the task which the school boards have had to face. The Calgary schools have grown from a total of 1571 students and 28 teachers in 1905 to 7385 students and 148 teachers in 1912. Edmonton has grown during the same years from a school population of 1871 pupils and 35 teachers² to 7062 pupils and 142 teachers. Lethbridge in 1912 had 1816 pupils and 39 teachers, Medicine Hat 1367 pupils and 36 teachers. The number of high school pupils in the cities has also increased very rapidly, and this has made additional demand upon the

¹ These schools were opened in the fall of 1913 and had a registration in all of 266 pupils.

² These numbers include the pupils and teachers in the Strathcona schools, which came into the Edmonton school system on the amalgamation of the two cities in 1912.

various school boards. However, the large number of handsomely constructed and well-equipped school buildings in the different cities bears testimony to the excellent way in which the respective boards have discharged their duties. One superintendent in his report says : ' The trustees believe that a school house should possess artistic excellence in architecture, that it should express the purpose for which it is used, and that because of these characteristics its influence should be elevating and refining.' The same spirit is abundantly evident not only in the cities but in the towns and villages.

One of the most remarkable features of the administration of the city schools is the initiative which is being manifested by the various boards in the endeavour to meet the special needs of their respective communities. They are not content merely to follow the prescribed courses of instruction, but are developing these and branching out along new lines calculated to stimulate the higher efficiency of the school organization. Special attention is given to the physical welfare of the pupils in the way of rigid medical examination, supervision of sports and playgrounds, and cadet training. An attempt is made to render the work in music and art more effective by securing the services of highly qualified teachers and supervisors, while all public as well as high schools are being equipped for manual training and household science. The problem of technical education is at present occupying a good deal of attention, and a consistent effort is being made to establish this type of teaching as an organic element in the work of the school. What is being accomplished in this regard may best be estimated from a few extracts from the reports of superintendents.

Superintendent Hay of Medicine Hat writes : ' For 1913 two new schools are in course of erection and a High School to cost in the neighborhood of \$300,000 is being planned. Besides the usual provision for classes preparing for University work and teachers' certificates, there will be accommodation for classes in Commercial study, Industrial Art work, Manual training in wood and metal working, as well as for evening classes in Mechanical Drawing and all forms of Technical Education.' In Lethbridge a special building has recently

been completed for the purpose of manual training and domestic science. 'It is hoped,' says Superintendent Hamilton, 'that this school may be far-reaching in its effects; that it may reach not only the children but also the young men and women who work. It is planned to organize night schools, where instruction in shop work may be given. It is not too much to expect that this may be the beginning of a technical institution, reaching out a helpful hand to the aspiring toiler in every sphere of labor.'

In regard to the work which is being done in Edmonton Superintendent M^cCaig reports as follows :

The question of technical education is receiving suitable attention. While night classes for both boys and girls, young men and women have been in operation for the last two years in technical subjects as well as in the teaching of English to foreigners, the Board has conceived its obligation to be essentially the establishing of a properly organized day service in technical work paralleling the present academic high school work for both boys and girls, and courses have already been established to this end. The programme already set out by the Director of Technical Education for the city and adopted by the Board takes account of four courses. (1) A general industrial course covering a period of two years and including drawing and mathematics on one side with practice in cabinet-making and forging on the other, supplemented by courses in English, industrial geography and civics. (2) A more specialized course made up of an additional year's work in a special industrial occupation built up in the general course. (3) Co-operative or part-time courses, chiefly in theory, for those regularly employed in shops. (4) Technical and practical courses for pupils matriculating into higher institutions of applied science. The courses for girls will include all branches of domestic science and art. The equipment will be available for night classes of specially practical training in these subjects for both boys and girls and for men and women. This provision for industrial teaching, together with the commercial course now in operation in the High School, is intended to fully round out the educational services of the schools in their bearing on the professional, commercial and industrial life of the city.

Calgary has already sent two commissions to different parts of the United States to inquire into the question of technical education as well as other related problems, and plans are being rapidly developed in accordance with the latest and most approved methods. Of the work done so far, Superintendent Scott writes :

In the summer of 1911 a Director of Technical Education was appointed under whose direction evening classes have been held for the past two winters. At the same time evening classes in English for foreign-born persons were formed. The success of both these efforts has been almost phenomenal, the enrolment for the second winter being over 700 in the technical work and more than 300 in the English classes, thus giving a total enrolment of more than 1000 students. This work will be extended, and will doubtless result in the erection of a special building for technical education.

VI

COLLEGES

WITHIN the last ten years a number of colleges have been established which contribute in a very important way to the higher educational life of the province.

Alberta College, which was founded by the Methodist Church, was opened in Edmonton on October 5, 1903. The first day there were no students, the second one, and the third two. From this humble beginning the college has grown to be a large institution with a total registration in the year 1912-13 of over a thousand students in the various departments. The Rev. J. H. Riddell, D.D., is principal. The main building, which is equipped for teaching and residential purposes, is on the university grounds. Here the greater part of the instruction is in matriculation and theological work. It is significant that in the fall of 1912 there were registered about eighty students preparing for the work of the ministry,

of whom forty-five were then doing theological work. In the original building, which is on the north side of the North Saskatchewan River, instruction is given in commercial work, as well as in music, elocution, and fine art.

Robertson College, which is named after the late Dr Robertson, superintendent of Presbyterian missions in Western Canada, was founded by the General Assembly of the Presbyterian Church in 1910 and was opened in temporary quarters in Edmonton South in the following year. Its permanent home will be on the university grounds. It is purely a theological college, and a special feature of the work will be an extension department through which assistance will be given to ministers and missionaries in the field, as well as to Sunday-school workers, by means of correspondence courses and travelling libraries. There is already a library of two thousand well-selected volumes, the greater number of which have been presented to the college. The principal is the Rev. S. W. Dyde, LL.D., formerly professor of mental philosophy in Queen's University.

St John's College, originally established in Pincher Creek, was moved to Edmonton South in 1910. It is a seminary of the Oblate order of the Catholic Church, in which young men are trained for the priesthood.

Other colleges in Edmonton are Westward Ho, a private school for boys, and Edmonton College, which has recently been established by the Jesuit order of the Catholic Church, and in which instruction will be given in classical and commercial subjects.

In Calgary, the home of the first normal school in the province, there are several growing colleges. Western Canada College was founded in 1903. It is a residential school for boys and young men. Though established mainly by the Presbyterians of Calgary, among whom the late Dr Herdman was one of the most influential, it is undenominational in character. Mount Royal College is organized along the same lines as Alberta College, with the exception that it has no theological department. It was established in 1910. Although supported mainly by prominent Methodists in Calgary, it is open to students of all denominations. Calgary

College, which was opened in 1912, has organized courses to cover the first two years of university work. It has endeavoured to obtain a university charter with degree-conferring powers, but this has been refused by the legislature, which has adopted the policy of a unified and centrally controlled system of education for the province. St Hilda's College and Bishop Pinkham College, Calgary, are under the control of the Anglican Church. The former is a residential college for girls and young women, and the latter is a boys' school. University School, established in 1912 in Calgary, is a private school for boys. The Alberta Ladies' College of Red Deer was established in 1910. It is a Presbyterian institution, but is undenominational in character and scope. The Lutheran College of Camrose is for the education mainly of young men preparing for work in the Lutheran Church.

Of the above, Alberta, Robertson, Western Canada, Mount Royal, Westward Ho Colleges, and University School are affiliated with the university, which grants them the privilege of special matriculation examinations.

VII

THE UNIVERSITY OF ALBERTA

THE preliminary steps for the establishment of a provincial university in Alberta were taken by the first legislature at its first session. The University Act, being an 'Act to Establish and Incorporate a University for the Province of Alberta,' was introduced by A. C. Rutherford, the then prime minister and minister of Education, who from the time he assumed the reins of government looked forward with enthusiasm to the founding of what would soon become a great seat of learning, which would serve the higher educational interests of the province and react upon its life. By the act the university, consisting of a chancellor, vice-chancellor, senate, and convocation, was established in the province and was empowered to undertake the work of organization. Provision was made that the first convocation

should consist of all graduates of any British university who resided in the province three months prior to the first election of the senate of the university and registered one month prior to this election as members of convocation. It was also provided that the chancellor should be elected by the members of convocation, and the vice-chancellor by the members of the senate from among themselves. The senate was composed of the minister of Education, the chancellor, the president or acting president, ten members to be appointed by the lieutenant-governor in council, and five members to be elected by convocation. The senate as thus constituted was the governing body and had complete control of all affairs of the university, both in regard to educational matters and business management. The lieutenant-governor of the province became, in accordance with the act, visitor of the university.

During the session of the legislature in 1907 provision was made for the purchase of a site for the university. The site selected contains two hundred and fifty-eight acres, beautifully situated on the south side of the North Saskatchewan River, almost directly opposite the location chosen for the legislative buildings at Edmonton. In the same year an amendment to the act was passed which authorized the lieutenant-governor in council to appoint a president to whom could be given the responsibility, in conjunction with the senate, of organizing and developing the university scheme. Acting upon this authority, the government selected Henry Marshall Tory, LL.D., of M^cGill University, who entered upon his duties on January 1, 1908.

In response to the invitation to all graduates of British universities to become members of convocation, three hundred and sixty-four graduates registered, representing all the Canadian and many of the English universities. The voting for the election to the senate closed on March 18, 1908, and immediately afterwards the ten members required by the act were appointed by the government. Mr Justice Stuart was elected chancellor.

The first meeting of the senate was held on April 30, 1908, at which it was decided to proceed at once with the organiza-

tion of the first faculty, to be known as the faculty of arts and sciences, and to open for classes in September 1908. At this meeting Mr Justice Beck was appointed vice-chancellor.

On September 23, 1908, the first session opened in temporary quarters in the Duggan Street school in the then city of Strathcona, with a staff of four professors in addition to the president and an enrolment of thirty-seven students, which increased later in the year to forty-five.

The first convocation was held on October 13, 1908. The honorary degree of LL.D. was conferred upon the lieutenant-governor, George Hedley Vicars Bulyea, and A. C. Rutherford, and the honorary degree of D.C.L. upon the chief justice, Arthur Sifton.

In September 1909 the second session of the university opened in the Strathcona Collegiate Institute, to which its headquarters had been transferred about the middle of the previous session, with more than double the enrolment of the first year. Sod was broken for the new arts building on the university grounds, and Dr Rutherford, whose government had that summer been returned with an overwhelming majority, officiating on that occasion, spoke most optimistically of the prospects of the young institution. But no sooner did the new legislature meet than the storm broke over the Alberta and Great Waterways Railway. Confusion prevailed, and a good deal of legislation, including that which had been contemplated in regard to the university, had to be dropped. The legislature was prorogued without making provision in the supplies for the needs of the university. It met again, only to receive the resignation of the prime minister and the members of his cabinet. In the short session which followed in the summer, with Arthur Sifton as prime minister, only a few urgent matters were dealt with; the remainder of the legislation was left over. Meanwhile the university experienced hard times, and work on the arts building had to be abandoned through lack of funds. The outlook was discouraging enough, and the situation was not improved by the attempt in some quarters to set up an agitation for the moving of the university to Calgary. However, the president determined that not only should the work go on, but

a residence building which had been started should be pushed ahead to accommodate the increased number of students anticipated for the coming session. In his endeavour he was supported loyally by the senate, and he succeeded in making financial arrangements to carry out his plans. When the session opened Athabasca Hall was ready and equipped for teaching purposes, with accommodation for about eighty students in residence.

During the session of the fall of 1911 the legislature took up the cause of the university and put it upon a more secure basis. A new university act was introduced by C. R. Mitchell, then attorney-general and minister of Education, which made more adequate provision for the administration and financing of the institution. The control of all business matters, including appointments to the staff, was vested in the board of governors, consisting of the chancellor and president (*ex officio*) and nine members appointed by the lieutenant-governor in council. The senate, which was now reconstructed in its membership so as to represent all the higher educational interests in the province, was given control over the courses of study, examinations, the granting of degrees, and, in general, all matters relating to the educational work of the university. To aid in the financial support of the university the act provided for the paying over to the board of fifty per cent of the succession duties. This, together with a previous allotment of twenty per cent of the corporation tax, and certain grants from the educational tax, provides the permanent government revenue. The board was also given power to borrow or issue bonds or debentures, subject to the approval of the lieutenant-governor in council, by whom they are guaranteed.

In the autumn of 1912 classes were opened in Athabasca Hall, the first building to be erected upon the university site. Here a comprehensive scheme of buildings is being carried out, not only for teaching purposes but for residential accommodation for students and members of the staff. The following figures indicate the growth of the student body and the teaching staff up to the present time :

1908	.	.	45 students	5	members of staff		
1909	.	.	82	„	9	„	„ „
1910	.	.	129	„	13	„	„ „
1911	.	.	185	„	15	„	„ „
1912	.	.	320	„	26	„	„ „
1913	.	.	433	„	34	„	„ „

It is the constant aim of the authorities that the university should exert its influence over the whole province, and in order to work most effectively in this respect, they have endeavoured to make it not only the coping-stone of the school system, but the co-ordinating power for all the higher interests in education. The remarkable degree in which this ideal has already been realized may be indicated under the following headings.

1. *Affiliation of Theological Colleges.*—The theological colleges have been encouraged to affiliate with the university, and to each one desiring to do so is offered a site of about eight acres on the university grounds. State universities have sometimes been reproached by the church as being 'godless institutions,' and President Tory has repeatedly urged upon the churches of Alberta that the most effective way in which they can help to safeguard the higher life of their provincial university is to plant their theological colleges in its midst and exert their influence through them. Incidentally the good influence might be expected to be mutual. The theological student is not infrequently a leader, and can do much to impress his ideals upon his fellow-students and establish high standards in university life. But he also may profit a good deal from his association with the more secular type of arts man, the science student, and the medical.

Alberta College and Robertson College, the theological seminaries of the Methodist and Presbyterian Churches in Alberta respectively, have already affiliated and secured sites on the university grounds.¹ Students in both colleges take all their arts work in the university, and an endeavour has been made to meet their special requirements. In the purely theological work the colleges conduct their own courses and

¹ In March 1914 definite steps were taken by the Anglican Church to establish a theological college.

examinations, and a great step forward was made in the spring of 1913 when arrangements for co-operation were made by the Methodists and Presbyterians in the form of a joint staff, so that hereafter there will be no duplication of work. Degrees in theology are under the control of the university senate, of which the principals of affiliated theological colleges are *ex officio* members.

2. *Affiliation of Professional Societies.*—The various professional societies of the province, recognizing the advantages of a central system of co-ordination and control, have one by one become affiliated with the university. By so doing they give over to the university senate, on which they are represented, the power originally delegated to them by the legislature of controlling the examinations permitting members of the various professions to practise in the province. Already the following societies have become affiliated: the Alberta Land Surveyors, the Alberta Dental Association, the College of Physicians and Surgeons of Alberta, the Alberta Architects' Association, the Law Society of Alberta, the Institute of Chartered Accountants of Alberta, and the Alberta Pharmaceutical Association.

Although the work in arts was the first to be fully organized, an endeavour has been made to meet as rapidly as possible the demands for teaching along professional lines. At first it was possible to offer only two years' work in applied science, but now full courses are offered in civil and mining engineering, and arrangements are being made to complete the organization of the other departments. Teaching in architecture was begun in 1912, and full courses now are offered. A faculty of law was organized in the fall of 1912. The teaching covers the work required by the Law Society as well as the additional subjects for the degree of LL.B. Provision was made for the opening of classes in medicine in September 1913, and with a view to meeting the needs of the faculty of medicine, arrangements were made with the city of Edmonton for the construction on the university grounds of a hospital, the first unit of which was completed in the fall of 1913. A site has also been granted to the city of Edmonton for a school which will eventually be fully equipped in all

departments. This school will be used for purposes of demonstration and practice in connection with the university faculty of education which will shortly be organized. A faculty of agriculture, the relation of which to the general scheme of agricultural education has already been discussed, will also be organized within the next two years.

3. *Extension Work.*—Since the opening of the university there has been an increasing demand for extension lectures in the different centres of the province, with the result that it has been found necessary to organize a department of extension with a secretary in charge who gives all his time to the work. Through the medium of this department the university is brought into the closest possible relation with the life of the province. It is the business of the secretary to visit the various centres, to keep in touch with the work of the high schools, to organize and assist in every way reading and debating societies, to arrange for series of lectures by members of the staff, to provide travelling libraries, and to collect and furnish information of all kinds which may be desired for educational purposes. Bulletins containing such information and printed by the university's own press are sent out weekly to the newspapers of the province as well as to all persons interested. To help to make this as well as the general work of the university as effective as possible special attention is being given to the library, which already contains about twelve thousand well-selected volumes.

4. *Industrial and Public Health Laboratories.*—The various laboratories of the university are being developed as rapidly as possible, not only to meet the demand for teaching purposes, but to serve certain important public needs. Special provision has been made for industrial laboratories, which will be kept open the year round, and in which testing, assaying, and analyses of various kinds will be carried on. In 1911 the provincial health laboratories were transferred to the university buildings. Here a valuable service is being rendered to the province in bacteriological, pathological, and lego-medical work, which, it is expected, will be extended and made still more efficient in connection with the faculty of medicine.

When the university scheme was first launched there

were not a few who regarded it as premature. It was thought that there would not be a sufficient number of students to justify the expenditure necessary. However, the rapid growth which has followed its establishment has effectively banished all doubts as to the wisdom of its founders. The question now is not where the students are to come from, but what is to be done with those who are crowding in from the different parts of the province. According to the present rate of increase, it will be some years before the needs for teaching facilities and residential accommodation can be adequately met. In the meantime the authorities are putting forward every possible effort, and it is their sincere hope that the character of the work done in the university will be an even greater justification than its visible expansion for its establishment in the province.

An endeavour has been made to give first of all a brief history of Alberta's educational system, in so far as anything so young can have a history, and in the second place to indicate some of the ideals which lie at the basis of its development. As to the outlook for the future, one remark may be made. Those in authority and with influence are endeavouring to ensure the administration of educational matters in the province in a statesmanlike way. Albertans are naturally proud of their province with its vast natural resources, its continuous sunshine, and its variegated scenery, but those most deeply interested in its welfare will cherish an infinitely greater pride in the development of a system of education which will permeate with its elevating influence every sphere of the life of the province, and which will permit Alberta to co-operate with her sister provinces in the West and in the East in the realization of the highest ideals of life and the best type of Canadian citizenship.

John M. MacIsaac

ECONOMIC RESOURCES OF
MANITOBA

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TOPOGRAPHY

THE Province of Manitoba is situated near the centre of the continent of North America. Its northern boundary by land is the 60th parallel, and by water Hudson Bay. On the south it is separated from the United States at the 49th parallel. Longitude ninety-eight bisects its area, and its average width is approximately 265 miles. Previous to March 1912 the total area amounted to 73,732 square miles. On this date the northern boundary-line was extended so as to include an additional territory of 178,000 square miles, making in all 251,732 square miles, land and water. It now ranks fifth in size among the provinces of the Dominion, and has a shore line of about 500 miles on Hudson Bay, including two harbours, Port Nelson and Fort Churchill.

The topographical features of the province are not pronounced. More than three-quarters of the total area, including the basins of the two largest bodies of water, Lakes Winnipeg and Manitoba, comprising 9460 and 1775 square miles respectively, is at a level of less than one thousand feet above the sea. Of the three great plains or steppes into which the territory included in Manitoba and the two provinces westward is usually divided, the first and lowest is the Red River valley, being at an elevation of about eight hundred feet. Its northern part is occupied by the Winnipeg group of lakes, and to the south of Lake Winnipeg, extending from the eastern boundary westward to the ridges of the Pembina, Riding, and Duck Mountains, and Porcupine Hills, is the bed of the prehistoric Lake Agassiz, a great inland sea which at one time

covered all this part of North America, and of which the great lakes of the North-West are the remaining waters.

It is believed that for many years the lower outlets from this lake were blocked by glaciers, and that the waters that accumulated in consequence were spread over a wide stretch of country. When the ice eventually melted, and the Nelson River was left free to drain the land into Hudson Bay, Lake Agassiz disappeared, leaving deposits of clay and silt which are now overlaid by several feet of black vegetable mould, constituting the richest wheat-lands of Manitoba, practically inexhaustible in productiveness.

The northern part of the province, east of the mountain range, is covered to a large extent with timber. The second prairie steppe extends from the mountain ridges mentioned westward into Saskatchewan, and includes a considerable portion of South-Western Manitoba. In the north and west beyond the first ridge the plain in most places consists of a light clay loam, capable of cultivation in early springtime, and suitable for the production of large crops in a minimum amount of time.

The province has been very richly endowed by nature, not only with a soil of unexampled fertility and easy to till, but also with great fisheries, mines, and forest-lands, and, above all, with tremendous water-powers, as yet practically undeveloped, which are to be found on its many rivers.

SOIL

The chief wealth of Manitoba, however, lies in its great natural storehouse—the soil. In it the elements of plant food abound. An instructive statement of what it is found to contain by analysis has been issued by the Dominion Agricultural chemist.

The plateau south of the Winnipeg group of Lakes is of remarkable uniformity, and the data of Soil No. 1, in table Manitoba Soils, given herewith, are representative of a very large area of the immediate valley of the Red River, though perhaps not typical in all details of the whole plateau. It is a deep, black clay loam, of a fine

and peculiarly characteristic granular order. In the air-dried condition, it reduces easily to a greyish-brown or greyish-black powder. Though there is present a considerable amount of undecomposed root fibre, the soil proper presents a remarkable homogeneity in appearance, indicating a process of physical refining in its formation and a uniformity in chemical composition. The very large amount of organic matter present is undoubtedly intimately incorporated with the clay and sand which constitute the basis of the soil.

Though containing a large amount of clay, laboratory experiments show that this soil does not readily 'puddle' on moistening, nor on subsequent drying does it form into a hard mass, but granulates on moderate pressure. The large amount of organic matter present has already been remarked ; it exceeds 25 per cent of the water-free soil. The nitrogen, calculated on the same basis, is found to be practically one per cent, from which it may be estimated that there is contained in an acre of soil to the depth of one foot from 20,000 to 25,000 pounds at least of this element. Since ordinary fertile soils to a like depth contain from 3500 to 10,000 pounds, the vast reserve of this valuable constituent in this prairie soil is apparent.

The soil is also very rich in potash, containing an amount (1.033 per cent) far in excess of that ordinarily met with in the fertile soils of Eastern Canada. Our data have indicated that good agricultural soils usually possess between 0.25 and 0.5 per cent of potash.

Of phosphoric acid, it contains 0.29 per cent. This is slightly above the average, most of our good soils showing between 0.15 and 0.25 per cent of this element.

The fairly large percentage of lime is worthy of note, since it indicates not only a fair supply for crop use but also a condition of the soil that should be particularly favourable to nitrification.

We may safely conclude that, in these data, there is ample proof of abundant stores of plant food, and that this prairie land, as regards the elements of fertility, ranks with the richest of known soils.

The late Dr George M. Dawson, the eminent geologist and Canadian explorer, whom we have already quoted, wrote some years ago as follows regarding the prairie soil of the Red River valley :

Of the alluvial prairie of the Red River much has

already been said, and the uniform fertility of its soil cannot be exaggerated. The surface, for a depth of two to four feet, is a dark mould, composed of the same material as the subsoil, but mingled with much vegetable matter. Its dark colour is no doubt due in part to the general accumulation of the charred grasses left by the prairie fires. The soil may be said to be ready for the plough, and, in turning the tough, thick prairie sod, the first year a crop of potatoes may be put in, though it is not efficiently broken up until it has been subjected to a winter's frost. When the sod has rotted, the soil appears as a light, friable mould, easily worked and most favourable for agriculture. The marly alluvium underlying the vegetable mould would, in most countries, be considered a soil of the best quality, and the fertility of the ground may, therefore, be considered as practically inexhaustible.

The area of this lowest prairie has been approximately stated as 6900 square miles, but the whole is not at present suitable for agriculture. Small swamps are scattered pretty uniformly over its surface. The greater part of these swamps are, however, so situated as to be easily drained, either into the Red River or some of its tributaries, which are usually depressed 30 or 40 feet below the level of the surface.

Soils Nos. 2 and 3 are from Portage la Prairie, a district lying some fifty miles directly west of Winnipeg. It is one of the earliest settled localities in the North-West, and has long enjoyed a reputation for producing wheat of the very highest quality. In No. 2 we have an example of the virgin prairie—uncropped and unmanured; in No. 3, the same soil after 25 years of cultivation, in which grain growing was interspersed with fallowing to clean the land. The virgin soil shows more root fibre than the cropped soil, and is somewhat darker in colour. Both might be described as black, friable loams, containing a considerable proportion of sand. The analytical data afford evidence of their richness in the elements of plant food, though they are not quite equal to the soil from the Red River valley either in 'total' or 'available' constituents.

A comparison may be made of Nos. 2 and 3, since it is of more than passing interest to learn what effect grain growing carried on for a number of years may have had

on the composition of the soil. In the first place, it will be noticed, there has been a considerable reduction in the percentages of organic matter and nitrogen, consequent upon cultivation. This loss has in a very large measure been due to fallowing—a system of immense value for the conservation of moisture and the freeing of the land from weeds, but one particularly wasteful as regards organic matter and nitrogen.

In the mineral constituents no great differences are to be observed—the losses, so far as they may be gauged by chemical analysis, have not been at all excessive. This is not to be wondered at, as the wheat crop does not remove large amounts of plant food—it is not exhaustive according to the usual acceptation of the term—and in such a period as 25 years, representing, say, 16 crops, the effect upon the mineral stores of such rich soils would not be very noticeable.

Nos. 4 and 5 are composite samples from the Experimental Farm, Brandon, about 130 miles west of Winnipeg. They resulted from monthly collections (May to November) from plots under different cultural treatments in connection with moisture conservation experiments. In so far as physical character is concerned, these two samples are practically identical, the soil being a mellow, black loam of a somewhat sandy type.

The tabulated data bear out their similarity in composition, and we may undoubtedly regard them as typical and illustrative of the true prairie soil. We have only to remark the abundance of vegetable matter, the high nitrogen-content and the liberal supply of the mineral elements, and more particularly of potash and lime.

No. 6 is a soil from the district immediately west of Lake Dauphin and north-west of Lake Manitoba. The area is one that, in parts, is covered with willow and other 'scrub,' necessitating clearance before cultivation. This soil is probably to be regarded as representative of those lands immediately surrounding the lakes, and subject to more or less flooding during the early part of the season, and for which drainage is of course necessary. It is a sandy loam, rich in organic matter, but with a sufficiency of clay to render it somewhat refractory on drying.

The data indicate it to be a soil of more than average fertility, and experience has borne out the conclusion

drawn from the figures that it would, on drainage, prove suitable for wheat growing, excellent returns having been obtained in favourable seasons.

The remaining two samples, Nos. 7 and 8, are black, sandy loams from the Valley River, Dauphin district. They were collected in 1906 in an investigation to learn the influence of environment on the composition of wheat—a matter still under study in the Farm Laboratories. The significance of the soil data in the solution of the problem referred to need not now be discussed, but the richness of these loams in organic matter and their high nitrogen-content is worthy of remark.

In potash they are decidedly poorer than the stronger or more clayey soils of the North-West—indeed in this constituent they are somewhat below the average found for Canadian soils of medium fertility. The percentages of 'available' potash are similarly low, though not reaching the limit set by Dyer as indicating the need of a potash fertilizer.

With respect to phosphoric acid, we find considerably lower percentages than in the prairie soil of the Red River valley; the amounts, however, being about equal to those generally present in soils of average fertility. The large proportion of lime in these soils would undoubtedly favour rapid nitrification, and also serve to render effective the somewhat sparse supply of phosphoric acid.

In the examples discussed, two distinct types of Manitoban soils are represented, the heavy clay loam covering the true prairie region in the southern part of the province, and undoubtedly one of the finest wheat soils in the world, and the other representative of the sandy loams of the north-western and more humid area, more or less covered with small trees and shrubs, a district regarding which we know less as to suitability for wheat growing, but, nevertheless, one which has produced profitable crops. Considered as a whole, the quality of the wheat of this north-western section has not been equal to that of the southern and more distinctly prairie portion of the province, but there is evidence to support the view that the grain will improve in character with drainage and further cultivation of the soil.

MANITOBA SOILS
RESULTS CALCULATED TO WATER-FREE BASIS

No.	Locality	Character of Soil	Organic and Volatile Matter (Loss on Ignition)	Nitrogen	*Phosphoric Acid (P ₂ O ₅)	*Potash (K ₂ O)	*Lime (CaO)	†Available Constituents		
								Phosphoric Acid (P ₂ O ₅)	Potash (K ₂ O)	Lime (CaO)
1	Red River valley, near Morris	Virgin prairie soil—black, heavy clay loam	% 26.29	% 1.005	% .288	% 1.033	% 1.89	% .054	% .076	% .581
2	Portage la Prairie.	Virgin prairie soil—black, sandy loam	19.43	.651	.178	.658	1.05	.038	.056	.329
3	" "	Prairie soil, cropped for twenty-five years	14.79	.506	.170	.588	1.61	.033	.048	.776
4	Brandon	Prairie soil, black loam, rather sandy	11.27	.346	.123	.819	1.14	.029	.057	.572
5	" "	" "	12.05	.431	.136	.841	1.02	.027	.076	.462
6	Dauphin, Dauphin District	Black sandy loam	11.44	.363	.215	.687	1.89	.023	.018	1.121
7	Valley River, Dauphin District	" "	21.54	.662	.155	.144	10.57	.007	.017	1.346
8	" "	" "	13.11	.379	.133	.194	3.54	.007	.007	.949

* The solvent used in the determination of the 'total' percentages of phosphoric acid, potash, and lime was hydrochloric acid sp. gr. 1.115, 10 grams of the air-dried soil being digested with 100 c.c. of the acid at the temperature of the water bath for 10 hours.

† In the estimation of the 'available' constituents, 1 per cent citric acid solution was employed, digesting 100 grams of air-dried soil with 1000 c.c. of the solvent for seven days at room temperature.

CLIMATIC CONDITIONS

In order to understand the economic value of the soil fertility of Manitoba, it is necessary to take into consideration certain peculiarities of climate. A soil rich in plant food is valuable largely according to the amount of moisture and heat which it contains during the season of plant growth and according to the length of the plant-growing season.

When considered broadly, the summers in Manitoba are marked by high dry temperature and an abundance of sunshine. The spring season usually advances very rapidly. The records of the Canadian Meteorological Service show that though the mean temperature in Manitoba during April and May may be in the neighbourhood of 35° , the daily maximum would be at least 10° to 12° higher. The annual precipitation is greatest during the growing season. Although the total annual precipitation only averages 17.34 inches for Manitoba, the amount falling between April and August, when most beneficial, amounts to about fifty per cent of the total, a quantity almost equal to that of the Province of Ontario for the same period.

A table showing the temperatures, precipitation, and amount of sunshine at Winnipeg, an eastern station in the Red River valley, and at Brandon in the western part of the province, as recorded by the Dominion Meteorological Office and averaged for a period of twenty years, is given (see opposite page) to aid in further study of the subject.

PRODUCTIVE POWER OF SOIL

From a study of the greatness of nature's storehouse of plant food and the abundance of sunshine and moisture as described in the foregoing outlines, it becomes easy to understand why Manitoba is noted for the production of heavy yields of cereal grains of the highest quality. Some years ago it was thought that the climate was too severe and the growing season too short to admit of successful wheat-raising. But a variety of wheat, Red Fife, was found which produced

enormous crops of the highest milling quality, and ripened in southern and central districts before the season of early frosts.

WINNIPEG

Month	Temperatures			Per cent of Cloud	Precipitation	Hours of Sunshine
	Mean	Absolute				
		Highest	Lowest			
January	-2'6	41'8	-46'1	47	0'96	111
February	-1'2	46'0	-46'5	42	0'70	137
March	14'6	61'8	-36'5	55	1'25	182
April	38'6	89'6	-12'8	49	1'51	204
May	51'0	93'6	14'0	53	1'91	255
June	62'1	100'5	21'0	59	3'62	257
July	65'8	95'8	35'5	50	3'33	286
August	62'9	97'0	30'3	51	2'04	257
September	53'8	99'0	17'0	54	1'93	176
October	41'3	84'8	-2'8	58	1'27	127
November	21'4	64'8	-33'4	57	1'16	94
December	7'0	44'8	-39'1	53	0'74	88

BRANDON

Month	Temperatures			Per cent of Cloud	Precipitation	Hours of Sunshine
	Mean	Absolute				
		Highest	Lowest			
January	-2'7	43'5	-47'2	...	0'91	107
February	-1'2	47'6	-52'0	...	0'87	132
March	13'8	60'0	-41'9	...	0'85	158
April	38'5	88'4	-11'7	...	0'81	158
May	50'5	99'3	7'0	...	1'81	229
June	60'0	106'3	26'3	...	3'42	223
July	64'2	99'5	33'0	...	2'44	274
August	62'2	106'5	29'5	...	2'51	252
September	52'5	95'6	10'6	...	1'46	174
October	40'3	81'6	-3'0	...	0'88	130
November	19'6	69'1	-40'7	...	0'86	89
December	6'5	49'1	-40'9	...	0'63	86

Hence it was that the lands of the province came into demand for farming purposes, and the soil became recognized as a natural resource of great value.

As the lands became occupied, the most northerly limit of the settlement was determined by the extent to which Red Fife wheat could be depended upon to ripen before the first killing frost. This limit seemed to remain almost stationary for several years, but thanks to the skill of the Dominion cerealist, Dr Charles Saunders, a new variety has been bred, equal in milling quality to Red Fife, as heavy in yielding power, and possessing the significant quality of ripening in northern latitudes from ten to fourteen days earlier. As a result of this most extraordinary and creditable production, the wheat line is now being moved much farther northward, and the producing value of an immense area has been immeasurably increased. From this as well as other examples of the improvement of crops which might be mentioned, it is evident that practically all the arable land now included within the province will in time come under the plough, to contribute profitably to the tiller of the soil.

DRAINAGE

Although the surface of the country is comparatively level, the natural facilities for drainage are very good. Practically all the western and south-western portions of the province are drained by the Assiniboine River and its numerous tributaries. This river flows eastward at an average of about fifty miles from the international boundary, and at the city of Winnipeg joins the Red River, a large body of water which rises in the State of Minnesota and flows almost directly northward, emptying into Lake Winnipeg. In its course it is joined by numerous small rivers which provide drainage for the eastern lands of the province.

From the Winnipeg chain of lakes to the eastern boundary, a number of rivers, the largest of which is named Winnipeg, provide an easy outlet for water that must be got rid of to make way for the agriculturist.

Towards the northern end of Lake Winnipeg the Saskatchewan, a river of considerable size, flows in from the west, while the Nelson, large enough to convey the surplus water of nearly three provinces, flows northward through the new lands of Manitoba to Hudson Bay.

Up to the present time comparatively little has been done by the hand of man to supplement the drainage of the province as provided by nature. Enough has been done, however, to demonstrate that soil and climatic conditions are such that the economic value of the land can be increased by drainage at the same ratio as has been done by drainage in older countries. The government of the province has put in 1845 miles of very large canal-like ditches and about 5000 miles of main ditches smaller in size. With these, municipalities have connected laterals, and now the time has come when the individual farmer in many settled districts is beginning to realize that the productive power of his soil can be greatly increased by placing small tile drains through his fields and disposing of the surplus water through the outlets constructed by the municipality or provincial government

FARM MANAGEMENT

When the cultivation of the soil was first undertaken in Manitoba, the south-western portion of the province was mostly open prairie, while in the east and north the surface was covered in many places with trees and shrubs. Practically all the land in the open country is now, and has been for many years, under cultivation. It was occupied first because of the small expense necessary in preparing it for crop-growing. The unoccupied lands of to-day are to a considerable extent dotted with trees, but the cost of clearing, when properly undertaken, is not a serious drawback to settlement. The timber which the land supplies is needed by the new settler in erecting buildings and in supplying fuel for his home.

The first settlements established in Manitoba were along the two principal rivers, the Red and the Assiniboine. Homes were built adjacent to the banks in order to be close to the water-supply, and the farms were laid out in long narrow strips running from the rivers outward a distance usually of from two to four miles. Few of these river lots or farms were more than ten chains in width, and thus the dwellings of the settlers were comparatively close, forming a continuous chain along the waterway.

When considered from the standpoint of economy of management, these long, narrow farms were unsatisfactory ; but then only a small percentage of the land was cultivated, and that mostly on the stretches lying against the rivers. Socially, however, the people benefited greatly by having their homes within easy distances of each other, a condition highly desirable and at times even necessary in those days.

When the province was surveyed for general settlement, it was decided by the government of Canada that a section of land one mile square consisting of six hundred and forty acres should be the unit. For convenience, sections were divided into quarters, making areas one half-mile square, a shape and size found most satisfactory for beginners in agriculture.

For the purpose of encouraging settlement of the land by those who would make their homes thereon, the government for a number of years has given free grants of quarter-sections to actual settlers. Many of the most prosperous farmers in Manitoba at the present time began on a free homestead and later increased their holdings. To-day the size of the average farm is one half-section. Under the present system of farming it is believed that three hundred and twenty acres can be more economically managed than a larger area. Nevertheless, instances are not uncommon where the holding consists of from one to two sections, but with rare exceptions better farming is done on smaller areas. In future the tendency in the country tributary, or adjacent, to large cities will be towards smaller farms, and on these the land will be more intensely cultivated, while farther afield still larger areas than at present may come under the control of farm managers of ability, who know how to utilize economically the great power machines being improved and adjusted to meet the needs of large farms.

SOIL CULTIVATION

The object of all cultivation of the soil is to promote the growth of farm crops. Primarily, it may be done either to prepare a seed bed, store up moisture, destroy weeds, or im-

prove its texture, but always the same end is in view—producing a satisfactory crop for use by man and beast. It is therefore of fundamental importance, since the extent of the crop depends largely upon the tilth of the soil and the success of the farming largely upon the amount of the yield from the land.

In starting a new farm in Manitoba, the first effort in soil cultivation is in breaking the virgin sod. In doing this two methods are followed. By the first, and the most common one in recent years, the land is ploughed three or more inches deep, prepared for a seed bed in the following spring by discing, and cultivated with disc-harrow late in the fall. This is known as the deep-breaking method, and is the only one which can be successfully followed on land that is more or less covered with scrub.

On the open prairie during recent years much land has been broken deeply as early in the season as possible and sowed in flax, after being cultivated well with the disc-harrow. In some seasons it is possible to obtain sufficient profit from this crop to pay the cost of breaking, but, except in districts of abundant rainfall, the practice of growing flax on breaking is not advisable, because it reduces the amount of moisture available for the grain crop the following season.

By the second, and perhaps the most profitable method of preparing the virgin soil for a crop, the land is first ploughed, in the months preceding July, from twelve to fourteen inches wide and as shallow as possible, and later, when the sod has become somewhat decayed, it is ploughed in the same direction about three inches deeper than the first time. This second ploughing is known as back-setting, and it should be soon followed by the disc-harrow in order to produce the best results. Rolling or packing after breaking will hasten decomposition, and make it possible to begin back-setting in August if desired.

Back-setting is regarded as very heavy work for horses, but it provides a means of so preparing land that a more abundant yield may be expected than where the deep-breaking system only is followed. Summer fallowing means the cultivation of the land for a whole season for a specific purpose

other than crop-growing. Only two good reasons can be advanced on behalf of the fallow in Manitoba : one is its use as a means of storing up moisture in dry districts for the next season's crop, and the other the means which it provides of destroying weeds. Contrary to an opinion too commonly held, summer fallowing itself does not increase the amount of fertility in the soil. The operation, however, effects the soil in a mechanical way and makes the plant food more available, but it does not add materially to the total of desirable elements in the soil.

DIVERSIFIED FARMING

The early history of an open country usually tells the story of the stockman on the range followed by the grain-grower. This is true of Manitoba. Stock-ranching, however, was not followed so long as in the country westward by the foothills of the Rocky Mountains. The value of the western plains of Canada was not understood by either stockman or grain-grower long before 1880, when it first became known that Red Fife wheat could be ripened before the season of killing frosts. From that date the southern half of the province was settled rapidly, and the country fast became famous for its No. 1 Hard Wheat and other grains of fine quality.

As years went on it was found, as it had been in older countries, that a system of farming that did not aim to conserve soil fertility or restore to the land those elements of plant growth absorbed in grain-growing must, even on a soil so richly endowed by nature as Manitoba's, in time be a failure. And so in recent years there is a movement in the districts longest settled to depart from the old practices and adopt instead a more diversified system. Grasses and clovers or alfalfa are being included in the rotation of crops ; fodder corn and roots are being more generally grown, and stock-raising is on the increase. This tendency no doubt will increase as it has done elsewhere, at least up to a point where the fertility of the land can be maintained as constant.

FARM CROPS

In the year 1912 Manitoba produced, according to the provincial department of Agriculture, 2,823,362 bushels of wheat, 1,939,982 of oats, 962,928 of barley, and 196,315 of flax. Wheat gave an average yield per acre of nearly 21 bushels, barley 35, and oats 46. The average yield per acre of these grains during an average year, when grown by intelligent and industrious farmers, is very much higher than the figures just given.

The variety of wheat most commonly grown is Red Fife, introduced into Manitoba in the year 1880, coming, it is believed, from the coast of the Baltic Sea. It has been very productive. The berry is hard and bright, the bran thin, and the gluten content high; hence it is possessed of milling qualities unsurpassed. At the New York Land Show in 1911, a sample of Red Fife from a Manitoba farm won first place for milling wheat in a competition that was international in character. Most of the wheat exported from Western Canada is of this variety.

Red Fife is still regarded as having no superior for seeding in certain districts lying towards the southern boundary-line. It now has, however, a rival in the central portion of the province, and in northern districts an undoubted superior in Marquis, a variety produced at the Dominion Experimental Farm. The chief differences between Marquis and Red Fife are that the former ripens earlier, has shorter straw, stands more stiffly, resists rust somewhat better, and produces from ten to thirty per cent more crop, especially in northern districts.

Owing to the fact that this variety is at least ten days earlier along the northern limits of the wheat line than its noted predecessor, the area of the province in which wheat can be successfully grown should now be moved many miles northward. In this connection a recent statement of the Dominion cerealist is significant in that it announces a new variety called Prelude, of high milling quality, that ripens nearly two weeks earlier than Marquis. Considering the possibilities of the future in the light of such demonstrations

at the hands of the plant-breeder, it would be difficult to estimate how far northward the line of profitable crop-growing may yet be moved in the direction of Hudson Bay.

The two varieties of barley found best adapted to Manitoba conditions, called Mensury and Odessa, are six-rowed. They ripen in from seventy-five to eighty-five days of an average season, and hence can be sowed later than other grains and still mature soon enough to escape injury from autumn frosts.

In addition to wheat of fine quality, Manitoba is noted for the growing of oats. Under favourable conditions yields of from eighty to ninety bushels are not uncommon. The best known and most largely grown variety is the Banner. It is thin in the hull, of excellent quality, and very productive. Other leading varieties are Improved American, Golden Beauty, and Abundance.

Field peas do well in Manitoba, yielding forty bushels per acre and upwards, but few farmers so far have grown any quantity.

Of recent years there has been a rapid increase in the sown area of cultivated grasses. The chief advantages of this change of system are that the humus content of the soil is increased, the tendency toward soil-drifting is reduced by the root fibres of the decayed grass, and weeds peculiar to grain-fields are to some extent checked. Moreover, grass-growing is usually accompanied by stock-raising, and on farms where stock are produced soil fertility is retained. Timothy is the grass most commonly sown, but brome and rye grasses are grown largely in some localities. Brome is especially desirable on light or sandy soils.

In 1912 much interest was taken by the farmers of Manitoba in the growing of alfalfa or lucerne. In 1910 the Agricultural College undertook a series of experiments at ten different points in the province for the purpose of determining the extent to which this valuable legume could be satisfactorily grown. The results are most encouraging. It has been demonstrated that with the introduction to the soil of a species of bacteria peculiar to the roots of the alfalfa plant there is no difficulty in securing a stand. In this country it has been found that it will produce from two to

three cuttings per year and yield from three to five tons annually.

When it is considered that one ton of this fodder plant when properly cured is found on analysis to have food constituents equal in value to one ton of bran, and that in its growth it has power to store up in the soil atmospheric nitrogen in the form of nitrates, its great value in a rotation of crops will be realized. It is not too much to say that the growing of this plant will transform the system of agriculture in the Province of Manitoba within ten years. It will assist in clearing the land of weeds, in restoring soil nitrogen, and in inducing farmers to become stock-raisers.

In countries where farming has been carried on for many years, the value of a crop rotation that includes a variety of crops is fully understood. In a new country this is not always true, mainly because the range of varieties of crops that can be marketed at a profit is not usually so great. In the past the best lands have been used almost continuously for wheat-growing, a crop of oats or barley being introduced occasionally. One five-year rotation which is recommended includes wheat for two years, followed by corn, oats or barley, and clover or grass. On lands which have become infested with weeds such rotations as summer fallow, wheat for two years, and oats or barley are advised. In a short time, when diversified farming becomes more general, crop rotations such as those just mentioned will be comparatively common.

STOCK-RAISING

The Province of Manitoba is admirably adapted by nature for stock-raising. The once prevalent opinion that the climate was too severe has been proved to have no foundation. The comparatively low temperatures of the winter season are offset by an absence of a high degree of humidity and by an abundance of sunshine. During the summer season there is ample natural pasture, and in districts where the new lands have not been fully occupied, the settlers find little difficulty in making sufficient hay to carry over large herds during such winter seasons as are marked by heavy

snow-falls. In many districts horses are able to graze for a considerable part of the winter season.

During the past ten years an increased interest has been taken by farmers in horse-raising. The great demand for drafters, brought about by the rapid settlement of the country westward, has encouraged the breeding of such breeds as Clydesdales and Percherons. The former are as yet decidedly in the majority. Large importations of pure-bred stock are made each year from Scotland by prominent breeders and dealers. Importations are made also from the Province of Ontario and from states of the American Union. Practically all the stock imported from the latter country is Percheron. Some of the highest-priced prize-winning stock in these countries has found its way into Manitoba to improve the blood of the native stock, and already excellent results are to be observed in the improvement of the young animals to be seen at the largest shows. Within a few years Manitoba will be a horse-exporting country.

For several years cattle-raising was not considered a profitable business in Manitoba. The prices obtainable for finished stock seemed to provide a smaller margin of profit than other branches of industry. Farmers complained that they could not afford to raise cattle for the prices obtainable, while buyers declared that the stock was inferior in quality and so unfinished in condition that higher prices could not be paid. A change, however, has come about. The general scarcity of meat products has tended to increase the price of such stock as has been offered, while at the same time an improvement in quality has been brought about through more general distribution throughout the province of pure-bred sires of desirable conformation. It has been demonstrated also that cattle can be finished for the block at much less cost than heretofore was thought possible. The opinion was generally held that expensive buildings were necessary before cattle-feeding could be conducted successfully. At the Experimental Farm at Brandon, Manitoba, extensive experiments in steer-feeding have been made for the past few years. One lot, allowed to run in the open without more shelter than is provided by a clump of native trees, was

shown to produce flesh more economically than a similar lot housed in well-kept stables in the usual way.

In the northern portion of the province it costs but little to keep cattle during the summer season. In most districts there is ample pasturage to be had at little cost, and consequently a general increase in the cattle industry in the province may be looked for.

The beef breeds at present in evidence are the Shorthorn, Hereford, and Aberdeen Angus. The two first are decidedly in the majority, and are held to possess qualities that fit them to aid in improving rapidly the grade stock of the country. In dairy breeds Holsteins are most numerous, but there are a few good herds of Ayrshires and an occasional representative from the Channel Islands.

The development of the hog-raising industry in Manitoba has not been commensurate with the increase in the population of the country. For a number of years pork has had to be extensively imported. This has been unfortunate. Suitable foods for raising this class of animal are always available at a minimum cost, and suitable quantities of rough grain, low in grade, can be utilized to great advantage. For the past two years there has been evidence of an increased interest in this branch of live-stock raising. With the adoption of mixed farming methods the hog finds a place, and even on comparatively small farms a limited number can be profitably produced. The demand being for light, well-cured bacon and ham, the bacon type of hog is preferred to the lard type: consequently the two great bacon breeds, the Yorkshires and Berkshires, have virtually taken possession of the trade. A few Tamworths also are bred.

During the first fifteen of the past twenty years sheep-raising in Manitoba declined, but recently there has been a tendency toward a revival of the industry. For many years those who were anxious to continue in this business found it difficult to do so owing to certain uncontrollable conditions. The principal of these was the presence of the coyote or prairie wolf, which destroyed lambs and sometimes full-grown animals. As the country has become more thickly settled this enemy has been disappearing, and with its dis-

appearance there has been a revival of sheep-raising. For mutton there is a demand on the home market that is practically unlimited. In recent years great quantities have been imported to Manitoba from other countries.

In establishing flocks the medium-woolled breeds are most popular. The Shropshires and Oxfords have proved to be favourites, especially for grading up. Leicesters are also in demand and are making conspicuously fine exhibits at leading shows.

Early in the live-stock history of the province active associations were organized, and through the agency of these public interest has been stimulated in the important work of live-stock improvement. Valuable concessions in regard to freight rates for pure-bred stock have been obtained from railroad companies. Exhibition associations have been induced to employ more efficient judges and to provide larger prizes and more adequate accommodation for live stock. Provincial auction sales of pure-bred stock have been inaugurated, and farmers have thus been enabled to select bulls for breeding purposes from among the consignments of many breeders.

DAIRYING

For a number of years the dairy industry in Manitoba progressed but slowly. The marketing of soil fertility by means of the wheat-growing route seemed to entail so much less effort than the managing of dairy cattle that comparatively few living on the land cared to engage in dairying. It is, however, becoming more and more clear to those who live in the country that the production of dairy products is a safer and more certain means of securing reward for labour than is grain-growing during an average year. A very considerable portion of the province, particularly in the east and north, is much more suitable for mixed farming than for grain-growing. Even the present grain districts cannot sustain indefinitely a continued impoverishment resulting from the continual production of grain crops. In the adoption of mixed farming methods dairying must occupy a prominent part in any thoroughly satisfactory scheme.

The present condition of the home market is most encouraging to producers; prices have been ranging high. There is a large and increasing demand for milk and milk products. A large percentage of the butter consumed is imported from Eastern Canada, and a considerable quantity of the milk consumed in the city of Winnipeg has to be brought in from points outside the province.

The following statement will show the quantities and value of dairy products marketed in the four principal cities of this province during the year 1912:

Product	Quantity	Price	Value
	lbs.	cts.	\$
Creamery butter . . .	2,931,138	28.0	820,718.64
Dairy butter . . .	4,333,905	23.4	1,014,158.14
Cheese . . .	536,618	13.0	69,760.34
Milk . . .	43,800,000	1.8	788,400.00
Sweet cream . . .	3,431,100	..	..
Butter fat . . .	801,700	32.0	256,544.00
Total value . . .	..	..	\$2,949,581.12

There are many indications that conditions are ripe for a rapid forward movement in dairying in this country. The chief difficulty in the way is the scarcity of dairy cows. In past years insufficient attention has been paid to breeding this class of stock, and it will be necessary to make large importations from other countries in order to meet the demands of the immediate future.

For the purpose of grading up the herds at present in existence, the dairy department of the Provincial Agricultural College has been carrying on a series of tests. In the year 1912 three hundred and eleven herds were tested. Records were kept of the quantities of milk produced by individual cows, and tests were regularly made to determine the amount of butter fat produced. In this way unprofitable cows are being eliminated from the herds, and the best producers becoming very valuable, especially because of their usefulness for breeding purposes.

One feature of the Manitoba dairy industry is the extent to which the manufacture of butter and cheese has become co-operative. Although the province is yet sparsely populated, fully fifty per cent of the butter and cheese put upon the market is made in factories, of which there are thirty-three.

There are in the province about eighteen cheese factories, situated in the more thickly settled districts. But there is greater scope for butter-making and cream-gathering. There is at the present time a marked tendency towards the centralization of the creamery industry. This is encouraged by the co-operation of the express companies, who give reduced rates on cream for butter-making purposes. This system has its advantages and its disadvantages. Among the former are a larger output, better equipment, and a more economical production; while among the latter may be mentioned a lack of interest on the part of the producer in the scientific work of the creameries.

POULTRY-RAISING

The possibilities of poultry-raising in Manitoba are very encouraging to those who would engage in that industry. Until recently comparatively little attention was given to it, the result being that with a population increasing rapidly importations of poultry products increased accordingly. During the year 1911 enormous quantities of eggs and dressed poultry, amounting in value to nearly one half-million dollars, were brought into the province from Eastern Canada and the United States, all of which ought to have been produced at home.

Conditions in Manitoba are particularly favourable for the raising of poultry. The comparatively dry atmosphere and absence of frequent changes of weather during the winter season are desirable features. At one time it was thought to be necessary to use artificial heat in order to secure a supply of eggs during the winter months. Experiments conducted at the Agricultural College have shown conclusively that such is not only unnecessary but undesirable. Expensive buildings are not required; as good results have been secured by

housing fowls in small houses made from old piano boxes as in any other way. Being a grain-growing country, an abundance of refuse or damaged grain suitable for poultry food is always available at prices that enable poultrymen to make use of it at a large profit.

The demand for poultry and eggs is at present unlimited and is likely to remain so for some time to come. The home demand must be met, and those who prepare intelligently to meet it will be adequately rewarded. It is questionable if any industry in the country has a brighter future for those who understand how to carry it on.

HORTICULTURE

In the fruit-growing possibilities of Manitoba comparatively few persons have taken, until recently, much interest. This industry, like others, has suffered on account of the erroneous belief that the climate would not permit of its being carried on successfully. Because varieties commonly grown in other countries could not be produced here, many gave up in despair. Only a few have had enough confidence to continue their efforts on even a moderately large scale.

Great efforts have been made to secure hardy varieties of apples, plums, cherries, and other fruits from countries with climatic conditions similar to those of Manitoba. The experimental farms have given splendid assistance in this way and have been instrumental in introducing some fruits of great value to the country. One of the most valuable introduced is the *pyrus baccata* or Siberian crab-apple, which was first planted on the Experimental Farm at Brandon in the year 1890. The seed from which it is produced was from specially selected stock that had been originally secured from Russia. This hardy apple furnishes a stock on which the tenderer standard varieties may be grafted and their hardiness much increased. Efforts have been made to increase the varieties of some of the standard varieties by hybridizing *pyrus baccata*. Several promising hybrids have been produced in this way and are now grown to some extent.

Small-fruit culture in the Province of Manitoba has always

been attended with a very fair degree of success. Currants, gooseberries, red and black raspberries, and strawberries have been grown since the early settlement of the country. They yield profitable returns when intelligently cultivated. They apparently possess an inherent hardiness not shared by many tree fruits, and this renders them much more suitable to the climate. It is only a matter of a few years until these smaller fruits will be grown in all parts of the province in sufficient quantities to supply the local demand. Another phase of horticultural work to which considerable attention is being given is the decoration of home and school grounds by the planting of ornamental trees and shrubs and flowers. The prairie is bare and unattractive, and round many prairie homes there has been a lack of trees and shrubs. The work of beautifying the surroundings of residences is the most necessary step in the horticulture of the Province of Manitoba, and a great deal is being done in the cities, towns, and rural districts to increase their attractiveness by ornamental planting.

In regard to the growing of vegetables the province occupies a splendid position. All garden vegetables, with the exception of a few that require a long season, may be grown to a high state of perfection. The richness of the soil and the shortness of the seasons tend to give a flavour and tender crispness, not attainable elsewhere, to the vegetables.

The splendid yields that may be obtained from these fertile fields make vegetable-growing a very profitable branch of agriculture, as there is an abundant demand in the home market.

There are several directions in which progress may be made in Manitoba horticulture; for example, in a better selection of varieties, in an improvement by breeding and selection of wild and native fruits and varieties grown in the country, and in improved systems of horticulture. Much is being done in plant improvement, and the province affords an excellent field for the improvement of native fruits. Various wild fruits grow very abundantly in many parts of the province, and if a combination could be effected whereby the hardiness and productiveness of these could be combined with the larger size and better quality of the cultivated fruit, a great step in advance would be achieved.

RURAL PROBLEMS

Men and women identified with agriculture and with home life out in the country will have great problems to solve in the years of the near future. The so-called country problem is forcing itself upon thoughtful citizens of this new land as it is upon the peoples far to the east and south. The isolation of the country home and its environment must be in some way counteracted, or in part at least overcome. It is true the country dweller has advantages of which the city resident knows not the enjoyment. The great open spaces with pure air and unrestricted sunshine become commonplace to those who must live within them. The freedom from a city's allurements that drag downward from the pedestal of strong character-building is too little prized. The advantage of good products of the farm that come to the country table unadulterated is not fully appreciated by those whose homes lie out from the tall chimneys that mark the places of industry and the glaring lights that show the way to the picture theatre or dance hall.

The interests of the nation demand that social and economic conditions in the country be made satisfactory to those who are and those who ought to be living there. Rewards for labour on the land and in the country home should be equal to those received for similar efforts elsewhere. Industry in the country must be not only as profitable as elsewhere, but educational advantages must be increased and social conditions be so improved that the older people as well as the young may feel the revivifying influence of a new spirit pervading the homes and the communities.

Of all the problems that perplex the farmer and home-manager of Manitoba, none perhaps is more difficult than that of securing adequate help during the busiest months of the year. In this new country, where free homesteads are still to be had, 'the labourer who is worthy of his hire' can scarcely afford to work for others at the wages which farm-managers believe they are justified in paying. The result of this is that most of those who offer themselves for employ-

ment on farms either are so unskilled as to be useless in performing the more complex farm work, or else belong to the shiftless class whose services are never satisfactory. There are two remedies for this rather exasperating situation : one, which will meet in part the difficulty, may be immediate in its application ; the other will be realized only in the future. The first consists of so changing the system of farming as to make it necessary and profitable to engage help for the entire year. Married men from the old land who have insufficient capital to start on their own account and are anxious first to gain Canadian experience are available for those who will provide them with a small but comfortable dwelling adjacent to their labour. Those who follow this method are in most cases satisfied with it. The second measure of relief will be experienced when the free lands are all occupied and capital is needed to make a beginning as an independent soil-tiller ; then the progressive young man without capital will serve well and save his earnings in the employ of one who will appreciate his services.

In the farm home the problem is no less serious ; often it is greater than out on the fields and in the barns. The average domestic disdains to enter country service while employment can be had beneath the glare of a city's lights. Relief for the home does not appear to lie in the direction of inducing helpers to go farther afield. The principal hope is in the application to household service of all reasonable labour-saving devices. When electric currents can be distributed out along the concession lines of the country and into the farm homes, to give power to the washing-machine, the vacuum cleaner, the home dairy, and the electric iron, there will be less distress and more sunshine in country homes. Until that time comes, the small gasoline engine can do good service in performing some necessary work, or the co-operative laundry of the community and like institutions may be developed.

The effort being made to consolidate rural schools is most promising in Manitoba. It provides a means of giving to the country boy and girl some of the finer advantages of an education peculiar to city life which otherwise would be impossible. The tendency of country people to adopt this system of schools

and enjoy its advantages constitutes one of the most hopeful signs of improvement in the rural school and the home.

AGRICULTURAL EDUCATION

After all the ordinary resources of Manitoba have been estimated, there remains another, greater in its significance by far than all others combined. It is the asset possessed in the boys and girls of to-day, the men and women of the next generation. They are to a great extent the sons and daughters of the pioneers, and are endowed with the same determination and ability to overcome difficulties that characterized the lives of their parents. Throughout all the country there is a growing appreciation of the value of education. Manitoba Agricultural College, organized seven years ago, has been from the first crowded with students. Additions made to the equipment from year to year have brought no comparative relief. In its fifth year it was seen that a multitude of young men and young women in the country were eager for a chance to prepare themselves for their life's work, as their fathers and mothers had not been prepared. The college authorities saw their responsibility. To meet it meant a greater equipment than could be erected on the grounds comprising the college property. A new site and an enormous expenditure on buildings became urgently necessary. The government responded to the demand by purchasing five hundred and seventy acres and proceeding with the erection and equipping of buildings to cost from three to four million dollars.

No college of agriculture in the world perhaps has had such a history of development, because none has been placed among a people more anxious to study the science underlying the practice of their greatest industry. This is a most hopeful sign for the future. With a rural population trained for life's service, fitted thoughtfully and skilfully to operate their farms and manage their homes as successful business concerns of the city are managed to-day, and having an intelligent appreciation of their individual responsibility to their community and country, it is not surprising that those who love the country can see visions of a great future for Western Canada.

When Manitoba Agricultural College was established it was fully realized that in aiming to improve conditions by training boys and girls for country life and its responsibility, the greatest results could not be expected soon. It was preparing the next generation to perform a work that required immediate attention. The college had opened its doors for the five winter months and its halls had become crowded, but there were thousands left behind who eagerly desired to enjoy some means of improving their knowledge of how to control the forces with which country life must contend. Conditions, all of which they could not set aside, prevented their leaving home. Some were fathers and mothers of sons already at the college; others were their neighbours; and all were men and women inspired by the Western spirit of progress and development, who desired to take a firmer grasp of the great problems that face nation-builders in the uplifting of a young and mighty country. To meet their needs, in part at least, the college organized an extension branch of its work, aiming to extend to the country some of the teaching offered in college halls. From the first the result was encouraging. Sixty local agricultural societies, already supported financially by the provincial department of Agriculture, immediately showed their readiness to co-operate. Meetings were held as frequently as possible, and lectures were given on subjects of interest to farmers by members of the college staff, or others selected to do so by the president, who is provincial managing director of agricultural societies. Competent judges were selected to place the awards in the principal departments at the summer fairs. Grain and produce shows under the auspices of these organizations were encouraged and assisted. Competitions in good farming were held in many districts, and premiums were placed upon the work of the competent farm-manager and efficient home-builder. All this work has produced most gratifying results to those concerned. The attendance at meetings in the country has continued on the average to become greater, and the agricultural societies have increased their entries and have become more educational in every respect.

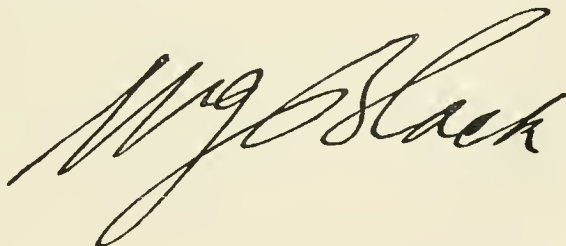
For the purpose of promoting a greater interest in the

welfare of country homes, home economics associations have been organized in many districts, and there is now a membership of several hundred women. These organizations meet frequently for the discussion of subjects relating to the home and its environment. Although only in existence about two years, this movement has performed much useful service and given assurance of its permanency.

A very important feature of college extension work during the past two years has been the conducting of lecture courses on trains placed at the disposal of the college by the Canadian Pacific and Canadian Northern Railway Companies. Last year practically every mile of railway owned by these companies on Manitoba was covered. Three meetings, each one of three hours' duration, were held each day. One hundred and forty points were visited, and it is estimated that thirty-five thousand people received instruction.

The extension branch of the college has brought the farmer and home-maker more closely in touch with the work and teaching of the institution established and maintained for the purpose of rendering service to all who value knowledge. It has also brought the college instructor more closely in touch with country life and the people whom his work is intended to benefit, and it has been the means of developing very rapidly an interest in agricultural and country life education in people of all classes.

It will probably be a long time before no one except those who know how will undertake to farm, but each year the proportion of incompetents will become less, and the indifferent will more and more give way to the men of trained minds, under whose direction only can a country approach the measure of its possibilities.

A large, stylized handwritten signature in black ink, appearing to read "W. G. Black". The signature is written in a cursive style with long, sweeping lines.

ECONOMIC RESOURCES OF
SASKATCHEWAN

ECONOMIC RESOURCES OF SASKATCHEWAN

GENERAL TOPOGRAPHY

SASKATCHEWAN is the central of the three prairie provinces—Manitoba, Saskatchewan, and Alberta. It lies between the 49th and 60th parallels of north latitude and between the 102nd and 110th meridians west of Greenwich.¹ It is bounded on the south by North Dakota and Montana, on the east by Manitoba, on the north and north-east by the unorganized North-West Territories, and on the west by the Province of Alberta.

The length of the province from north to south is 760 miles; its width on the southern boundary is 393 miles, across the middle about Prince Albert 300 miles, and at the northern boundary 277 miles. The quadrangle thus formed has an area of 250,650 square miles, of which 8318 is water. The land area contains 155,092,480 acres.

The province may be divided generally into four well-defined areas or zones. The southern part of the province with Saskatoon as its northern limit is mostly flat or rolling prairie, with the exception of Moose Mountain, Wood Mountain, Cypress Hills, the Sand Hills thrown up along the South Saskatchewan River, and a large area north of the Qu'Appelle River, comprising the Beaver, Touchwood, and Pheasant Hills. North of Saskatoon is a wide belt of mixed prairie and wood-

¹ The British Isles lie in the same latitude as the Province of Saskatchewan; Denmark, the Netherlands, Belgium, the greater part of Germany, and about half of Russia are as far north as Regina; Edinburgh, Scotland, is farther north than Prince Albert; Christiania, the capital of Norway, and St Petersburg, Russia, are on the 60th parallel of north latitude, which forms the northern boundary of Saskatchewan.

land extending to the southern limit of the great northern forest, whose southern boundary in Saskatchewan extends from Swan River on the east north-westerly through Prince Albert. To the north of the mixed prairie and woodland belt lies the great northern forest, whose northern boundary extends from the northern part of Reindeer Lake to the southern part of Lake Athabaska.

The southern belt consists for the most part of rolling prairie dotted here and there with small lakes. Now and then occur vast stretches of level plain country with very heavy soil and without a native tree or shrub to be seen for miles, and then the scene changes to one of rolling tracts, some of which are covered more or less with timber. The monotony of this belt is broken by several outcropping hills or small mountains, by fresh-water lakes, and by the deep valleys of streams that course through the prairie from west to east.

The ranges of low hills that occur here and there throughout this area are much broken by the beds of ancient streams and deep ravines. They are rendered attractive by small lakes whose waters teem with fish and whose shores some distance back are heavily wooded. The most important of these hills are Moose Mountain, Coteau, Cypress Hills, Wood Mountain, Last Mountain, Touchwood, Beaver, Eagle, and Pasquia Hills.

Moose Mountain rises above the plain in the eastern part of the province, south of Broadview on the main line of the Canadian Pacific Railway and north of Arcola. The Coteau, including the Dirt Hills, extends from the international boundary-line west of Estevan in a north-westerly direction to the Elbow on the South Saskatchewan River. The Cypress Hills are south of Maple Creek; Wood Mountain is south of Moose Jaw, near the United States boundary; Last Mountain, Touchwood, and Beaver Hills are north of the Qu'Appelle River. The Eagle Hills are thrown up south of Battleford along the North Saskatchewan, and the Pasquia Hills are east of Prince Albert.

Many of these hills are wooded, and so are other large areas throughout the province, especially in what is known

as the park country north of Saskatoon and in the eastern part of the province around Qu'Appelle, Moosomin, White-wood, and south-east of Moose Mountain. Portions of these wooded areas have been reserved from settlement by the Dominion government for the purpose of providing timber reserves and game preserves. The following Dominion forest reserves have been established: Moose Mountain, north of Arcola; the Porcupine No. 2 in the eastern part between Canora and Erwood; Beaver Hills, north of the Qu'Appelle; and the Pines, west of Prince Albert.

RIVERS

The north and south branches of the Saskatchewan¹ rise in the Rocky Mountains and flow east through Alberta and Saskatchewan, where they join east of Prince Albert and flow on as the Saskatchewan River. After a course of about 1200 miles from the source, this river empties its waters into Lake Winnipeg, which thence, through a chain of lakes and the Nelson River, flows into Hudson Bay. Where the south branch enters the province, the height is 1892 feet above the level of the sea, and at its confluence with the north branch east of Prince Albert 1250 feet. Where the north branch enters the province the height is about 1689 feet. From the confluence to Lake Winnipeg there is a fall of 540 feet. Farther north is the Churchill River, 1000 miles in length, draining an area of about 115,500 square miles, containing numerous lakes. There are in the province a number of small streams winding slowly through deep, wide valleys, showing that at one time they too were mighty rushing rivers. Of these are the Qu'Appelle, 270 miles long, rising near the Elbow on the South Saskatchewan and coursing along in an easterly direction through the centre of the southern belt to join the Assiniboine in Western Manitoba, which carries its waters to the Red River at Winnipeg; and the Souris in the southern part of the province, a tortuous stream 470 miles long that joins the Assiniboine in Manitoba, west of Portage la Prairie.

¹ An Indian word signifying a 'mighty rushing river.'

The Coteau forms the watershed between the Missouri River on the south, whose waters flow into the Gulf of Mexico, and the South Saskatchewan on the north, which has its outlet in Hudson Bay. About twenty-five miles north of Prince Albert, corresponding with the 55th parallel of north latitude, is another height-of-land, which forms the watershed for the Churchill and North Saskatchewan. Farther north still is a height inclining towards Lake Athabaska, thus forming a watershed for that lake and the Churchill River. The province slopes generally to the north and east.

LAKES

The lakes of the province are found scattered about from the southern to the northern boundaries, but the larger and more important are found in the northern parts. The largest of these are : Lake Athabaska, which has an area of 2842 square miles ; Reindeer, 2437 ; Wollaston, 906. The Qu'Appelle lakes, expansions of the Qu'Appelle River, Last Mountain Lake, about twenty miles north-east of Regina in the Last Mountain valley, Jackfish, north of Battleford, Manitou at Watrous, and Moose Mountain lakes are favourite summer resorts. Other lakes of the province are Cree, Quill, Little Quill, Lac la Ronge, Buffalo, Chaplin, Welchikan, Johnston, Little Manitou. All the lakes mentioned contain fish except Manitou, Johnston, Chaplin, and Quill. Besides these larger lakes there are scattered over the prairies innumerable lakelets (sloughs) that afford nesting-places for ducks and other waterfowl.

ALTITUDES

Saskatchewan comprises a large part of the second prairie steppe, which extends westward from the elevations designated as follows : Pembina Mountain, near Morden ; Tiger Hills ; Beautiful Plains, near Arden and Neepawa ; Riding Mountain ; Duck Mountain ; Porcupine Hills and Pasquia Hills on the east to the Missouri Coteau on the west. On the

eastern boundary, where the Canadian Pacific Railway enters the province, the height above sea-level is 1794 feet, and at the foot of the Missouri Coteau, south-west of Moose Jaw, about 1900 feet. That portion lying west of the Coteau is comprised in the third prairie steppe and has an average altitude of about 2400 feet in the southern part of the province. The following are the altitudes at different points in Saskatchewan :

	feet
Cypress Hills (the summit)	4243
Maple Creek	2495
Battleford	1620
Lloydminster	2114
Lake Athabaska	690
Wood Mountain (west summit)	3371
Weyburn	1847
Mortlach	1961
Craik	1906
Hanley	1869
Saskatoon	1574
Clark's Crossing	1630
Rosthern	1657
Prince Albert	1398
Estevan	1860
Arcola	1982
Moosomin	1884
Yorkton	1633
Erwood	1078
Cumberland Lake	870
Reindeer Lake	1150
Wollaston Lake	1300

The elevations of the eastern and western boundaries of the province at the points of intersection by the main line of the Canadian Pacific Railway are 1794 and 2430 feet respectively. At certain places on that line of railway the elevation is as follows :

	feet
Fleming	1794
Moosomin	1884
Broadview	1960
Grenfell	1957
Indian Head	1924
M ^e Lean	2284

	feet
Regina	1885
Moose Jaw	1767
Swift Current	2423
Carmichael	2637
Walsh	2430

CLIMATE

Saskatchewan is situated in the semi-arid belt, *i.e.* where the precipitation is less than twenty inches annually. The north-eastern part of the province has a heavier rainfall than the southern or south-western. The table on the following page gives the average monthly precipitation during the last ten years.

Occupying such a high elevation above the sea, the atmosphere is light and dry and very invigorating. The absence of mountains and forests gives rise to extensive air currents. Breezes blow almost continually. The chinook winds from the Pacific coast find their way through mountain gaps and pay occasional visits in winter to Southern Alberta and South-Western Saskatchewan, extending their influence as far east as Moose Jaw and as far north as Saskatoon. Bright sunshine is a feature in Saskatchewan. It explains in part the rapid growth made by the crops during the growing season. The sunshine during the month of August runs as high as three hundred hours. Winter usually sets in about December 1. While the ground may be frozen, there is often but little snow until the New Year. The snowfall has averaged for ten years about two feet on the level. This, of course, varies in different parts of the province. Spring usually opens in March. The snow disappears and the surface of the ground dries rapidly. Dry, clear air and bright sunshine, with high winds, accompany March, April, and May. June and July are months when the heaviest rainfall is expected and is most needed for cereal-growing. Light showers in early August, bright sunshine and a sky clear or flecked with fleecy clouds characterize September, October, and November. During autumn the days are warm, while the nights are cool. Killing frost is usually delayed till well on in September. The temperature during the winter months may run as low as

AVERAGE MONTHLY PRECIPITATION FOR TEN YEARS

Station	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Battleford	0.41	0.41	0.73	0.30	1.82	3.38	1.99	1.35	1.22	0.39	0.31	0.38	12.69
Chaplin	0.76	0.65	1.13	0.76	1.73	2.71	2.14	1.57	0.78	0.31	0.72	0.99	14.25
Crescent Lake	0.53	0.56	0.99	1.08	2.32	3.73	2.87	1.75	1.49	0.41	0.97	1.10	17.8
Estevan	0.74	0.71	2.18	0.99	2.88	2.68	1.12	2.46	1.09	0.44	0.61	0.86	16.76
Gatesgarth	0.71	1.13	0.95	0.75	2.78	4.12	3.21	1.73	1.30	0.38	0.66	0.84	18.56
Grenfell	0.75	0.86	1.58	1.53	2.20	4.13	2.41	2.23	1.36	0.27	1.14	0.76	19.22
Indian Head	0.55	0.77	0.96	0.99	2.68	4.05	2.41	2.24	1.82	0.54	0.77	1.04	18.82
Manor	1.02	0.65	0.70	0.68	1.72	3.69	2.83	3.32	2.43	0.39	0.54	0.82	19.27
Melfort	0.32	0.49	0.86	0.52	1.83	1.93	4.87	2.28	1.23	0.47	1.08	0.82	16.70
Moose Jaw	0.32	0.19	0.41	0.54	2.50	3.54	1.98	2.02	0.91	0.52	0.32	0.66	13.91
Moosomin	0.55	0.61	0.73	0.94	2.16	4.30	1.72	2.74	1.64	0.49	0.77	0.50	17.15
Prince Albert	0.56	0.86	1.18	0.68	1.75	3.25	2.56	2.47	1.36	0.79	1.25	0.88	17.59
Qu'Appelle	0.75	1.09	1.43	1.52	3.10	3.91	2.98	2.22	1.82	0.60	1.19	1.21	21.82
Regina	0.39	0.49	0.43	0.91	2.48	3.05	3.18	2.19	1.44	0.47	0.57	0.43	16.63
Saskatoon	0.44	0.27	0.49	0.31	1.42	3.03	2.50	1.62	1.31	0.70	0.45	0.46	13.
Swift Current	0.59	0.63	0.71	0.59	2.36	3.79	2.27	1.70	1.21	0.54	0.49	0.44	15.32
Average	0.59	0.65	0.97	0.82	2.23	3.49	2.57	2.12	1.40	0.48	0.74	0.79	16.84

The above statement of average precipitation in Saskatchewan shows that Saskatchewan possesses a sub-humid climate, and that more than half of the annual precipitation occurs during the months of May, June, July, and August, or the crop season. The best crops result from a moderate rainfall accompanied by normal temperatures in April and May to ensure good germination; a rainfall of more than three inches with sufficient warmth in June to force rapid growth; about an inch less rain in July with warm days and cool nights; and only occasional showers in August with temperatures well up to normal to cause the wheat to produce a full, plump berry and ripen before early frosts are likely to occur. Thus neither a dry June nor a cold, wet August is desirable, but a warm, wet June, followed by warm weather and moderate rainfall in July and gradually decreasing after July 15, makes an ideal crop season.

52° F. below zero, though the average for ten years for the month of January is 2'9° above zero. In summer the thermometer has registered 105° above zero in June, while the average for the month for ten years is 57'5° F.

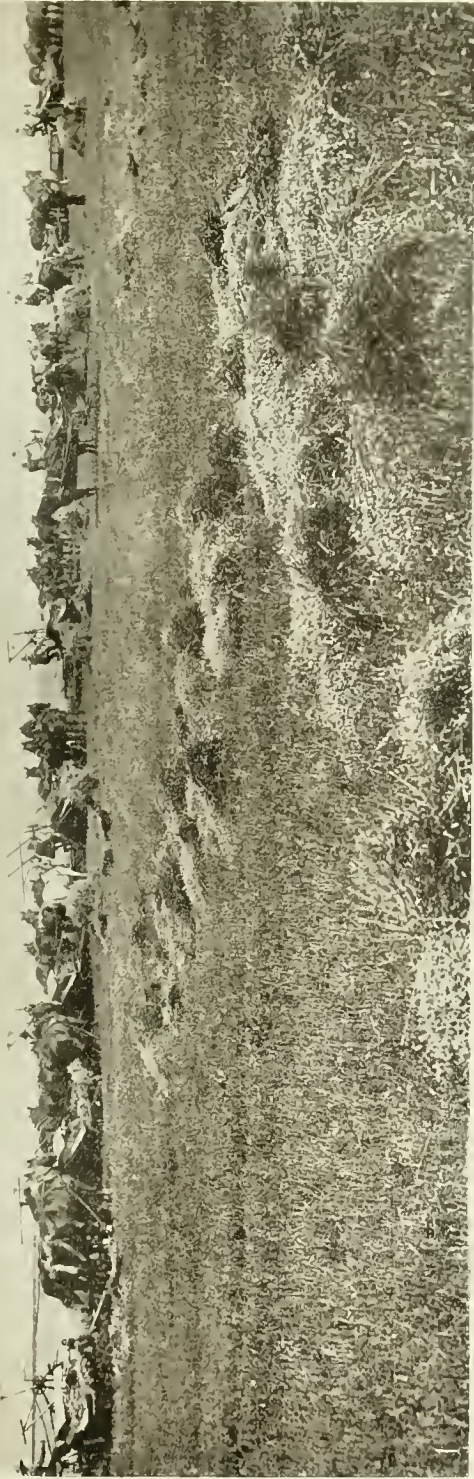
Damaging wind-storms and floods are almost unknown in Saskatchewan. There are occasional hail-storms that do damage to small sections of growing crops. Now and then severe snow-storms occur in winter, but the settlement of the country and the making of roads and fences have robbed the blizzard of its terrors.

SOILS

Saskatchewan has a rich heritage in her vast areas of soil of practically unlimited fertility. Not only is the surface soil well stored with the elements of plant food, but the subsoil, many feet deep—sometimes hundreds of feet—is, in most cases, clay possessing the elements of fertility in abundance, and at the same time being best suited for storing moisture under semi-arid conditions. The formation of these great soil areas will be better understood by quoting in part from R. Chalmers's report, Geographical Survey department, Ottawa, 1906. Chalmers devoted his time during the summer of 1906 to a study of the surface soils of this province and of Alberta. A part of his report is as follows :

The plains or prairies of the Canadian North-West are really the upper or northern extension of the great valleys of the Mississippi and Missouri Rivers into Canada. As has been shown by the late Dr G. M. Dawson, these plains rise gradually from east to west in the form of steppes, being 800 or 900 feet above sea-level at or near Winnipeg, while at the foot of the Rocky Mountains they are 4000 feet or more. Their ascent is not regular, however, each steppe having certain features peculiar to itself. Elevations called mountains occur in a number of places. The steppes are best seen along the main line of the Canadian Pacific Railway. Though these prairies may be called plains, the term can hardly be applied strictly to the features of the second and third steppes, which in many localities have a rolling aspect and numerous inequalities of the surface.

The materials constituting the surface deposits of this



WHEAT-RAISING IN SASKATCHEWAN

(1) REAPING (2) A WHEATFIELD

great prairie region are of different kinds, as is shown by the following general section of the beds in descending order :

1. A dark or blackish, tough clay, containing some sand and silt, but nevertheless forming, when wet, a soft tenacious mass, very sticky and coherent. In dry weather it bakes and becomes almost as hard as brick. In the Western States this deposit is usually called 'gumbo' and the name is gradually being adopted in Manitoba and the new provinces.

The thickness of this deposit is variable ; sometimes it is only a few inches, while in local areas it is eight to ten feet or more. It occurs in all the hollows of the first and second steppes and occasionally on the higher grounds, though on the latter in a comparatively thin sheet and in flat, wet areas. The more elevated grounds and the ridges and hills are generally devoid of it. So far as it has been studied it seems to be a vegetable formation, which in the lower grounds grew in shallow lakes, ponds and swamps, accumulating in situ (in its original situation) for ages. Dead and decayed water and marsh plants, together with peat and other vegetation growing in moist places, seems to make up the bulk of this deposit. The intermixed fine sand and silt have probably been carried into the swamps and ponds by rains, wind, etc., from the higher and drier grounds surrounding them. The occurrence of this black soil on the higher level tracts indicates that these were also marsh and swamp lands at one time. The wide horizontal areas covered by this formation show that it must have been formed in water that was very shallow. On the first and second prairie steppes it does not seem that this black soil could have any other but a lacustrine (Latin, *lacus*, a lake) origin ; but on the third steppe in Alberta it is possibly of sub-aerial growth in some places, unless the levels of the country have changed very considerably since its deposition or growth. In the latter district, it must be admitted that the areas occupied by this black soil are not in all places in the horizontal attitude in which they usually occur in Manitoba, where it is so widespread. This fact and its thickness in the province last mentioned would indicate that it was a region of shallow lakes, marshes, and bogs for a long time. This black soil is the formation which makes the plains so fertile.

2. Beneath the black loam just described, a grey clay of variable thickness occurs almost everywhere on the plains. From this clay considerable quantities of common brick are manufactured. It seldom exceeds a thickness of four to five feet, and generally contains more or less sand, and frequently a few pebbles.

The following, with table on opposite page, shows the results of analyses of Saskatchewan soils made recently by Professor Shutt, chemist to the Central Experimental Farm, Ottawa :

SASKATCHEWAN SOILS

No. 1. A rich, black loam from Moosomin, a point on the main line of the C.P.R., 220 miles west of Winnipeg. The elevation of this locality is in the neighbourhood of 1800 feet, and this soil may be regarded as fairly representative of the south-eastern part of the second prairie level. As in the types we have considered from the first steppe, this true prairie soil possesses abundant stores of plant food, and is, judged by accepted standards, one of high fertility. It has not, however, looked at simply from the chemical point of view, a rank equal to that from the valley of the Red River.

No. 2. From the district of Tisdale, on the Canadian Northern Railway, about 160 miles due north of Indian Head. The district is one that in a large measure is comparable to the Dauphin country already described, being partly wooded with scrub, poplar, etc., and therefore, unlike the true prairie, requiring clearance. It is a greyish-black loam of a decidedly clayey nature. The nitrogen, on the water-free soil, is almost half of one per cent, with notable contents of potash and lime, and an average phosphoric acid content.

Nos. 3 and 4 are from Saltcoats and Yorkton, points on the north-western branch of the C.P.R., 250 and 270 miles, respectively, west of Winnipeg, and approximately 75 miles north-east of Indian Head. Their similarity and comparative contiguity render unnecessary the separate consideration of these two soils. They are black, sandy loams of the true prairie type, rich in vegetable matter and nitrogen, with excellent percentages of phosphoric acid and potash.

SASKATCHEWAN SOILS
RESULTS CALCULATED TO WATER-FREE BASIS

No.	Locality	Character of Soil	Organic and Volatile Matter (Loss on Ignition)	Nitrogen	Phos- phoric Acid (P ₂ O ₅)	Potash (K ₂ O)	Lime (CaO)	Available Constituents		
								Phos- phoric Acid (P ₂ O ₅)	Potash (K ₂ O)	Lime (CaO)
1	Moosomin . . .	Black loam . . .	% 11.79	% .479	% .116	% .306	% .95	% ...	% ...	% ...
2	Tisdale . . .	Greyish-black loam . . .	14.23	.480	.202	.622	1.11	.024	.041	.568
3	Saltcoats . . .	Black sandy loam . . .	13.54	.572	.213	.340	2.89	.018	.033	1.110
4	Yorkton . . .	" " . . .	14.01	.504	.211	.486	1.17	.025	.048	.531
5	Wolseley, NE $\frac{1}{2}$ S 27.	Black loam (cultivated)	13.93	.514	.391	.555	.87	.005	.011	.306
6	" SW $\frac{1}{2}$ S 27.	" " . . .	10.98	.389	.369	.512	.76	.005	.018	.264
7	Indian Head . . .	Black clay loam. Taken to a depth of 4 inches	13.31	.409	.212	.863	1.26	.036	.070	1.187
8	" . . .	Black clay loam. Taken to a depth of 8 inches	12.83	.371	.234	.868	1.41	.032	.059	1.261
9	" . . .	Black clay loam. Taken to a depth of 4 inches (cultivated)	10.20	.259	.159	.839	3.44	.016	.039	1.384
10	" . . .	Black clay loam. Taken to a depth of 8 inches (cultivated)	10.70	.254	.163	.898	3.51	.013	.038	1.336
11	Vermilion Hills, Tp. 21, R. 5, W. 3rd	Black brown sandy loam . . .	10.43	.354	.164	.164	.50	.044	.050	.383
12	Maple Creek, Sec. 16, Tp. 11, R. 26, W. 3rd	Heavy clay loam . . .	5.54	.134	.064	.300	1.06	...	...	...

Nos. 5 and 6 are black loams of a markedly sandy character, taken from areas that had been under grain (without manure) for a period of about fifteen years. Wolseley, the place of the collection, is about 20 miles east of Indian Head on the C.P. Railway, a district which has produced large crops of very fine wheat. The data are of some interest since these soils have borne probably ten crops of grain, with a bare fallow every third summer. The evidence is that these soils are still of an exceedingly rich character, plentifully supplied with decomposed vegetable matter and high in nitrogen; indeed, as regards these constituents, the data are not such as would differentiate them from virgin prairie soils. In total phosphoric acid they are decidedly above the average, but the amounts of this constituent immediately available are very small. This may be due to the taking up of the available phosphoric acid by the grain crop being more rapid than the conversion of the insoluble soil phosphates into assimilable forms.

Nos. 7 to 10 inclusive are from the Dominion Experimental Farm, Indian Head, and constitute a very instructive series, since they allow a comparison between the virgin prairie with the same soil after 22 years of cultivation without manure. The soil would be designated a heavy clay loam. A complete record of the cropping and fallowing since the prairie was broken in 1882 shows that the 'cultivated' soil had borne six crops of wheat, four of barley, and three of oats, with a fallow between each crop since 1887, nine fallows in all. The virgin soil was taken from an adjacent area, the point of collection being about 150 feet distant from where the cultivated soil had been taken. The samples were of a composite character, and every precaution was taken to have them thoroughly representative. There is every reason to suppose that the soil, over the whole area examined, was originally of an extremely uniform nature; in other words, that, at the outset, the nitrogen-content was practically the same for the soils now designated as virgin and cultivated, respectively. The tabulated data show the percentages of organic matter and plant food in the first four and the first eight inches of these soils, and make very clear that enormous losses of organic matter and nitrogen have followed upon the present method of continuously cropping with grain. The par-

ticalars respecting the nitrogen are given in the following arrangement, which allows a ready comparison of the two soils in this important matter.

DEPLETION OF THE NITROGEN
NITROGEN-CONTENT OF VIRGIN AND CULTIVATED SOILS,
INDIAN HEAD, SASKATCHEWAN

	To a depth of 4 inches		To a depth of 8 inches	
	Per cent	Lbs. per acre	Per cent	Lbs. per acre
Virgin soil	409	3824	371	6936
Cultivated soil	259	2421	254	4750
Difference or loss due to removal in crops and to cultural methods	150	1403	117	2186

Though the cultivated soil to-day, after nearly a quarter of a century's working, is still very rich, and possibly might yield as fine a crop as it did at the outset, yet, compared with the untouched prairie, it is seen to have lost practically one-third of its nitrogen.

An inquiry as to what proportion of this loss is due to removal by crops and what to cultural operations shows that the nitrogen contained in the various grain crops grown in the twenty-two years amounted to approximately 700 lbs. per acre. If we subtract this amount from the total loss, calculated to a depth of eight inches of soil, we shall see that more than twice as much nitrogen has been dissipated by methods of cultivation as has been removed in the crops. The loss ordinarily in the grain-growing districts of the North-West would not, in all probability, be as great as that here recorded, because, as a rule, the land is fallowed every third year only. Nevertheless, the deterioration must be marked, and, unless checked by the adoption of a system of rotation involving the formation of a sod, and by the keeping of stock, will inevitably lead to that low degree of productiveness which now characterizes large areas in eastern North America. A study of these partially exhausted areas both in Canada and in the north-eastern States makes it clear that the deterioration has been, in

a very large measure, due to the loss of humus and the dissipation of nitrogen consequent upon grain and potato growing, without any due return of organic matter.

A quite marked falling off in phosphoric acid is also to be noted, though what is perhaps of more significance is the reduction in the proportion of this element in the available condition. Since loss of phosphoric acid cannot be accounted for save in removal by crops, it would seem that in continuous grain growing the rate of abstraction exceeds that of conversion, a probability to which we have already referred.

In the 'total' potash, the differences throughout the series are not large, but, as in the case of phosphoric acid, we find that the percentage of 'available' in the cultivated soil is considerably less than in that of the prairie.

(There is at times a certain loss of surface loam in the older cultivated areas by drifting, and this in some cases would affect the phosphoric and potash content, and more especially that portion which is available).

No. II. From the prairie in the neighbourhood of Vermilion Hills, 130 miles west of Indian Head and some 20 miles north of Lake Chaplin. It is a dark brown sandy loam. In organic matter and nitrogen it is fully the equal of the heavier (clay) loams of the prairie, but as regards phosphoric acid, potash, and lime it is, as might be expected, somewhat inferior. Although the 'total' stores of this mineral plant food may not be very large, it is significant that the 'assimilable' proportions are not less than in those heavier loams which are considered wheat soils *par excellence*.

If further proof of the abundant richness of the soil were required, one need but visit the province during an average harvest and note how the fields have responded to the touch of the husbandman.

VEGETATION

The prairies are covered in most part with a great variety of grasses, wild pea vine, vetches, and wild flowers. The legumes are more abundant north of the Qu'Appelle and the North Saskatchewan Rivers. The grasses are very nutritious, and horses, cattle, and sheep thrive well on them. In some

parts vegetation is sparse at times, owing to continued drought and frequent prairie fires.

The south bank especially of most streams is well wooded with poplar, ash, cottonwood, white birch, and shrubbery. Jack-pine occurs on the Cypress Hills and around Prince Albert. Poplar abounds in the park country. The timber belt north of Prince Albert contains the conifers—spruce, white and black, larch, and jack-pine; and the deciduous trees—white and black poplar and white birch.

ANIMALS

In the early days great herds of buffalo lived on the Saskatchewan plains. The deep, zigzag trails made by them going to and from their drinking-places are still in evidence, but the buffalo themselves are gone. Much game, however, remains. In the forests of the north, moose, elk or wapiti, caribou, blacktail and whitetail deer abound. The prong-horn and a few scattered herds of antelope are still to be seen on the open prairie south of the South Saskatchewan. The beaver, at one time almost extinct, has been protected by a few close seasons, and now is found in quite large numbers along the streams in various localities. At Oxbow there is a colony of over four hundred. Pheasant Creek, Beaver Hills, as well as many other suitable places, have colonies varying in numbers. Hares in the north and jack-rabbits on the prairies, together with gophers, ground squirrels, coyotes, and grey timber wolves, conclude the list.

BIRDS AND FISH

Game birds—ducks, geese, plover, and grouse, pinnated, ruffed, and sharptail—are to be had in immense numbers in their seasons.

The lakes and rivers of the north teem with fish—trout, pike, perch, white-fish, and jack-fish—while in the south are found white-fish, pike, perch, buffalo fish, tullibee, suckers, gold-eyes, and sturgeon.

MINERALS

A large lignite area has been discovered in the southern part of the province extending from Roche Percée on the east and following the Coteau to near the Elbow on the South Saskatchewan. Extensive mines have been developed at Estevan, Roche Percée, Bienfait, and Pinto, and from them large quantities of coal are shipped to points in Southern Saskatchewan and Manitoba. The railroads have facilitated the development of these mines. Outcroppings of coal have appeared in the great central plain region between the North and the South Saskatchewan Rivers. Bituminous seams have been found in the vicinity of Maple Creek, Swift Current, and Eagle Hills south of Battleford. Geologists believe that much of the western part of the province is of coal-bearing formation.

Many reports have been circulated as to the finding of minerals such as iron, copper, silver, and gold in the northern part of the province. Gold has been found in the North Saskatchewan east of Prince Albert. Ochres and pigments are also present in large quantities—the former on the shores of Cold Lake, one hundred miles north of Lloydminster, and the latter near Luck Lake, south-west of the Elbow. Peat bogs abound in the northern half of the province. Members of the Geological Survey have examined the rock formations and find them similar to the rich ore-producing areas of Northern Ontario. It is altogether probable that the future has in store an abundant supply of minerals to be unlocked from the ore-beds about Lakes La Ronge, Athabaska, and in the country north of the Churchill River in Saskatchewan.

Salt has been found in the Pasquia Hills, and it is not unlikely that there are large deposits farther west near the Alberta boundary.

Natural gas has been found at different places in the province, notably Estevan, Pense, and in the neighbourhood of Saskatoon. These discoveries were made while drilling for water.

LUMBERING AND AFFORESTATION

The great forest stretching across the province north of Prince Albert provides black and white spruce, larch, jack-pine, white poplar, balsam, white birch and other trees, both coniferous and deciduous. The white spruce grows twenty-four to thirty inches in diameter at the stump. Most of the trees cut are under this size. The black spruce ranges from seven to eight inches. Jack-pine, which is used mostly for railway ties, is found on the light sandy soils and measures from twelve to eighteen inches at the stump. The white spruce is by far the most important tree and furnishes the raw material for a number of large saw-mills.

Prince Albert is the centre of the lumber industry, there being four large mills located there, one of which has a capacity of 50,000,000 feet per annum. In connection with this is a planing-mill, one of the largest in Canada. Other mills are located at Sturgeon Lake, Greenbush, Crooked River, and Etoimami.

Much attention is given to the question of afforestation. Certain tracts not fit for farming are being set aside for reforesting and are being planted to suitable trees. Trees can be grown at any place on the open prairie, provided care is taken in preparing the soil and selecting the proper kinds of trees. The forestry station at Indian Head is doing most commendable work in this respect. Nursery stock of all kinds suitable for shelter belts, fence posts, and beautifying purposes are grown at the station and sent out from there, free of charge, to farmers who comply with the regulations in regard to preparing the soil and planting. Upwards of 4,000,000 young trees and cuttings are sent out annually. The demands on the nursery for trees have been so great that a second station has been established at Saskatoon in the north central part of the province and close to the great treeless plains in what is known as the Goose Lake country west of Saskatoon and south of Battleford.

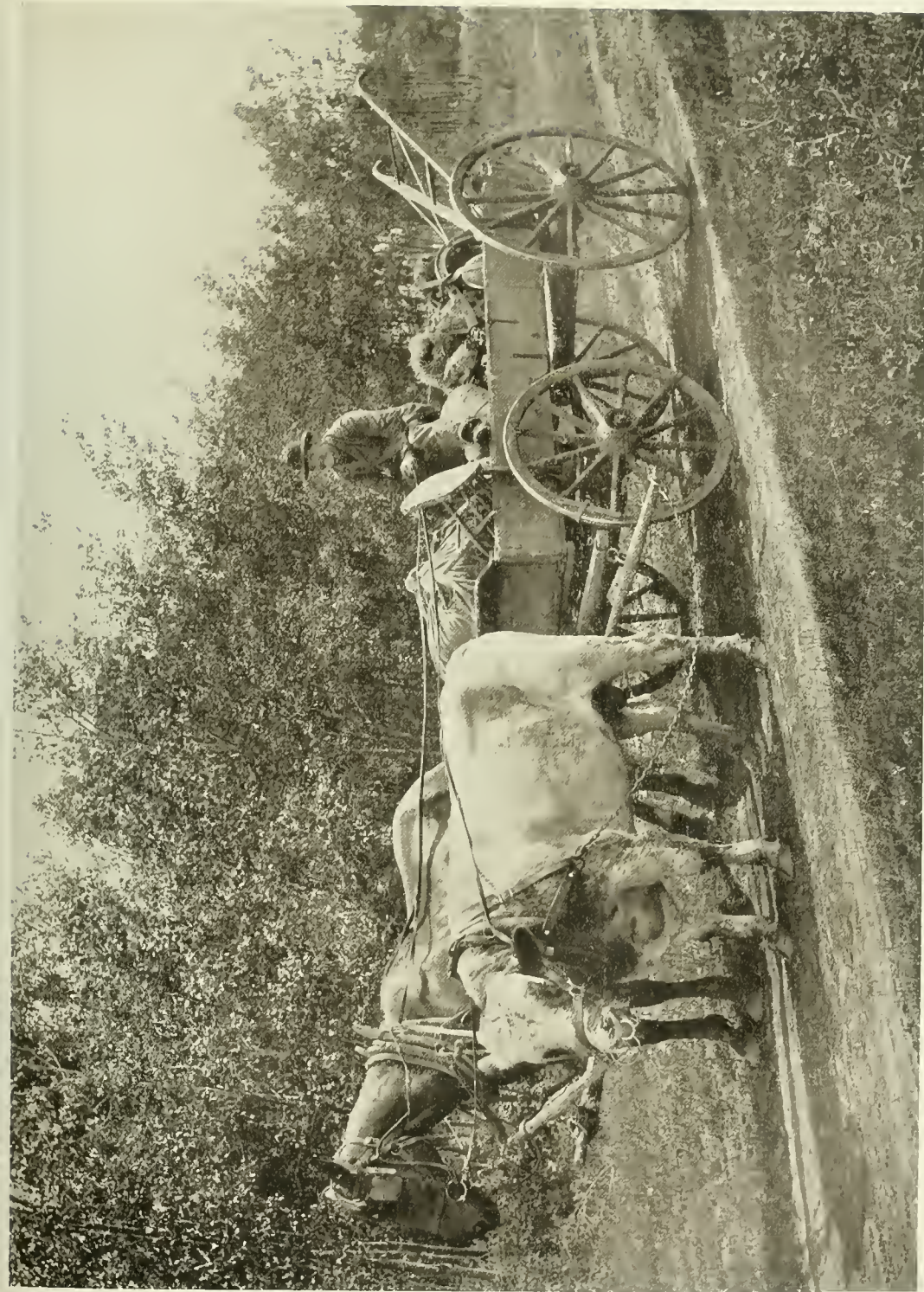
AGRICULTURE

The illimitable areas of fertile soil without stones or other obstructions, together with the favourable climatic conditions—especially rainfall, sunshine, and freedom from frosts during the growing season—make Saskatchewan an agricultural province, and to-day agriculture is the paramount industry: all others are accompaniments. And yet agriculture is only in its infancy.

In its early days the Hudson's Bay Company had its trading-posts at Carlton, Prince Albert, and Battleford on the North Saskatchewan. The early settlers about these places grew vegetables of excellent quality, small fruits and fine crops of barley, oats, and wheat. Two flour-mills were erected and operated at Prince Albert, and Stobart, Eden and Company had a portable flour-mill at Duck Lake. The market for the flour was mostly of a local nature—the buyers were settlers, Indians, traders, and government officials. Battleford was the capital of the North-West Territories and the headquarters of the Royal North-West Mounted Police. Land that was well cultivated here gave good results in cereals and vegetables. The Indian missions in the Qu'Appelle valley and at other points demonstrated that good tillage would give splendid returns in flowers, fruits, vegetables, grasses, and grains such as wheat, oats, barley, and squaw corn.

The Indians of the territories were placed on reserves in the seventies, and among other things done for them they were given one or two farm instructors on each reserve to teach them agricultural methods. They were given horses and cattle and encouraged to raise stock to aid them in their farm work and for food. Many of the Indians made excellent progress in agriculture.

People from Ontario, Quebec, and the Maritime Provinces, as well as from the British Isles, began to settle in the eastern part of the province about 1882, though in the previous autumn a homesteader had broken a bit of land at Moose Jaw. Some of the earliest settlements were about White-wood, Cannington Manor, Indian Head, and on the Pheasant Plains north of the Qu'Appelle. The Canadian Pacific



NECESSITY HAS NO LAW—PRIMITIVE TRANSPORTATION IN THE NORTH-WEST

From a photograph by Mathers, Edmonton

Railway was built into the province in 1883, and settlement was made in advance as far west as Moose Jaw. In 1882 the Smithville settlement was made just west of where the city of Saskatoon now stands. The early settlers had little to guide them in the way of producing crops under semi-arid conditions. Those who settled at a distance from the railroad broke the soil with a single plough, often drawn by oxen. They kept a little stock, such as a couple of cows, some hens, and pigs. Their aim was to get ready for the coming of the railroads. It had been demonstrated in Manitoba that the North-West country was admirably adapted to the raising of wheat of a superior quality. What little the new settlers of the territories produced was in no way inferior to that produced farther east in Manitoba. Many of the settlers were practical farmers, but there were some, and not a few, who had had no previous experience in tilling the soil. Even for the experienced ones the new country had problems of soil and climate which were difficult for them to solve. The sod had to be broken at the right time and in the right way. The rains came mainly in June and early July. Some seasons brought a plentiful rainfall and some brought not more than three inches. Hot winds and drought in July and August parched the unripe grain. Frosts sometimes came too early in the fall and caught the belated crop. The implements, too, were not such as were needed to ensure the greatest measure of success in crop production. The seed itself had to be sown broadcast by hand. The seed lay in the dry soil for weeks often before sufficient moisture came to germinate it.

In 1885 the North-West Rebellion took place. The scene of hostilities was north of Saskatoon around Duck Lake and Battleford. Supplies for the soldiers came in by the railway as far as Qu'Appelle. Many farmers around the adjoining settlements of Indian Head, Pheasant Plains, and Qu'Appelle hired their teams to the government for the purpose of transporting supplies to the front. This left them with few horses to put in their crops. Some of the land already broken could not be spring-ploughed and had to lie idle. In this year a few of the farmers, after they had finished their seeding

operations, ploughed the balance of their broken land in preparation for the next year's crops. This was done in June and July. The rains came, weeds grew, and they used the harrows to check them. Notable among these farmers were Angus Mackay of Indian Head, W. R. Motherwell of Abernethy, and Harvey of Indian Head. The next year, 1886, was very dry and most crops failed, but these men had over twenty-three bushels of wheat to the acre on their summer-tilled land as compared with five bushels on that prepared in the ordinary way. The problem of securing the farmer against a drought was solved. Many improvements in implements and methods have been brought about since then, but the principle remains that for successful crop-growing, in the southern belt at least, moisture must be stored in June and conserved by surface tillage afterwards.

In 1888 the Dominion Experimental Farm for the North-West Territories was established at Indian Head with Angus Mackay as superintendent. Investigations were carried on in methods of tillage and as to the most suitable varieties of grains, grasses, roots, and other vegetables, small fruits, trees, shrubs, and flowers. Mackay and others visited the settled districts and told the farmers of the results of these experiments. Wheat- and other cereal-farming was put on a safe basis, for many years at least, by the careful observance and practice of Mackay's method of tillage. One-third of the land should be fallowed each year at a certain time and according to certain clearly defined methods. The land to be summer-fallowed should be disced as soon as possible after removing the crop in the previous autumn. It should be ploughed five to seven inches deep early in June and harrowed at once, after which it should be given sufficient surface cultivation to destroy weeds and maintain a soil mulch for the purpose of preventing the escape of the stored moisture and with the aid of the rains to compact the seed bed. Mackay established also a proper method for breaking the prairie and putting it into the best condition for raising crops. His was not a quick method, but it was a sure one. The land should be broken shallow about two and one-half inches early in June or before, and compacted so as to cause early and even decay of the

sod. It should then be back-set about two to three inches deeper in August and the surface double-disked till well pulverized. This method ensured a mellow seed bed with sufficient moisture to produce a good second crop without a second ploughing.

Mackay demonstrated that, by the proper use of copper sulphate solution, smut in wheat, oats, and barley could be prevented; that strychnine used at the proper time would prevent the destructive work of gophers; that drilling in seed was surer than broadcasting; that fruit trees, shrubs, and flowers could be successfully grown. He tested grasses, clovers, and other fodder crops in order to be ready to answer questions when the time should come for a change in the system of farming then in vogue. From that time on, while there were many failures, the men who heeded Angus Mackay's advice always had at least an average crop.

The years up to 1890 were very trying ones. Drought, hail, wind, and frost devastated the crops. Many settlers lost heart, sold their possessions for what they could get for them, and left the country. More would have gone, but they had not the means with which to get away. Those who remained are prosperous farmers to-day and are the backbone of Saskatchewan. Homesteaders' shacks, schoolhouses, corner groceries, and churches all afforded meeting-places in those days. Agricultural problems were discussed and ways and means devised. Institutes were established, and fairs were held at such places as Grenfell, Wolseley, Whitewood, Indian Head, Qu'Appelle, and Moose Jaw. Encouragement was given to the production of crops, live stock, and dairy products.

While the greater number of settlers in the eastern part of the territories (Assiniboia and Saskatchewan) were engaged in the precarious business of growing wheat, there were still quite a number who had chosen the raising of live stock as their work. Horse and cattle ranches were established in the Qu'Appelle valley and north of it, at Moose Mountain, the Cypress Hills and the Dirt Hills, and sheep ranches around Swift Current, Gull Lake, and Maple Creek. All prospered for a time, but gradually as settlement increased the free

ranges were cut off. Limiting the ranges meant the keeping of fewer cattle and sheep. This decrease in numbers caused the ranchers to use better sires, and so a gradual grading up took place until a very superior type of market animal was kept on the ranches. The excellent pastures, abundant good water, and the quality of the soil imparted such high quality to the stock that no great difficulty was experienced by the ranchmen in securing good returns on the money invested in the business. They had bitter experiences at first, it is true. Thinking that their stock would be able to procure sufficient food on the ranges during winter, they neglected to provide hay or grain for them. The storms came on, followed by the chinook, and then a sudden cold snap. The grass was covered, and the stock perished in large numbers for lack of food. The ranchmen profited by this experience, and now grow crops such as oats, barley, and alfalfa for winter feeding.

Then there were farmers on small holdings who maintained a herd of cattle, some pigs, occasionally a small flock of sheep, a flock of hens, and a pair of brood mares. These men never knew want. If the crop froze, they fed it to stock; if the hail beat down their grain, they had the produce of their stock to fall back upon.

The failure of the wheat crop through various causes led some to advocate the dairy industry. In 1898 the Dominion government assisted in establishing several creameries at points where failures had occurred, such as Moose Jaw, Moosomin, Grenfell, Maple Creek, Churchbridge, Prince Albert, Qu'Appelle, Regina, Saltcoats, Saskatoon, and Whitewood. Dairying was not popular. It did very well until a good wheat crop was secured, and then the creameries at a number of points such as Moose Jaw, Regina, Indian Head, Whitewood, and Saskatoon closed their doors.

STOCK-BREEDING

The breeding of cattle was encouraged by the Dominion government, in co-operation with the provincial government, assisting in the bringing in of pure-bred registered sires and distributing them by public sale at a point such as Regina.

Sheep and swine were dealt with in a similar manner. To encourage horse-breeding the Horse-Breeders' Ordinance was passed in 1903, causing all stallions—registered, grade, and scrub—to be enrolled with the department of Agriculture at Regina. This enabled the breeder to know something of the character of the stallions standing for service, and at the same time gave the stallion-owner a lien upon the colt until the service fee was paid.

DEPARTMENT OF AGRICULTURE

A provincial department of Agriculture looked after agricultural matters generally. As time went on several branches were established, each with a special line of work. These are known as the Dairy, Fairs and Institutes, Weeds and Game, and Agricultural Statistics branches, Public Health, Bacteriological Laboratory, Live Stock, and Labour branches being established more recently.

LEGISLATION

Acts were passed for the regulation of the running at large of animals, for the prevention of the spread of noxious weeds and of prairie fires, for the protection of game, for stock inspection, and for granting wolf and gopher bounties. A Creamery Act, Agricultural Society Act, and Veterinary Association Act were also placed on the statutes. All these acts were intended to assist towards a better agriculture.

THE GRAIN-GROWERS' ASSOCIATION

In 1900 the Saskatchewan Grain-Growers' Association was formed. This was brought about through the instrumentality of W. R. Motherwell, a farmer at Abernethy on the Pheasant Plains, and now (1914) minister of Agriculture for Saskatchewan. This association was organized for the purpose of rendering effective certain demands that the farmers were making on the railroads and elevator companies for the redress of grievances in respect to the sale and shipment of their grain. The association has grown rapidly

in numbers, and at the present time holds an influential position in relation to the social and economic questions affecting the people of the province.

STOCK-BREEDERS

The Saskatchewan Live Stock Association was formed in 1905 at the time of the Spring Fat Stock Show. The function of this body was to look after the various matters that from time to time affected the interests of the farmers who were engaged in the production and marketing of registered or grade horses, cattle, sheep, or swine. This association conducted a spring stallion show and also a fat stock show. Simultaneously with the show a sale of breeding beef cattle was held. This sale was assisted financially by the Dominion and the provincial governments. Both the Grain-Growers' and the Live Stock Associations received substantial annual grants from the local government. A provincial Poultry Association was formed also. It received an annual government grant, and among its objects was the holding of a poultry show in the winter.

The stallion and fat stock shows, cattle sale, and the poultry show were held at Regina usually some time in March, the first fat stock show being held April 4-7, 1905.

The department of Agriculture was active in other directions, having in view the placing of agriculture upon a safe, sane basis by assisting the live-stock industry. In 1903, in co-operation with the members of the agricultural societies, the government inaugurated a series of experiments with corn, clovers, grasses, alfalfa, winter wheat, and rape for hog pastures. Each year there was added interest taken in this work, and though it could not be done carefully enough to be called an experiment, it did serve to demonstrate the suitability of Saskatchewan for such crops.

The fairs, through the appointment of expert judges for the live stock, were made to serve the interests of higher agriculture. Judging schools were conducted at different points and demonstrations given at fairs for the purpose of drawing attention to those points in the different classes of farm animals

that make for utility and ensure the transmission of useful qualities from parent to offspring.

In 1905 the autonomy bills were passed, by which two new provinces, Saskatchewan and Alberta, were formed from what was previously the North-West Territories. The area to be looked after by the department of Agriculture now was only half as large as it had been heretofore. Agricultural societies multiplied. Great interest was shown in their behalf. The grants to them were increased and new lines of work laid out. The Dominion Seed branch of the department of Agriculture at Ottawa, in co-operation with the local department of Agriculture, instituted seed fairs and standing fields competitions. These tended to bring about cleaner and better farming. Agricultural classes were formed at one or two points, and an instructor from the department of Agriculture at Regina visited them once every two weeks and gave instruction in the principles of plant life, soils, and animal husbandry.

In 1906 scholarships amounting to from \$50 to \$200 were granted to farmers' sons who should attend any one of the Canadian colleges of agriculture and comply with certain regulations prescribed by the department. Later a similar provision was made for farmers' daughters to attend domestic science schools in Canada. Numbers of young men took advantage of the inducements held out and in most cases made good use of their time. The following table shows the numbers who have availed themselves of the opportunities offered during the years since the scholarship system was inaugurated:

NUMBER OF SASKATCHEWAN STUDENTS ATTENDING
AGRICULTURAL COLLEGES

Year	Manitoba	Ontario	Quebec
1906-7 . .	8	2	..
1907-8 . .	17	4	..
1908-9 . .	21	6	..
1909-10 . .	49	4	1
1910-11 . .	55	2	2
1911-12 . .	52	3	..

THE RAILROADS

The Canadian Pacific was for a long time the only railway operating in Saskatchewan. In 1883 it ran across the territory from Fleming to Walsh. Along its course lay the older settlements. It also operates a branch line, built in 1889, from Regina to Prince Albert. The settlements back from these lines of railway waited patiently for transportation facilities. A vigorous immigration policy instituted by the Dominion government brought tens of thousands of settlers into the country. There was great activity among the railway builders—a race for territory. Now, instead of one railway company with 715 miles of railway, there are three—the Canadian Pacific, the Canadian Northern, and the Grand Trunk Pacific—with 4255·8 miles in operation and 435·6 miles under construction. The Canadian Pacific has two trunk lines across the province from east to west, the Canadian Northern one, and the Grand Trunk Pacific one; and these lines have numerous branches ramifying all parts. The Canadian Northern has a line running north from Regina to Prince Albert and beyond for some sixty miles. The Grand Trunk has an important line running from Regina through Melville and Yorkton to Canora, and will probably push this on to join the line running to Hudson Bay. The Canadian Pacific has opened its line from Regina to Saskatoon via Long Lake.

This increased railway construction has had a telling influence upon the development of agriculture. Not only have the railroads encouraged the breaking up of larger areas and thus increased the output of farm products, but they have lent material assistance to the live-stock industry at various times by bringing in and distributing pure-bred live stock at greatly reduced freight rates. They have also given reduced rates to speakers for institute work and judges at the agricultural fairs and standing fields and seed grain competitions. The Canadian Pacific Railway is planting tree belts along its right-of-way across the province and beautifying its station grounds, thus demonstrating in a practical way the

horticultural possibilities of Saskatchewan ; and the president of the Canadian Northern has recently donated a thousand dollars towards an alfalfa-growing competition to be held in Saskatchewan in 1914.

THE SCHOOLS

While those in authority have been anxious that the schools should do something in the way of teaching agriculture, little as yet has been accomplished in this direction. Now and again a teacher is found who, on account of previous training or special aptitude, adapts himself to the locality and teaches the children in terms of their surroundings. A bit of nature study is introduced, tree and flower culture is encouraged, and seed grain selection and stock-judging demonstrations have been held in connection with some of the rural schools.

Boards of trade and interested individuals have demonstrated in their respective localities that certain grasses and other crops were adapted to the conditions of soil and climate. Alfalfa, alsike clover, corn, Kentucky blue grass, and others have been thus brought to the attention of the farmers of the district.

PRESENT CONDITIONS

Conditions of soil and climate naturally vary in a province seven hundred miles long and four hundred miles wide. The chinook-swept ranching country west of Moose Jaw and south of the Saskatchewan River possesses a climate both milder and drier than the north-eastern part of the province beyond the Beaver Hills. This latter includes park country, merging into heavy spruce forest. A line drawn from Melville to Prince Albert cuts the southern part of it. Here the growth of vegetation is more luxuriant than in the southwest ; the air currents moving more slowly absorb less moisture. The approach of spring is more gradual, and the period between frosts is probably shorter than in the southwest. Both have been stock-raising districts, and for different

reasons ; each was supposed not to be adapted to grain-growing—the south-west on account of drought, the north-east on account of the prevalence of frost. But the practice of summer tillage, instead of fall or spring tillage, has shown the people of the south-west that small grain can be grown there better than they thought, and the substitution of oats for wheat in the north-east has changed and enhanced the reputation of places like Yorkton and Canora, which formerly grew frozen wheat, but now produce as fine oats as can be grown anywhere. The open prairie, unbroken by trees or sloughs, is easily and quickly made ready for grain-growing, while the wooded areas are brought under cultivation with greater difficulty. The open prairie has little shelter and water, both of which are features of the park country and render it suitable for live stock.

While the principal product of Saskatchewan is wheat, other cereals are produced in large quantities. All four grains—wheat, oats, barley, and flax—are exported. Other farm products which are produced in exportable quantities are cattle, hogs, and butter.

CEREALS

The following table shows the production of small grains in Saskatchewan in 1913, and the area sown to the same :

Cereals	Bushels produced in 1913	Acreage sown in 1913
Wheat . . .	112,369,405	5,760,249
Oats . . .	110,210,436	2,638,562
Barley . . .	9,279,263	397,177
Flax . . .	11,654,280	967,137

In the districts which have been settled for some years the treatment of the soil is fairly well understood and tillage methods are those advocated by leading agriculturists. Rotation of crops is not yet given much attention, for the reason

that wheat-growing is the principal industry in the greater part of the prairie portion of the province. On a wheat farm, wheat follows summer fallow. Frequently the second crop, after the land has been summer-fallowed, is sown without any cultivation except harrowing or discing. The preparation for the second crop of grain consists in burning the long stubble as soon as possible after the snow leaves and of sowing the grain with a disc-drill in the mellow black mould. In certain districts where the average size of the farms is small (not more than a hundred and sixty acres), land is ploughed in the fall or spring. Summer fallowing is not so common a practice, and the land is cropped each year.

Although spring wheat is grown principally, winter wheat has been grown successfully in a few districts, but its liability to winter killing will limit its production on a large scale. Red Fife is the principal variety of wheat, although in some of the more northern districts, and in districts liable to early frosts, other earlier ripening varieties are grown. Preston, Stanley, and Huron are hybrid wheats, one of the parents being Red Fife. These do not possess the same quality as Red Fife. The only wheat which is likely to be a successful rival of Red Fife is Marquis. This hybrid variety, recently introduced by the Dominion Experimental Farms, had Red Fife for one of its parents and an Indian wheat for the other. A small proportion of the wheat grown is ground into flour at local mills, but by far the greater part of it is exported.

The oats crop, although almost equal to wheat in quantity, is not very largely exported. The greater part of it is used for feed within the province. Barley is not grown extensively. On account of its early maturing qualities, it is recommended as a cleaning crop where the fields are infested with wild oats. Flax has become an important crop during the last five years. Nearly all of the crop is exported; some of it is ground in Winnipeg and in mills in Eastern Canada, and small quantities of it are imported by United States millers. Flax is the only crop which can be grown advantageously on newly broken land, and hence is popular with homesteaders and persons desiring quick returns. Winter

rye can be grown very successfully in Saskatchewan, although it has not yet been produced to any great extent.

MISCELLANEOUS CROPS

Cultivated grasses are not grown extensively. The grasses which are most popular are western rye grass (*Agropyrum tenerum*) and brome (*Bromus Inermus*). Clovers are not widely cultivated, but alfalfa has been found satisfactory in many places and its use will soon become general. A province-wide competition, with cash prizes amounting to \$6000, is being conducted in the growing of alfalfa. Native grasses are the principal source from which hay is obtained at present. Farmers who engage in stock-raising and dairy-ing grow a little fodder corn for forage. Other crops used for forage are alfalfa, green oats, a mixture of oats and pease; rape is grown for hogs.

Statistics for 1912 show a total production of 6,385,400 bushels of potatoes and 2,979,000 bushels of field roots. The lack of facilities for handling the farm produce other than grains and live stock is responsible for petty losses which discourage the producer. This, however, will soon be overcome.

LIVE STOCK

With the development of the grain-growing industry in Saskatchewan the live-stock industry has undergone marked changes. Before the grain-farmer proved his ability the rancher had almost complete control of the country. There was an abundance of pasturage, and it had but few claimants. The old-time rancher has been driven to the parts considered by the wheat-farmer as least valuable, and even there, unless guarded by a closed grazing lease, finds his calling in danger from the land-hungry immigrant, who will not hesitate to take a part of this grazing land for his homestead. The number of ranches is much smaller than a few years ago, and the number of range stock in proportion to the number owned by farmers was vastly greater a short time ago than it is now. The number of live stock is increasing, but the number of

owners (now farmers instead of ranchers) is increasing more rapidly. The closing out of some of the ranches in the south-west has been hastened by the inroads of the grain-farmers upon the ranchers' domain, but another factor was the frequent loss sustained during abnormal winters, when herds which were not provided with food fared badly. The loss in 1907 was particularly heavy, and some large cattle-owners from the South-Western States who had been shipping trainloads of stockers into the ranching districts for feeding on the nutritious prairie grasses then decided to close out their interests in the range. Low prices for beef have also tended to cause a limitation of the ranching industry. The change, while regrettable in some respects, is altogether desirable. The farmer who keeps cattle and feeds them grain before marketing does so at a profit, and not only helps to maintain a better market for his beef, but furnishes a better quality of beef for the consuming public.

The following statement shows the progress of the live-stock industry in Saskatchewan since 1901 :

Year	Horses	Milch Cows	Other Cattle	Sheep	Swine	Poultry
1901	83,461	56,440	160,613	73,079	27,753	.....
1906	240,566	112,618	360,236	121,290	123,916	.....
1908	343,863	179,722	565,315	144,370	426,579	3,411,052
1909	429,776	233,548	594,632	152,601	352,385	4,343,643
1910	552,574	224,745	527,305	164,855	329,046	4,626,118
1911	574,972	231,297	546,205	125,072	333,218	4,643,858
1912	592,220	258,235	562,590	128,198	324,880	4,759,954

The western market for horses is large and profitable, and Saskatchewan farmers are beginning to raise them both for their own use and for sale. An extensive business is done in importing stallions for breeding purposes, and some of the best living Clydesdales and Percherons are found in Saskatchewan. These two breeds are favoured most.

Shorthorns are the favourite beef breed of cattle, although Herefords and Angus are commonly met on the range in the south-west, where cattle run out during the whole year and

are marketed off the grass in the fall. A few herds of Angus and Herefords are found in the farming districts on the prairie. The Moose Mountain, the Beaver Hills, the Touchwood Hills, and the park country on the north and north-east produce excellent beef cattle, which are fed either in open sheds or in barns during the winter and are marketed in good condition.

Dairying is becoming a very important industry in districts to which it is adapted. Milking Shorthorns, Holsteins, and Ayrshires are in great demand.

Sheep are not found on many farms, but large flocks are kept on the range in the south-west, where sheep ranches are confined to certain townships. The range sheep have some merino blood, and, crossed with Shropshire or Leicester rams, produce an offspring which, though small, makes good mutton. The demand for mutton far exceeds the supply, and frozen carcasses are imported from the Maritime Provinces and even from New Zealand. Since 1910 the Sheep-Breeders' Association has held annual sales of range ewes and pure-bred Shropshire, Leicester, and Oxford Down rams at Saskatoon and Regina, and several farmers have bought foundation stock for farm flocks.

Hog-raising is growing in importance. The ease with which hogs can be produced, increased marketing facilities at Winnipeg, Edmonton, Calgary, and Seattle, and the growing home market, together with the diminishing net returns from exclusive grain production, are factors influencing this industry.

Poultry-raising has not been carried on in a very scientific manner, and there are comparatively few farms on which poultry are kept for revenue. The supply of eggs is sufficient for the local markets only during a few weeks in May and June. Until 1914 tons of dressed turkeys, geese, and ducks were imported. Now the supply is about equal to the demand.

ABATTOIRS

There are a number of small abattoirs doing a local business, but there are no large plants that do an inter-provincial

trade, although Gordon, Ironside, and Fares of Winnipeg have cold storage warehouses in some of the cities and compete with the local abattoirs without supplying a local market for fat stock.

Hogs are now being produced in such large numbers that those who have the best interests of agriculture at heart are of the opinion that local abattoirs with government supervision and backing should be built in the province in order to safeguard both the producer and the consumer.

DAIRYING

Throughout the northern districts and in nearly all parts of the park country dairying is carried on to a limited extent. Creameries on the co-operative plan are established at a number of points. Some of these are operated under the direction of the Dairy branch of the provincial department of Agriculture, and the government pays the express charges on cream shipped by patrons from outside points, thus giving them the benefits of the creamery without the expense of erection and management. Marketing the butter and paying the patrons fortnightly on the basis of the quantity of butter fat which each supplies are features of the government operation. The output of the twelve creameries is approximately 1,250,000 pounds per annum, of which the nine creameries operated by the government produce nearly four-fifths.

The local market absorbs a part of this output, but Winnipeg produce-dealers and dealers in the principal cities of British Columbia handle more than half the season's make. A few of the creameries are closed during the winter months; but a number of them now operate throughout the year, and thus get the benefit of the high prices which rule through the winter.

MARKETING FACILITIES

As grain-growing is the principal source of wealth and grain the principal product, it is natural that the facilities for marketing the grain crop should be modern and adequate.

In 1910 there were 909 grain elevators in Saskatchewan with a total capacity of 26,440,000 bushels. The number and capacity of elevators had doubled in five years. Grain elevators are located on railway sidings, where cars can be loaded by gravity. The average capacity of these elevators is about 25,000 bushels. They are usually built about thirty feet square and to a height of about forty feet. The operation of public elevators is regulated by law, and elevator operators are required to buy or store grain for which they have adequate space, when called upon to do so. Many elevators are equipped with cleaners, so that screenings and fowl seeds can be separated from the grain.

Elevators are owned largely by firms that deal in grain, but as a protest against the methods adopted by the line elevators a few years ago, and that are alleged still to be practised, farmers formed joint stock companies and erected their own elevators on the co-operative plan. The agitation for public-owned elevators has resulted in the organization of a provincial company incorporated by special legislation and known as the Saskatchewan Co-operative Elevator Company, Limited.¹

Live-stock shipments are handled through yards and pens erected by the railway companies on their property, which simplifies sorting and loading into cars.

Other farm products are marketed locally and are usually offered to the retail merchant, who takes them 'in trade,' sells them to his customers, or ships them to commission merchants or produce-dealers in the larger centres. From the wholesale dealer they either go direct to the city retailer or are stored until the market will absorb them.

It would be interesting to know how many of the farmers in Saskatchewan located with the definite intention of making permanent homes in the province. A great many seem to have recognized that they will probably do so, and are therefore building comfortable houses, planting trees, and beautifying their surroundings. Others have not yet begun to do so, but financial struggles and the urgency of other

¹ In 1913 this company owned and operated 192 elevators, and handled 18,750,000 bushels of grain during the marketing season of 1913-14.



(1) THRESHING FROM THE STOOK

(2) A PRAIRIE TOWN TWO WEEKS OLD

duties may be postponing this only temporarily. Farms of less than 160 acres are rare, this being the smallest survey unit. Farms of 320 acres are found to be a convenient size for grain-growing, but the older settlers and those who had capital with which to begin their operations are working larger farms. Two-section farms (1280 acres) are not uncommon, and there are a number in the province of several thousand acres.

The half-section grain-farmer usually lives in a frame house, the style of architecture being determined by his tastes and his ability to gratify them. The homesteader of limited means builds a small shack, which, curtained off, serves as a living-room and a bedroom. If time is his principal asset, he may build a sod shack, and any farmer who wishes to economize in building can make a substantial stable out of grassy sods cut twelve inches wide, three or four inches thick, and as long as can be conveniently handled. These make a homely but comfortable structure. The roof can be covered with poplar poles and either thatched or covered with a few loads of straw.

The live stock of the average grain-farmer consists of enough horses to do his work, one or more cows, a brood sow, which produces one litter during the season, and a few hens. The grain-farmer who keeps a herd of cattle, a number of brood sows, a flock of sheep, and other kinds of live stock not directly utilized in producing grain, is the exception. An abundance of live stock is more characteristic of farmers living in districts where they do not rely on grain crops for their living.

The grain-farmer's busy season is in the months when he is seeding, harvesting, and threshing. If he is fortunate enough to be located near a railway station or town, he has but little to do during the winter months. If he lives remote from a town, his heaviest work during the winter will be hauling wheat to the elevators and getting wood for fuel, if any is available. As the horses are often allowed to range at large all winter, the care of the stock does not involve much labour. But as soon as the snow disappears, the land that is ready for wheat must be harrowed. The wheat-land of the

previous year, if cropped once only after summer fallow, must be prepared for crop. Usually all that is done is to burn the stubble and then go over the ground with the drag-harrow or the disc-harrow. The wheat is sown as soon as the soil is dry enough—about April 10-20—for the disc-drill to work without any obstruction to the seed-pipes. The land that is to be sown to oats is usually ploughed as soon as the wheat is sown, and the oats are planted at once. Oats usually follow a wheat crop, and the year after the oats are harvested the field is summer-fallowed for the purpose of storing up moisture and destroying weeds, which soon become a nuisance when the land is cropped continuously.

When wheat and oats are sown and potatoes and field roots planted, the grain-farmer may plough his summer fallow or 'break' some more prairie. Both summer fallowing and breaking should be done early, during the wettest part of the season and before the growth of grass and weeds is very marked. A grain-farmer crops about two-thirds of his cultivated land each year and summer-fallows the remainder. The field to be summer-fallowed is sometimes disced after the binder in order to retain moisture and cover seeds with earth. It should also be disced in the spring, as soon as a good growth of grass and weeds is in evidence. This will induce further weed-seed germination, and when the second growth is started the field is ploughed. Surface tillage is continued during the season to keep the field in right condition.

Breaking is done during June. The sod is ploughed from three to four inches deep. The plough is usually followed by the packer or plank 'float,' which levels and packs the field. Many farmers at once seed their breaking with flax, and thus derive revenue from it the first year if the season is favourable. A yield of eight or ten bushels per acre is often obtained in this way. If the breaking is not to be cropped it is allowed to lie until August, when it is either disced, or if broken shallow (two and one-half or three and one-half inches) it is ploughed lengthwise and to a depth of five or six inches. This operation brings fresh soil to the surface and makes the sod decompose more readily.

Haying consists in cutting the native grasses of the prairie.

The thick, short, matted grass of the uplands, if cut when there is a good growth of new grass forcing its way through that of the previous year, which cures naturally on the ground, makes nutritious feed. The longer grasses and sedges surrounding small lakes and grassy sloughs make good feed, and are cut and cured when the water is low enough to operate the mower. Little cultivated grass is grown for hay.

After the summer tillage is done, and all hay that can be cut is gathered in, comes the period of harvest, which begins between August 15 and September 1. Owing to the danger of early frosts, cutting is completed with the minimum of delay. The grain is stooked until dry and hard enough for threshing, when it is stored either in bins on the farm or in the local elevator. When all facilities are available, the grain is drawn from the stook to the thresher and the threshed grain to the local elevator. But distance often prevents this, and the grain is stored temporarily on the farm, whence it is drawn to the elevator or to the cars at the nearest station.

The farmer who lives in a district where for any reason there is difficulty in growing good wheat and where he is engaged in raising stock and dairying has his work distributed more evenly throughout the year, and necessarily has a different equipment and follows a different plan.

The farmer who tills several sections usually utilizes steam or gasoline engines in his operations, and some plough, sow, harvest, thresh, and market with engine-power. The number of horses used is limited.

FUTURE DEVELOPMENT

The people of Saskatchewan have been provided with a good public and high school system and now have a university located at Saskatoon. The university includes a college of arts and science and a college of agriculture. In connection with the college of agriculture there is a farm of 880 acres, which is devoted to general mixed farming, having in mind the raising of crops both for market and for the feeding of

live stock. Such rotations as will maintain the fertility of the soil are being followed. Another 160 acres is devoted to investigations in field crops, soils and horticulture, and arboriculture. The campus, on which all the buildings will be placed, comprises 293 acres, making a total area of 1333 acres.

The work of the college of agriculture is subdivided into three heads—investigation, teaching in the college, and extension work. Investigation will be carried on for the purpose of ascertaining the best methods to be followed in placing the agriculture of the province on a sound basis. The teaching during the fall and winter months is for the benefit directly of the students, and indirectly for the benefit of the districts to which these students return to practise the best methods of tillage, crop- and stock-raising. The extension work has to do with the carrying of information in a usable form directly to the men and women on the farm, even in the remotest parts of the province. Information of value is carried to them by leaflet, popular bulletin, lecture, stereopticon, and by actual demonstration.

For the purpose of carrying on this extension work the college has a rather unique organization. All agricultural educational work has been given over to the college by the department of Agriculture with which it originated. With the extension work the department has also handed over the superintendence and direction of the agricultural societies of the province. Upon the recommendation of the director of extension work, the minister of Agriculture authorizes the payment of such grants as a society has earned during the year in payment of prizes at summer fairs, stallion shows, ploughing matches, standing fields competitions, seed grain and poultry fairs. The extension work is carried on principally through the agency of the agricultural society, but also through other organizations such as grain-growers' and livestock associations, farmers' clubs, homemakers' clubs, boards of trade, the church, and the school, and in fact any society that has for its object the good of the people.

The college is planning for the institution of a large number of demonstration farms in which the problems peculiar to the

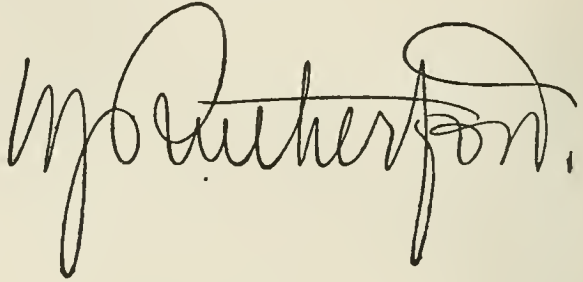
different localities can be worked out in a practical way. The college will superintend the work and act in an advisory capacity, but the actual work will be done by farmers who have been successful on their own land and who are located convenient to centres where picnics and social gatherings may be held during the crop-growing season and demonstrations given on the work being done. During the year 1913 the college co-operated with a number of farmers in the growing of alfalfa and corn for fodder. The aim of the college is to keep abreast of the times and to demonstrate safe scientific methods to the farmers of the province. The schools, too, will engage in the work. All pupils will be taught some agriculture in the form of nature study through the school and home garden in the public schools, and agriculture proper in the high schools, collegiate institutes, and normal schools. A strong, well-informed, enthusiastic body of teachers will be prepared to assist in making for a system that ensures permanency, and thus the rural school will become a centre for both material and social advancement.

The Dominion government has instituted two quarter-section experimental farms in addition to the one large farm at Indian Head. These smaller farms, one at Rosthern in the northern part of the province and the other at Scott in the western part, are well equipped for proving methods and demonstrating the same to farmers. Similar farms will no doubt be located to serve other parts where demonstration is required.

Short courses for farmers and their wives at the college and at other central points, demonstrations in judging stock at the fairs and stallion shows, demonstrating methods of handling milk and cream, and butter-making at the fairs will all tend to improve methods on the farm.

All grain-farming as generally practised brings many problems to the man who follows it up. The soil becomes impoverished of its humus, and hence is weakened in its soil-binding and water-holding properties. The soil drifts and leaves the seed and roots of plants uncovered. It dries out badly during periods of drought. Wherever wheat- or cereal-growing has been continued beyond a certain time without

returning fertility, the yields have diminished. Weeds such as wild oats, stinkweed, Canada thistle, sow thistle, and others multiply rapidly under the system of farming that is in vogue on too many farms. These very evils will eventually make for a saner system of agriculture.



W. B. Rutherford.

ECONOMIC RESOURCES OF
ALBERTA

ECONOMIC RESOURCES OF ALBERTA

PHYSICAL FEATURES

ALBERTA lies between British Columbia on the west and Saskatchewan on the east. It extends northward seven hundred and fifty miles from the boundary between Canada and the United States to the 60th parallel of north latitude. Its great outstanding physical feature is the glorious stretch of the Rocky Mountains and accompanying foothills, which extend along its western border. The province is practically a great plateau, sloping eastwards and downwards from the mountains, with many small streams breaking up the country and giving it a more diversified appearance than either of the other two prairie provinces. It is divided into three well-defined districts or sections or river basins—the southern, the central, and the northern.

The southern section extends from the international boundary to about one hundred miles north of Calgary, and comprises the basin of the South Saskatchewan River and its tributaries. Its altitude varies from about 3500 feet on the west to 2200 at the eastern border. This wide basin was formerly the ranching country, and horses and cattle ranged here the year round. Owing to the land being ready for the plough, large areas of it have been broken up, and it is now an important grain-growing district.

The central section extends northward from the Red Deer River to the height-of-land which runs diagonally across the province about sixty miles north of Edmonton, and comprises the basin of the North Saskatchewan River. The eastern slope of the mountains and the foothills in this section is well wooded, and the country generally is park-like in appearance. It too slopes to the east, and its general altitude is

about 1000 feet lower than the southern section. In this region native grass and grains of all kinds grow luxuriantly.

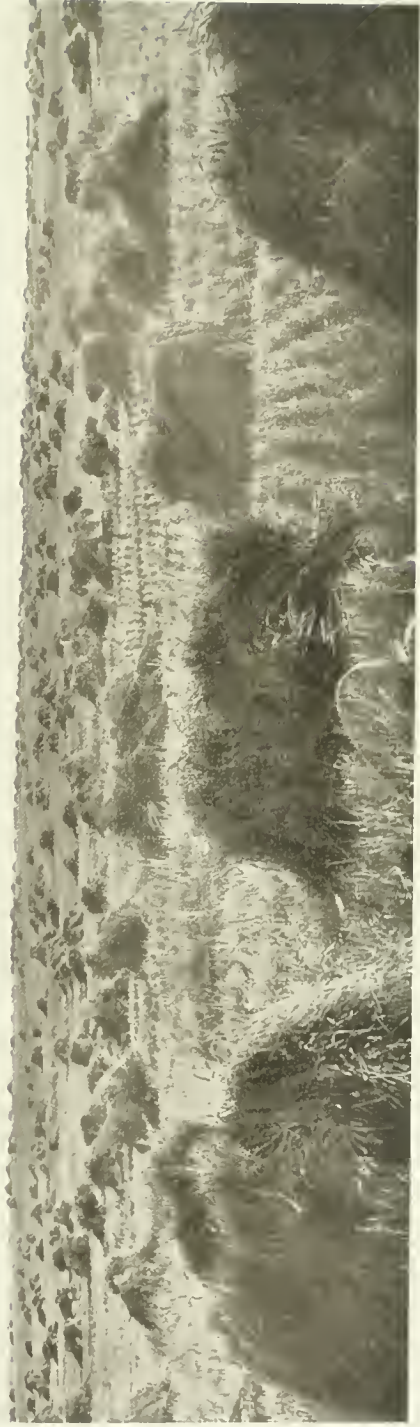
The northern section lies north of the height-of-land mentioned above and forms a part of the great Mackenzie basin. Generally speaking, this section is fairly well wooded. There are great open plains, however, lying at an altitude of 1600 to 2000 feet. The soil is rich and gives promise of importance as a stock and grain-growing country. The western portion is well watered, and receives the moderating influences of the 'chinooks' from the mountain passes.

CLIMATE

Basking in the sunlight to the east of the Rocky Mountains, Alberta enjoys a climate unequalled by that of Saskatchewan and Manitoba, and has justly been called 'Sunny Alberta.' As compared with the Atlantic coast States, the Maritime Provinces, and Ontario, the climate is less changeable, the air clearer and drier, and the low temperatures of winter are so modified by the clear air and bright sunshine as to be more endurable than those of more moist climates fifteen to twenty degrees warmer.

The temperature and the general climatic conditions of Alberta are strongly influenced by the ameliorating effects of the chinooks. These are the warm winds that blow from the mountains, clearing away the snow and bringing spring weather for a few days in the heart of winter. The chinooks occur along the whole range of the Rocky Mountains and have been known to cause a rise in temperature of sixty degrees in a few hours. This peculiar phenomenon is a great blessing to the province. Its moderating influence is at work all the time, so much so that the summer isotherm of 55 degrees makes a great loop northward, reaching to Fort Good Hope and Dawson City, thus making agricultural operations possible over the whole province and away north of it.¹ Winter usually sets in gradually from November 1 to November 15, when the ground begins to freeze up. Severe cold rarely occurs before the New Year, when from

¹ For the summer isotherm of 57.5 see p. 586.



BRANDING CATTLE IN ALBERTA
A WHEATFIELD IN ALBERTA

four to six weeks of it may be expected. Forty below zero may be looked for after the New Year for a few days at a time, never for long periods. The dry, still cold is quite endurable and is indeed exhilarating. Children play out-of-doors with the mercury at from fifteen to twenty below zero. In the southern portion of the province considerable seeding is frequently done during March, while farther north seeding does not begin until April.

While the measure of heat is important for agriculture, the amount of rainfall and its timeliness are equally so. The following table shows the monthly precipitation averaged for the seven years 1903 to 1909 inclusive :

	Medicine Hat	Letbridge	Macleod	Pincher Creek	Calgary	Gleichen	Wetas-kiwin	Edmonton	Prov. Average
January .	0·43	0·72	0·56	0·80	0·33	0·29	0·86	0·96	0·62
February .	0·31	0·47	0·28	0·46	0·28	0·23	0·72	0·55	0·41
March . .	0·46	0·72	1·05	0·71	0·74	0·27	0·99	0·86	0·72
April . .	0·32	0·84	0·85	2·09	0·80	0·49	0·50	0·63	0·78
May . . .	2·37	3·35	2·83	3·86	3·62	2·82	1·59	1·74	2·80
June . . .	2·09	2·83	3·40	1·91	3·61	4·04	4·03	3·97	3·53
July . . .	1·14	1·27	1·39	3·63	2·08	2·49	3·07	3·00	2·28
August . .	1·11	2·07	1·44	2·27	2·94	2·36	2·00	2·21	2·17
September	0·50	1·08	0·80	0·87	0·90	0·50	1·25	1·05	0·97
October .	0·41	0·81	0·49	0·62	0·56	0·67	0·50	1·02	0·66
November	0·26	0·50	0·44	0·43	0·38	0·25	0·78	0·92	0·50
December	0·42	0·47	0·43	0·20	0·22	0·24	0·79	0·57	0·51
Totals .	9·82	15·13	13·96	17·85	16·46	14·65	17·08	17·48	15·95

The feature worthy of note about the foregoing table is the light precipitation during the first four and the last four months of the year. This means no deep snows during the winter, dry weather for seeding, rain while the crops are growing, and later favourable weather for harvesting, threshing, and the completion of fall work.

The average annual precipitation varies from fifteen to twenty inches, and of this over sixty-five per cent comes during the growing season, *i.e.* the months of May, June, July, and August. The full benefit of the low precipitation is thus secured. Coming as it does, it is amply sufficient for the crops. It also makes it possible to harvest large areas of grain without barns, and permits stock to graze on the ranges

during the entire winter. The snowfall in the southern portion of the province is light and, due to the chinooks, seldom lies long. In the northern portion it varies in depth from six to eighteen inches, except in the Peace River district, where conditions are similar to those of the southern portion of the province. Once the ground is frozen in the fall it stays so until spring, and there is an absence of slush or mud.

AGRICULTURAL POSSIBILITIES

The greatest economic resource of the province lies in its enormous area of good agricultural land, coupled with its favourable climate. The actual land area of the province is 161,877,000 acres. If sixty odd million acres is deducted to cover the rough land of the eastern slope of the Rocky Mountains, other mountains and hills, together with waste places along the river-banks, muskegs, etc., that are not likely to be suitable for cultivation, there remains one hundred million acres available for settlement. This seems a very reasonable estimate in view of the fact that the deduction is more than a third of the total area.

The southern half of the province has amply demonstrated its possibilities, but some doubt has been expressed about the capabilities of the northern portion. The concensus of opinion is that the area of land capable of growing grains successfully extends beyond the northern border of the province. Wheat has been grown for more than a quarter of a century at Fort Liard, one hundred and thirty-five miles west of the north-west corner of the province, and at Fort Simpson, over one hundred miles north of the northern boundary.

In 1907 R. F. Stupart, director of the Dominion Meteorological Service, stated in evidence before a committee of the Senate :

That the practice is to draw isothermal lines every five degrees, and he considered 55 degrees too low a temperature for assuredly successful agriculture. A temperature of 57·5 degrees, provided that remains for two months, is perfectly safe for agriculture. Without doubt the summer temperature is the one which settles the question of vegetation altogether.

This isothermal line would extend from almost the foot of the Rocky Mountains, run almost north, following the mountains, and extend certainly beyond Lake Athabaska down halfway across Lake Athabaska, thence north of Lake Winnipeg. Such a line would have almost the whole of Alberta south of it ; in other words, the whole of Alberta has a summer temperature equal to, or greater than, that of England, and, as far as climate is concerned, there is no place in the province where grain could not be grown and ripened.

Records of cultivation in the northern districts have been in existence for a long time. Explorers and travellers have told of the wonderful gardens and of the field crops seen at the trading-posts, and these are the more remarkable as fur trading-posts were not chosen for their agricultural lands. As early as 1809, while stationed at Fort Dunvegan on the Peace River, Daniel Harmon wrote in his diary : ' We have cut down our barley and I think it is the finest that I ever saw in the country.' And later, in 1810, he also wrote : ' I am of the opinion that wheat, rye, barley, oats, peas, etc., could grow well on the plains around us.'

Since 1875 there have been numerous reports and much evidence as to the agricultural capabilities of the country. In that year Professor John Macoun made a trip through the North-West Territories and British Columbia, and gathered at Fort Chipewyan grain that was awarded a first prize and medal at the Centennial Exposition at Philadelphia in 1876, and in 1893 wheat from the Peace River Crossing won first place at the World's Fair at Chicago ; the old rule holding good that the greatest perfection is obtained as the northern limit of growth is reached.

Before 1897, George M. Dawson, R. J. Cambie, and the Rev. D. M. Gordon all pointed out that in their trips across the country they found fine crops of wheat, oats, barley, and potatoes, and at the various forts and mission stations visited they found excellent gardens equal to anything they had seen anywhere, containing potatoes, beets, cucumbers, squash, onions, carrots, peas, beans, turnips, cabbages, rhubarb, and general garden truck. Fort Vermilion on the Peace River

now (1913) has two stone flour-mills and a twenty-five barrel roller mill, and grinds the wheat grown in the neighbourhood—30,000 to 50,000 bushels—for shipment to the trading-posts farther north.

It is evident that to the north of Edmonton lies a region full of possibilities far beyond the most sanguine expectations of to-day, and with the establishment of transportation facilities its possibilities will become actualities.

In general the surface soil of the prairie is a rich chocolate loam, varying in depth from four to eight inches, while the park country is covered with a black loam from six inches to two feet deep. Underneath the surface layer the whole province seems to be covered with a bed of friable, retentive clay, varying in depth from a thin layer on the higher hills and ridges to great depths in the plains and valleys. The surface soil is the result of centuries of accumulation of decayed vegetation and is exceedingly rich in nitrogen, potash, and phosphoric acid—foods for which plants have the greatest need. The light rainfall during the season when there is no crop on the land tends to preserve fertility, as it is not heavy enough to cause any leaching.

The combination of just sufficient rainfall during the growing season, dry harvesting conditions, and a soil rich in essential plant foods, produces a hard wheat, high in gluten content, that knows no superior the world over.

The natural vegetation is as varied as it is luxuriant. Ninety-six different varieties of grasses have been identified, and of these forty-six make good hay. There are over ninety varieties of rushes and sedges, many of which make good hay and nearly all furnish pasture. On the open prairie the variety and succession of grasses give a long, uninterrupted period of rich pasturage. The grass is very nutritious, causing stock to make rapid gains. All stock winter well on it, because the grasses cure on the ground in the fall. The rainfall being light, there is no loss in food value, and the cured grass lies under the light snowfall, readily available for stock with a little pawing helped by the favourable chinook. In the ravines or coulees and in the park country the wild pea and vetch flourish, making excellent pasture.



A SETTLER'S FIRST HOME
A HORSE RANCH NEAR CALGARY
From paintings by Taut Wilson

The cultivated grasses all do well in the rich soil. The Kentucky blue grass grows thicker and with heavier foliage than in its native home. Timothy, western rye, brome, orchard, and other grasses have proved suitable to soil and climate. The small white clover grows profusely everywhere, while efforts to grow the larger varieties have as yet met with indifferent success. Alfalfa with its deeper root system is responding heartily in all parts. It is especially successful under irrigation, and there are over ten thousand acres of it tributary to Lethbridge, where three cuttings are annually obtained giving a total yield of from six to seven tons per acre.

The conditions of soil and climate are eminently suitable for grain production. Only in the case of winter wheat is it possible to trace introduction. The settlers brought the other grains with them, and, as they located in widely separated districts, it is now almost impossible to trace their introduction.

The first records of winter wheat production come from Pincher Creek, where Dawson's Golden Chaff was grown in the early eighties. In 1887 Odessa was sown in Cardston district. Both were soft wheats and not desired by millers. In the fall of 1902 E. E. Thompson of Spring Coulee brought in from Nebraska a carload of Turkey Red, a hard variety. The resultant crop was a great improvement over the seed sown, so much so that it was christened 'Alberta Red' and shipped back to Kansas for seed. This wheat, on account of its plumpness, hardness, weight, colour, and high gluten content, has won championship honours for four years in succession at the International Dry Farming Congress Exposition in competition with hard wheats from the best winter-wheat-growing States. On account of its high gluten content this wheat commands a premium in the world's markets.

What has been said of winter wheat is equally true of spring wheat. The new soil, full of plant food, combined with the dry air, not too much moisture, long days of warm sunshine and cool nights, produces a quality of grain eagerly sought after by millers. The spikelets, instead of containing only two grains, as is usually the case, are found to hold as high as five. The heads are filled to the top, giving heavy

yields. Red Fife spring wheat has been the favourite variety, but a new wheat—Marquis—of high milling quality and ripening some days earlier, has been introduced. An earlier variety still is being tried—the Prelude—which is ready for cutting some ten days earlier than Red Fife. This means pushing the limit of wheat-growing still farther north.

The same conditions of soil and climate produce oats of a superior quality. The chief grain-inspector at Calgary gave evidence before the Royal Grain Commission that eighty-five per cent of the oats grown in Alberta would weigh forty-two pounds to the bushel. At the provincial seed fairs, the prize-winning samples of oats never weigh less than from forty-eight to fifty pounds to the bushel. Alberta oats were awarded a first prize at the World's Fair at Paris and again at St Louis. The yields are heavy, over one hundred bushels to the acre being quite common. The average for the province is thirty-six bushels per acre, machine measure, or about forty-five bushels per acre by weight.

Other crops do equally well. Barley is much grown for feed, and if given the necessary care produces a very superior grade for malting purposes. Flax grows luxuriantly and has caused the establishment of a linseed-oil mill at Medicine Hat. Both spring and winter rye are grown in a small way, and the latter especially for late fall and early spring pasture. The following figures give a comparison of the crops of the leading grains for 1912 and 1913 :

	1912		1913	
	Acres	Total Yield in Bushels	Acres	Total Yield in Bushels
Spring wheat . . .	957,874	17,434,774	1,043,114	20,360,104
Winter wheat . . .	120,811	2,395,875	83,719	1,250,129
Oats	971,969	37,085,234	1,221,450	44,078,325
Barley	225,055	6,287,112	333,462	8,645,812
Flax	112,776	1,196,416	96,445	799,653
Rye	2,493	54,119	17,452	370,661
Speltz	774	11,528	3,625	70,998
Totals	2,391,752	64,465,058	2,799,267	75,575,682

The estimated value of the grain crop of 1913 was \$25,000,000.

The long days of sunshine and cool nights are most favourable for the growth of turnips, mangels, beets, carrots, cabbage, cauliflower, celery, and practically all kinds of garden truck. The soil of the southern portion of the province grows sugar-beets with about two per cent higher saccharine content than the average sugar-beet grown anywhere else. A sugar-beet factory at Raymond handles from three to four thousand acres of beets annually. Tests show that sugar-beets can be successfully grown all over the province.

The wild strawberry, raspberry, currant, and gooseberry grow in profusion in all parts of the province, and where the wild variety grows the cultivated ones will succeed. The pin and choke cherry and the wild plum grow in the ravines or coulees under protection, and because of this it is thought that the apple, cherry, plum, and possibly the pear will grow. Indeed, the apple has been tried at a dozen points and is growing well and bearing regularly. The provincial government established experimental fruit stations to test the larger fruits. In nearly every case the trees planted have done well. Windbreaks and hardy root-stocks are necessary. The saskatoon berry grows everywhere, while the high and low bush cranberry and the blueberry grow profusely in many parts.

The first ditch for irrigation purposes was opened in 1892 and is still working. This was followed by others between High River and Calgary, but most of them are now abandoned. The first irrigation ditch of any magnitude to be successfully operated was that of the Alberta Railway and Irrigation Company. The head-gates are located on the St Mary's River, fifty-five miles south-west of the city of Lethbridge. The system now consists of 200 miles of main canal with 600 miles of laterals. It is supplying 75,000 acres with water. Extensive areas in this irrigated district have been seeded with alfalfa and from three to four thousand acres are annually sown to sugar-beets.

The Canadian Pacific Railway began work in 1904 on its scheme to irrigate 3,000,000 acres, extending in a solid block

for 150 miles east of Calgary. Water is diverted, two miles east of Calgary, from the Bow River and carried in the main canal seventeen miles to a big natural reservoir for distribution, to serve the western section. This western portion of the scheme is practically complete, having about 1000 miles of canals and distributing ditches carrying water to about 350,000 acres. To serve the central and eastern sections, a second intake is made at Bassano, where a huge dam has been constructed with a canal system to take the water to the land.

A third large irrigation project is that of the Southern Alberta Land Company. Water is taken from the Bow River not far from the western end of the Blackfoot Indian reserve, south of Gleichen, and carried 125 miles before it strikes the land (300,000 acres) owned by the company. In one place a lake twenty-eight miles long and three miles wide has been created.

Alfalfa, pasture, and sugar-beets are the main crops to be grown on the irrigated land, and this means dairying and stock-feeding. The result will be a dense population producing great wealth.

LIVE STOCK

Alberta is pre-eminently a stock country. The foothills and adjacent prairies were the wintering grounds of the buffalo that roamed afar during the summer. The reasons for this pre-eminence are threefold :

1. The grasses of the prairie and foothills are abundant and varied and give the very finest pasture. They cure on the ground in the fall, making excellent winter feed, and, as the chinooks clear away the light snowfall, are always available. Hay and alfalfa grow well, and the ease with which the coarse grains grow makes the problem of supplying winter feed a simple one under farming conditions.

2. Just as the buffalo lived out during the winter without shelter, so will domesticated stock, provided they are allowed to grow their winter coat of hair. An open shed, a straw stack, a clump of trees, a ravine, or coulee furnish all the shelter stock, with the exception of milch cows giving a heavy



(1) INDIAN CAMP, BLACKFOOT RESERVE, ALBERTA
(2) INDIAN CAMP IN THE FOOTHILLS OF THE ROCKIES, ALBERTA

flow, require during stormy and hard weather. The secret of this is that there is no thawing and freezing, no sleet or rain during the winter, but dry snow and little of that.

3. Owing to the province lying next to the mountains, it is well supplied with rivers and springs. Water is thus abundant practically everywhere.

These natural advantages will long be available, for of the hundred million acres of arable land in the province, not more than five per cent is yet under the plough—the balance is still in natural grasses.

The identity of stock on the open range is settled by a system of marking or branding. Each rancher has a registered mark which he places in a particular place on his stock, thus establishing ownership. The work of allotting and recording brands is covered by legislation and placed under the care of the department of Agriculture. In 1913 there were over thirty-three thousand registered horse and cattle brands, and about three thousand new ones are added each year. Ranchers were early organized for protection against stealing and the depredations of timber wolves, also for the purposes of rounding up their stock, separating the same, and shipping those ready for market. The leading ranchers' organizations are the Western Stock-Growers' Association, with headquarters at Calgary, and the Central Alberta Stock-Growers' Association, with headquarters at Stettler.

Herds, studs, and flocks of pure-bred stock were started quite early in the history of the province, and to-day there is an abundance of practically all the important breeds of live stock. The Alberta Horse-Breeders' Association, the Alberta Cattle-Breeders' Association, the Alberta Swine-Breeders' Association, and the Alberta Sheep-Breeders' Association combine to hold breeders' shows, auction sales of pure-bred stock, and a fat stock show. The estimated value of the live stock sold in 1913 was \$22,000,000.

The southern portion of the province is the Kentucky of Canada so far as horse-breeding is concerned. The clear, dry atmosphere, the outdoor life the year round, the soil, and the rich natural pastures all combine to produce healthy,

strong, and active horses, sound in wind and limb, and unsurpassed in quality and stamina.

The horse industry dates its development from the coming of the Royal North-West Mounted Police in 1874. Prior to that the Indian pony was the horse of the plains. It was so unsuitable for police work that breeding-stations were established, and in 1886 there were about ten thousand horses in the Calgary and Macleod districts. The development of the horse industry really dates from that year; breeders then were convinced that good horses could be raised, and began importing high-class sires from England and elsewhere. Importations have been made almost every year since. The province now possesses a large number of very valuable breeding stock of all the well-known breeds—Clydesdales, Percherons, Hackneys, and Thoroughbreds predominating.

The early records show that cattle were kept successfully at many of the Hudson's Bay posts, but it was not until the Royal North-West Mounted Police force was established and the Indians placed on reserves that the raising of cattle began to assume any proportions. It was unnecessary so long as the buffalo were plentiful, but their almost total disappearance in 1879 gave an impetus to the cattle industry. The first herds were driven in from Montana; others quickly followed, and soon the industry was booming. The first set-back came in 1879, when the Indians, deprived of the buffalo, took to killing cattle to supply themselves with meat. Ranchers lost heavily, and many herds were driven back to Montana or sold.

In this same year the government imported from Montana one thousand head of breeding stock as a future source of meat supply for the Indians. Though badly handled, the cattle did well, and the industry grew so quickly that in two years about thirty thousand head were imported. Arrangements were then made for leasing large areas of government land at the low rate of one cent an acre, and by 1884 forty-one cattle companies had 2,782,000 acres under lease. The industry was now well established, the ranches being mostly in the foothills south of Calgary. At the close of 1896 all leases were terminated and ranchers were permitted to purchase up to

ten per cent of their leasehold at \$2, afterwards reduced to \$1.25, per acre. New leases were given, but were open to withdrawal upon two years' notice.

The closing years of the old century saw an increasing inrush of settlers. The older ranching areas were gradually given over to the wheat-grower. The large herds were either gradually abandoned or were moved back before the approaching settlement. Where intelligent thought and care were exercised, there has been steady progress and the industry has been highly remunerative. To improve the quality of stock, bull sales were organized by the breeders of pure-bred stock and were liberally supported by both local and federal governments. All the beef breeds are represented, but the Short-horns and Herefords predominate. Dairy breeds are now being introduced to produce milk for the cities, and good herds of pure-bred Holsteins, Ayrshires, Jerseys, and milking Shorthorns are being established.

With the exception of an outbreak of mange, the health of the cattle introduced has been most excellent. As already stated, the dry climate enables them to live out-of-doors practically all the year, even in weather many degrees below zero. Incredible as it may seem, steers are fattened in the open in the winter without other shelter than a clump of trees, a straw stack, or a high board fence. Steers fed in this way have gained as high as two pounds per day over the whole feeding period, while an increase of one and one-half pounds is common. Large abattoirs have been erected at Calgary and Edmonton, capable of taking care of the total offerings. Because of the peculiar adaptability of Alberta for raising stock, the cattle industry offers exceptional opportunities to men of knowledge and experience.

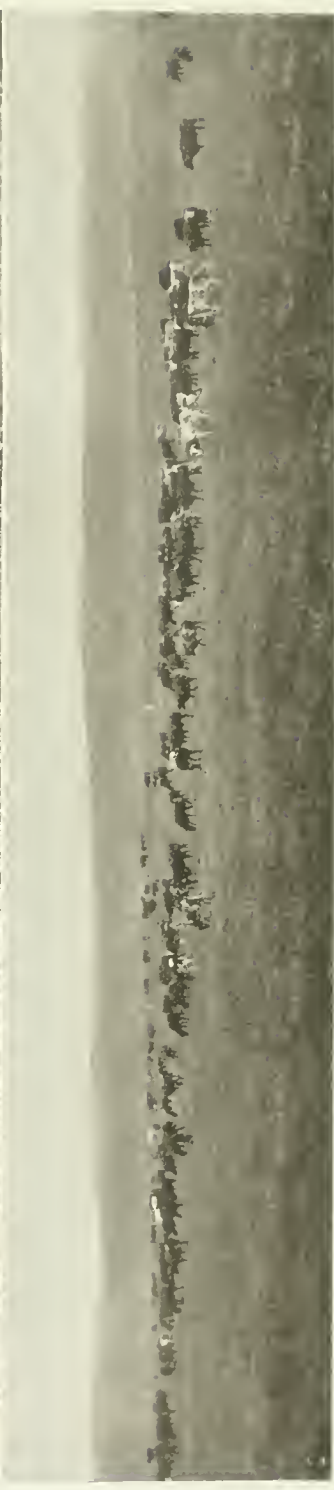
The gently rolling character of the land, the rich and varied pasture, the dry climate, combined with abundance of rough feed for winter, are all admirable for the breeding of sheep. The first flocks were driven in from Montana in the early eighties and prospered well. A standing quarrel between cattle and sheep men resulted in regulations being passed in 1882 prohibiting sheep-ranging on Dominion lands. Later, leases were given in restricted areas, and in 1891 and 1892

certain areas in South-Eastern Alberta and Western Saskatchewan in which sheep could be grazed were set aside. Quarrels and restrictions seriously handicapped the industry and practically drove it out of Alberta into Saskatchewan. After 1890 there was some improvement, and up to 1902 sheep-raisers made more money than did the cattle-ranchers. Since 1910 there has been a steady revival of the industry, but the demand for mutton and lamb is not yet met by home-grown animals. In 1912 fully 100,000 head were imported into Alberta for slaughter, while the amount of frozen lamb and mutton brought in from the United States, New Zealand, and Australia runs into many millions of pounds.

The hog industry is growing by leaps and bounds, and promises to equal and indeed out-distance the cattle industry in the near future. While nearly all breeds have been introduced, the bacon breeds seem to be meeting with greatest favour. There are numerous packing-houses to take care of the supply.

The climate is ideal for the raising of turkeys, ducks, geese, and chickens, and the industry is growing very rapidly, but still not nearly quickly enough to keep up with market demands, there being imported each year eggs and poultry to the value of \$500,000. The government maintains a breeding-station for the distribution of eggs and fowls, and encourages by grants the holding of poultry shows.

The conditions of pasture, winter feed, coarse grains, and markets are all in favour of dairying. The dairy industry has grown steadily in spite of many drawbacks; in 1913 there were some fifty-four creameries and eleven cheese factories in the province. The annual output of milk, cream, butter (creamery and dairy), and cheese is valued at \$15,000,000. The demand for milk and cream to supply the towns and cities has increased rapidly, until it has attained large proportions. The result has been the introduction of many herds of high-grade cows of all the leading dairy breeds and the placing of the dairy industry on a firm footing. The government renders assistance through a competent staff of instructors and inspectors, who also assist in marketing surplus products.



RANCHING IN ALBERTA

MINERALS

The mineral resources of Alberta are varied, extensive, and valuable, so much so that they are likely to rival those of agriculture. More than one-third of the province is underlaid with coal. Beginning with the low-grade lignites of the prairie, the quality improves until the high-grade coking and anthracite coals are found in the higher foothills. Nearly every river flowing easterly from the Rocky Mountains shows outcrops of coal along its banks. The estimated reserves exceed those of the whole of the rest of Canada. Coal seams are found in the Kootenay or lower cretaceous, the Belly or middle cretaceous, and the Edmonton, lying at the top of the cretaceous.

The Kootenay formation extends along the upper foothills from the international boundary to the Yellowhead Pass. The coal is high-grade bituminous with some semi-anthracite and anthracite, and is mined at Coleman, Blairmore, Frank, Passburg, Bellevue, and Hillcrest. At Bellevue six seams averaging thirty-five feet are found. At Canmore and Bankhead, on the main line of the Canadian Pacific Railway, anthracite is mined. Here fifteen coal seams aggregate eighty-five feet in depth. Farther north, to the west of Edmonton, single seams have been found from forty to fifty feet in depth and extending for five miles with undiminished depth. The coal area lying to the south-west of Edmonton is said to be the largest and richest coal-field on the continent.

The Belly River formation outcrops in the eastern portions of the province where the seams are thin. The best seams are found on its western border at Lethbridge in the south and along the foothills as far north as the Peace River. Here seams twenty feet in depth, varying to sixty-six feet with single seams, have been located. This formation has been found underneath a large area of the Edmonton formation at a depth of from 1000 to 1400 feet in the neighbourhood of Edmonton, and at a depth of from 2500 to 2800 feet in the Calgary district, all carrying good workable seams.

The Edmonton formation at the top of the cretaceous is

estimated to cover 77,184 square miles. The seams are thinnest in the south, gradually deepening to the north, where west of Edmonton there is a seam of this coal twenty-five feet in thickness. This coal changes from lignite on the east to coking coal on the west of its area.

During the year 1912 there were 243 mines in operation, employing 6661 men, who mined 3,446,349 tons of coal. In 1913, with 289 mines in operation, employing 8068 men, the output was 4,306,346 tons, nearly one-third of the total coal mined in Canada.

The first discovery of gas was made at Medicine Hat in 1902, where it was found in three strata—the first at a depth of 125 feet, with 125 pounds pressure ; the second at 625 feet, with 260 pounds pressure ; and the third at 1000 to 1100 feet, with 580 pounds pressure. The gas from the first two carries considerable moisture, while that from the third stratum is free from it. The gas is found to be largely methane, and is used for lighting, heating, and for manufacturing purposes. This gas-field has been found to extend for one hundred miles west and fifty miles north and south of Medicine Hat. Towards the western limit of this field a strong flow was struck at Bow Island, which has been piped to neighbouring towns and as far as Calgary—one hundred and eighty miles—for domestic purposes.

At Pelican Rapids on the Athabaska River a shaft was sunk by a Geological Survey party in 1897-98. Work had to be stopped at a depth of 837 feet because of a strong flow of gas. This well caught fire and has been burning ever since, over fourteen years, with no apparent diminution in pressure. Gas has been struck at Vegreville, Tofield, Wetaskiwin, Castor, and Calgary, and at a few other points. The wide range over which gas has been found would indicate its presence in large quantities ; while it lasts it will be a very valuable asset to the province.

In the northern portion of Alberta there is a vast quantity of tar sand, bituminous sand, or asphaltum, as it is variously called. In the Geological Survey report for 1893 R. G. M^cConnell estimates the supply of bitumen (the product after the sand is removed) at 30,000,000,000 tons. These tar sands

are supposed to be produced by the evaporation and oxidation of a very large quantity of petroleum, but it is not known whether the supply which produced the bitumen is exhausted or not. It is practically valueless until transportation facilities are provided, but once this is done these beds should be immensely valuable.

Seepages of petroleum have been found at various points from near the international boundary to as far north as Fort M^cMurray. It has been struck at Fort M^cMurray in a number of wells, but though found in paying quantities, it will be practically valueless until transportation facilities are available. Many attempts have been made in the southern portion of the province to find oil, but no definite result was reported until the fall of 1913, when oil, showing eighty-five per cent gasoline, was struck south of Calgary near Okotoks at a depth of 1560 feet. This oil was found in connection with gas.

All the rivers rising in the Rocky Mountains carry gold in their gravel bars. Sufficient gold has been obtained by washing in a crude way the gravel from the North Saskatchewan River to meet the operating expenses of a dredge.

Numerous deposits of gypsum have been reported. One in the form of a mountain, of almost pure gypsum, has been located not many miles from the main line of the Grand Trunk Pacific Railway.

Graphite is reported in the Rocky Mountains, copper on the north shore of Lake Athabaska, and great beds of salt in the vicinity of Fort Smith, as well as underground beds found by boring. Iron ore also is reported as occurring to the north and east of Edmonton.

Deposits of good building stone have been found in widely scattered places. Clay suitable for brick-making is reported from practically all districts, some of it of a quality suitable for ornamental tile, etc. There is also an abundance of clay and marl for cement-making, and three large cement plants are in operation.

The province is undoubtedly rich in minerals, but they have been prospected only in a very limited way.

GAME

The wooded foothills, the eastern slopes of the Rocky Mountains and the park country, the numerous rivers, streams, small lakes, and the equable winter are ideal for game. Game of all kinds abound, and laws have been framed to prevent reckless slaughter. The Dominion public parks on the eastern slope of the Rocky Mountains and other areas have been set aside as game preserves. The overflow from these reserves into the surrounding country will always afford sport and prevent extermination. The revenue from the sales of hunting licences amounted to over \$20,000 in 1912 and to about \$25,000 in 1913. The only known herd of wood bison in America existing in a wild state is to be found in the northern portion of the province. A buffalo park of 117,000 acres at Wainwright contains over a thousand head of the plain buffalo. Other parks contain small herds. Moose are plentiful. Other large game are elk, caribou, deer, mountain goat and sheep, antelope, and grizzly, black, and cinnamon bears.

The fur trade attains very large proportions, its centre being at Edmonton. The following fur-bearing animals contribute to this trade : bear, wolf, coyote, lynx, fox (red, cross, black, and silver), wolverine, otter, fisher, marten, mink, beaver, muskrat, squirrel, rabbit, and weasel (ermine).

Ducks in many varieties abound, the leading ones being mallard, canvas back, teal, pin-tail, widgeon, and shoveller. The wild goose is present in about half a dozen varieties ; swan have been seen in considerable quantities, as well as a great variety of smaller fowls. The land birds represented are the prairie chicken, partridge, and ptarmigan. The Hungarian partridge has been successfully introduced.

Owing to the natural conditions favouring the breeding of game and to wisely administered game laws, Alberta is likely to continue a sportsman's paradise.

FISH

Fish abound in all the running water and lakes of the province. The most plentiful as well as the most valuable

commercially is the white-fish. The northern lakes are well stocked with it, and at Fort Chipewyan, on Lake Athabaska, it is estimated that 100,000 white-fish are required annually for the settlers and their dogs. Other valuable fish are lake trout (often attaining a weight of fifty pounds), pike, or jack-fish, dore (wall-eyed pike or pickerel), northern suckers, and gold-eyes. The mountain streams are famed as the home of game fish, all of which afford the best of sport. The varieties found are cut-throat, bull, brook and other varieties of trout, Rocky Mountain white-fish, and grayling. It is impossible to estimate the catch of fish handled in a commercial way, but it probably has a value of between \$100,000 and \$150,000.

FORESTS

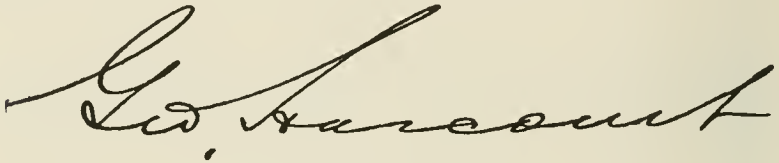
The eastern slopes of the Rocky Mountains in Alberta, about 12,000,000 acres, have been formed into a vast forest reserve, not only to protect the timber, but the sources of the numerous rivers. The river valleys carry much valuable timber, which when cut is floated down the streams to saw-mills. The principal trees are spruce, fir, jack-pine, poplar, and birch. The government maintains a forest ranger and fire patrol service.

For years the department of the Interior through its Forestry branch has been doing excellent work in encouraging farmers in the prairie provinces to plant windbreaks by distributing trees free, provided certain conditions are complied with. In this way millions of trees have been set out.

Owing to the proximity of the mountains, nearly every one of the rivers, many of which are navigable for long distances, gives opportunity for the development of water-power. In only a few instances has advantage been taken of this cheap power, and it is running to waste in large quantities, awaiting the day of development.

In addition to the possession of vast areas of fertile lands, mineral wealth, and other natural resources the province is

fortunate in having a government seized with the necessity of doing everything in its power to assist the newcomer to a knowledge of the best methods to be followed in the cultivation of the soil, in the growing and harvesting of crops, in the breeding and feeding of all classes of live stock, in dairying, and in fact in every line of farm work. For this purpose, under the direction of the minister of Agriculture, there have been equipped seven demonstration farms and three agricultural schools. Besides this, an aggressive campaign in farmers' institute work, short course schools, travelling dairies, domestic science schools, and general instruction work is carried on. No effort is being spared to make the tiller of the soil, on whose success the general welfare of the province depends, a more intelligent and better farmer.

A handwritten signature in cursive script, reading "G. A. Harecourt". The signature is written in dark ink on a light-colored background.

This book is **DUE** on the last date stamped below

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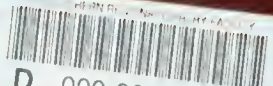
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