CHAPTER VIII

LUMBERING AND FARMING

A New England land seeker wrote in 1847 from Fort Winnebago to his wife in the East, saying: "Where I now am seems upon the confines of civilization. About a mile to the north of this place commences the Indian territory which extends to Lake Superior. . . . I intend to take a quarter-section of land on the Baraboo. . . . It is said to be a fine farming country with fine springs and streams of water. . . . Pine lumber can be bought there from 8 to 10 dollars per thousand and produce brings a higher price on account of its being near the pinery."

Baraboo is in Sauk County, and the settlers there, as well as those in Columbia, Dodge, Fond du Lac, Winnebago, and Brown counties, were, by the time Wisconsin became a state, beginning to see marketing possibilities in the sawmills and lumber camps which were multiplying along the upper Wisconsin and its tributaries, near Green Bay, and in the Wolf River pinery. Woods work being carried on most actively in winter, when frost, ice, and snow prepared roads into regions otherwise impenetrable, supplies could be transported on sleighs to almost every portion of the lumbering area. Flour, pork, beef, and potatoes among farm products, also hay and corn or oats for the stock, were in sharp demand and brought good prices at the mills. Large numbers of oxen were required for draught in the woods. Men owning strong, well broken cattle could obtain winter employment at good wages, while vigorous young ax-men, raftsmen, and mill hands were always in demand during the season when work on the pioneer farms was at a standstill. Thus the advantages of farming in the neighborhood of big

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merinos. Fabulous prices were paid for breeding stock. Flocks of purebreds became especially numerous in Vermont, the home state of Mr. Jarvis, but many were started in other states also. Then a period of manufacturing depression, due in part to English competition in woolens, forced down the value of sheep and resulted in sending many thousands of common and grade merino animals into the West, the states of Ohio, Kentucky, Indiana, and Illinois gaining largely therefrom. This created the sources from which the supply of common sheep in the forties and fifties reached Wisconsin.

In 1837, when Wisconsin began to settle up from the East, there were in the United States, it is estimated, 18,000,000 sheep, of which the three states New York, Vermont, and Pennsylvania had one-half. The factory demand having risen steadily for some years, the finest wool was then bringing up to 72 cents per pound and wool growing, naturally, was regarded as a most profitable branch of farming. This continued to be the case for about ten years and explains why it was that Wisconsin farmers, the moment wheat crops began to deteriorate, turned their attention to wool growing. It explains why for some years the interest in good sheep was so much keener and more general than the interest in better cattle, horses, or pigs.

Means of transportation from many parts of the West being almost non-existent, the market for wool in those sections was correspondingly poor and the prices of sheep low. That is why so many flocks, numbering thousands, were driven north from Illinois and Indiana to be sold to Wisconsin farmers at prices which made their purchase a strong temptation, especially since wool could be shipped cheaply from the lake ports via the Erie Canal to the eastern market. Under these conditions, wool growing began in Wisconsin a few years after the first settlements were made. It is said in 1845 there

\* Not infrequently as much as $1000 was paid for a ram. The furore became so great that, it is said, a good mother in Pennsylvania called her tenth son "Merino," as fathers in 1856 named male children "Fremont" and in 1860 "Lincoln."
were not over 30,000 head of sheep in the territory, yet in 1850 the census taker found 125,000 head.\textsuperscript{22}

We have already noted the prominence given to sheep at the first state fair in 1851. The merinos, paular merinos, and Saxons, exhibited from Kenosha County and from Fond du Lac, were a pledge of the effort at improvement of the stock of sheep which had already begun, purebreds being brought from Vermont, Massachusetts, and New York. It was only a few years until Wisconsin breeders were prepared to supply breeding stock of both sexes and all ages to their fellow farmers. The records of state fairs prior to 1860 testify to the existence of purebred merinos in Kenosha, Waukesha, Fond du Lac, Walworth, Milwaukee, and Dodge counties. Doubtless there were flocks in other counties as well. Long wools were exhibited mainly from Dane County.

The county of Walworth became the leading county in the production of fine wool sheep, and in that county the town of Whitewater was the most noticeable competitor at the state fairs, her breeders usually numbering four or five.\textsuperscript{23} In 1850 Whitewater had 3282 sheep, more than those in any other of 10 towns. In 1860 the number was 2734, which again was the largest number assigned by the census to any one of 22 towns. In 1870 the number had risen to 6030. Whitewater's nearest competitor that year was Sugar Creek, in the same county, where the number of sheep was 5449, while in Mount Pleasant, Racine County, it was 5432.

From the census returns of wool and of sheep one can compute, roughly, the average yield per head, and this enables us to determine where the improved sheep were to be found at the census dates. In 1870 Whitewater sheep clipped, on the average, nearly 6 pounds, and Mount Pleasant sheep about the same. In Brookfield, Waukesha County, the average was 4.7, in Bangor less than 3, in Castle Rock 2 pounds. Empire

\textsuperscript{22} The importations became even more numerous in the next decade. In 1854 it was said (see \textit{Wis. Farmer}, 1854, 227) of sheep: "They have been brought into this state this season by thousands."

\textsuperscript{23} Included as from Whitewater, however, were men living in the adjacent town of Lima, which is in Rock County.
and fairly permanent lumbering establishments were not few nor inconsiderable. Taken altogether they made so strong an attraction that, wherever good land could be obtained in proper locations, it was sure to be taken up as soon as possible after the mills began operations.

The lands of northern Wisconsin vary in character quite as much as those in the south. Wherever the pine forest covered the country continuously and fully, the problem of clearing made farming impracticable even after the timber was removed, because in the days when prairie lands were still cheap and abundant the expense of stumping could not have been borne. Many of those lands, which have been for some years cut over, are only now coming into cultivation, the process of removing stumps by blasting having demonstrated its economy.

However, there were millions of acres of good farm land, in regions which also contained pineries, that presented no more serious obstacle to cultivation than the oak openings of the south and southeast, and other millions which involved much less slashing, grubbing, and burning than did the forested area near the shore of Lake Michigan. In fact, oak openings occupy a large part of such counties as Waupaca, Outagamie, Adams, Waushara, and Marquette—the first region of northern Wisconsin east of the river into which agricultural settlers thrust themselves, following in the wake of the lumbering interest. The same was true of the limestone region in the north and west, settled almost as early in response to the lumbering activities on streams tributary to the upper Mississippi.

Much of the remaining land was covered with varieties of hardwoods similar to those in the Milwaukee area, while the pine, which was the basis of the great lumber industry, stood largely in clusters on the rougher lands within a short distance of the streams and rivers. The conditions, in short, favored that combination and interplay of the two industries of lumbering and farming which is so distinctive a feature of northern Wisconsin history.
The lumbering opportunities of the upper Wisconsin were prospected very early. In 1828 timber was rafted down the river to build Fort Winnebago. Within a few years keen traders, like Daniel Whitney, were seeking Indian permits for mills; then the government stepped in, secured a cession of lands along the river, and in 1840 surveyed a six-mile strip as far up the river as the present Wausau. The market for pine lumber outside of Wisconsin was in Iowa, Illinois, Missouri, and still farther south along the Mississippi, and it was a rapidly growing market. Except in times of panic or severe depression, there was hardly a limit to the amount of lumber that might be sold from the fleets of rafts which moored at the Mississippi ports. Besides, sawmills were erected at various places down the river, like Dubuque and Davenport in Iowa, which depended for their supply of saw logs on the pineries of Wisconsin.

The pinery was tapped also from the upper Mississippi, particularly along the courses of the Chippewa, Red Cedar, Black River, and the St. Croix. In these areas and on the upper Wisconsin, as well as on Lake Michigan, along the shores of Green Bay, and in the Wolf River country, the development of lumbering kept pace in a certain sense with the growth of the agricultural settlements of the southeast and the south. As early as 1840, according to the census of that year, the value of the lumber produced in Wisconsin was $202,239, while the bushels of wheat raised was 212,116. In other words, the value of Wisconsin's lumber product, at that date, was greater than the value of her wheat. We have already seen how rapidly the prairies and openings of the south were converted into wheat fields and how the product increased with the area of cultivation. While the lumbering business proceeded with less regularity, there were times when the onslaughts upon the forests of the north were fierce and relentless, so that the value of the product ultimately came to be far in excess of the value of Wisconsin's wheat. Proceeding by decades, the census of 1850 assigned to the lumber
A NORTHERN WISCONSIN SAWMILL

DELIVERING HAY TO THE LUMBER CAMPS
From Henry's Northern Wisconsin
output a value of $1,218,506, while the next census showed $4,377,880. That was far less than the value of the golden wheat crop of 1860, but lumbering did not get under full headway until the years following the Civil War, when the transformation of the great plains from a huge buffalo range into a million farms, all rendered accessible through an unprecedented development of railways, created an unlimited market for pine lumber. In 1870 Wisconsin made lumber to the value of $15,130,719, which became $17,952,347 in 1880. Then we get the enormous leap to $60,966,444 in 1890, which is the culminating point in the lumber industry in this state. Thereafter it declined, as wheat raising had decreased a score of years earlier.

By the time lumbering began to wane in importance almost every portion of northern Wisconsin had been tested agriculturally, and the more accessible areas already supported a rural population of half a million or more. The grouping of the settlements was determined by a variety of factors. The first was proximity to the pineries, where were camps, mills, and mill towns that created an initial demand for agricultural produce at prices fully equal to what southern Wisconsin products brought in Chicago. This was the usual incentive for beginning the settlements. Secondly, the lumber output of the pineries induced the building of railway lines connecting the lumbering centers with one another and with the lake ports, and these railways in turn supplied the transportation facilities which enabled the farming interest to free itself from dependence upon the pineries’ market, which was quickly glutted, and to expand as the environment presented opportunity. Opportunity, in any given region, was determined by the character of the land, its soil, timber, the water supply, and such other considerations as affected the choice of lands in the older districts.

The fairest opportunity for a large agricultural development in regions pioneered by the lumbermen came first in those counties near Fox River and Green Bay where the
Fox River Canal, opened in 1851, guaranteed transportation for whatever produce could not be taken at the mills and camps. A line drawn from Green Bay due west to Stevens Point on the Wisconsin formed approximately the northern limit of that area, which occupied somewhat less territory than was contained in the Menominee cession of October 18, 1848. Because of difficulties over the removal of the Indians, the lands were not surveyed till the years 1851 to 1855, but in advance of the surveys hundreds of squatters made claims within the newly created counties of Waushara, Waupaca, and Outagamie, as well as in Marquette County and the later Green Lake. With the progress of the survey a rush of settlement set in which quickly occupied most of the open lands, and gave to the five counties named an aggregate population by 1860 of 48,000. In addition, the counties of Adams and Portage had a combined population of 17,250, making a grand total for the region mainly included in the Menominee cession of 65,250,² or nearly one-twelfth of the state’s population at that census.

Lumbering on the Chippewa and other streams entering the Mississippi has a history which is no less interesting than that of the Wisconsin and Wolf River areas. But, like the story just related, its significance in the present connection lies in the influence which it exerted upon the agricultural settlement of the then northwestern sections of the state. The Indian title to all that region had been extinguished by treaty as early as 1837, though many Indians remained for a number of years to hunt through its great forests. United States surveyors began their work north and west of the Wisconsin in the year 1840. East of that river and north of the Fox, negotiations with the Indian claimants delayed operations some years longer, as stated above, but by 1856 the survey extended, solidly, to the new base line which had been established at the distance of six miles north of the forty-fifth par-

² The county of Portage (see map, p. 138) is included in the New North. Yet, its early settlement was essentially a part of the general movement into the Menominee cession.
LUMBERING AND FARMING

...allel. Along St. Croix River on the western boundary of the state several townships had been laid off as high up as the junction with that stream of Clam River, and along the Menominee on the eastern state boundary township lines were established to the Big Quinisee Falls. In the Mississippi drainage basin the survey included the whole of Black River valley, the Trempealeau and the Buffalo, also the lower courses of the Chippewa, the Red Cedar, and the St. Croix.

On all those streams the lumber business had attained large proportions and was giving rise to cities, of which La Crosse, just below the junction of Black River with the Mississippi, was the chief. Meantime, lands located in the flood plains of these and other rivers, prairies in the vicinity of the great pineries or of the centers of milling and rafting, oak openings and other lightly wooded lands equally well located and possessing good soil were being actively taken up by immigrant farmers. Transportation, as in the Menominee cession, was the determining factor in agricultural development as soon as the settlements produced a surplus above what the lumber business could absorb. To a certain extent, the Mississippi served as an outlet for grain as well as lumber, but the obstacles to its general use, already mentioned, made the building of railroads to the lake ports the chief guarantee of a permanent market for farm products. The building of the Milwaukee and Mississippi Railway provided an outlet to the lake for the whole area. The completion almost at the same time of the La Crosse Railway gave a powerful impulse to agriculture in the counties crossed by that line, as well as in those lying north of La Crosse on the Mississippi; for it was well

— See map of Wisconsin, by Silas Chapman, 1856.

— The Kickapoo, which enters the Wisconsin far down toward the mouth of that river but which taps a beautiful pinery in Monroe and Vernon counties, may well be associated with the Mississippi lumbering streams.

— The Milwaukee Board of Trade estimated the lumber product of 1860 at 800,000,000 feet, distributed as follows: Green Bay and west shore of Lake Michigan, 375,000,000; Wolf River pineries, 100,000,000; Mississippi and tributaries (including Wisconsin River), 325,000,000. A good brief account of lumbering in Wisconsin is in Frederick Merk, Economic History.

— See p. 41.
understood that extensions reaching as far northwest as St. Paul would not be long delayed.

The results were reflected in the census of 1860, which assigned to the counties fronting on the Mississippi from Bad Ax (now Vernon) to St. Croix a combined population of 42,000, to which should be added 20,000 from the 2 counties of Monroe and Juneau. The other counties in this region that had considerable populations were Dunn, Eau Claire, Chippewa, and Jackson, all served by navigable streams possessing apparently good transportation facilities.  

To sum up: That portion of the state which on our map we designate the Old North, consisting of 16 counties, showed in 1860 an aggregate population of 122,327, or a trifle less than one-sixth of the total for the whole state. On the other hand, the vast, imperial domain, in area more than one-half of the state, which we call the New North, had at that time less than 31,000. Most of those latter, no doubt, were connected in one way or another with the lumbering business. That the Old North was already mainly agricultural is revealed by the size of the population total, by the statistics of agricultural production, and by contemporary descriptions of various counties. The bumper wheat crop of 1860, amounting to 27,000,000 bushels, was appreciably indebted to the fresh fertility of the northern counties. The largest gross yield that year was from Dane County, 3,000,000 bushels, and the second best, 2,229,000, was from Dodge. None of the northern counties could present records like these. Nevertheless, Green Lake produced 853,700, Marquette 171,000, Waupaca 170,000, Waushara 180,000, Outagamie 146,600, and Adams 191,500. This made an aggregate for the 6 counties east of the river of 1,712,800 bushels. In the western counties Juneau had 187,780, Monroe 196,000, La Crosse 297,670, Trempealeau 105,000, Buffalo 44,600, Pepin 44,000, Pierce 174,560, and St. Croix 148,280, making an aggregate of 1,197,890. Adding 1,049,400 for Door County, which with Kewaunee (possibly

7 The last four counties might, with almost equal propriety, be included either in the Old North or in the New North.
included in this total\(^8\) we credit to the Old North, the grand total for the region as a whole becomes nearly 4,000,000, or more than one-seventh of the state’s crop.

Such a record marks a good beginning in agriculture. But, as already stated,\(^9\) these northern counties were destined quickly to attain a leading place among the wheat producing sections of the state. With St. Croix County standing first in per capita production of wheat in 1869 and again in 1879, Buffalo first in 1889 and 1899, all doubts as to the agricultural character of that portion of northern Wisconsin may be set at rest. Eight of the northern counties in 1869 have places in the list of the first 14 wheat counties on the basis of per capita production, and a similar result appears from the tables representing production per square mile of improved land and degree of specialization.\(^10\)

In 1870 these 16 counties were credited with a population of 203,518. All but 4 had above 10,000 each, and 4 of those had 15,000 and over. While most of the counties of the older south were more populous, this area was nevertheless so fully settled, and so well developed agriculturally, that we can properly regard it from this time as an extension of southern Wisconsin. The region already participated in all movements for the improvement of agriculture, such as diversification, livestock improvement, and dairying. In the years following 1870 the people of those counties contributed heavily to the new agriculture of the state and developed among themselves certain specialties, among which cranberry culture and potato farming were perhaps the chief.

Meantime, the 29 counties set off from the rest under the name of the New North (Fig. 16) still contrasted strongly with the new and enlarged south. With agriculture advancing in restricted areas, this was still mainly a region of forests, of which as yet only the pineries were interesting to the lumber-

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\(^8\) There are no separate figures for Kewaunee County. Wis. State Agric. Soc., Trans., 1860, table p. 52–53.

\(^9\) See p. 95.

\(^10\) See tables in John G. Thompson, Wheat Raising in Wisconsin, Appendix.
men. Enormous areas covered with finest hardwoods waited for their lumbering exploitation upon the exhaustion of the pine forests, and for their agricultural development upon the disappearance of the supply of fertile prairie lands in states farther west. Into these states Wisconsin was pouring her surplus population in generous measure, so that by 1890 nearly a quarter of a million natives of Wisconsin were found by the census takers living outside of her borders. Minnesota, for example, had absorbed 59,000, and Iowa 42,000. South Dakota, North Dakota, Nebraska, and Kansas had taken an aggregate of 78,000, while the mountain states and the Pacific coast had made smaller drafts upon us.

At that date the aggregate population of the 29 northern counties was only 361,500, and inasmuch as fully one-third of that number were foreign born it is doubtful if more than a third of the total consisted of natives of Wisconsin. This shows that the people had been spurning the lands of their own state lying in the wooded northern counties, while they contended eagerly with throngs of immigrants from every state in the union for a portion of those government lands which called for no grubbing, whether those lands lay 100, 500, or even 1000 miles farther from the general market. It was the age of prairie farming. The mind of the American farmer was set against the drudgery of land clearing, and he would not come back to it except under a kind of economic compulsion. The census of 1890, which notes the passing of the frontier, established a convenient base from which to compute the pressure of that land shortage which gradually brought the vast and fertile areas of northern Wisconsin into requisition for general farming.

The lumbering business on a white pine basis has long since passed into the phase known as "cleaning up," which means that mills have been disappearing from section after section. To a considerable extent, lumbermen of Wisconsin secured holdings in the South and in the Pacific Northwest in anticipation of the exhaustion of the Wisconsin pine forests, and
many have dismantled their works in this state only to reestablish them elsewhere. Others have entered the hardwood fields or, with modified plant, have undertaken various lines of manufacturing in which timber and lumber are the standard raw materials. The business centers, some of them cities of considerable note, which were created during the lumbering régime have always struggled to maintain themselves when lumbering declined, and one way to do this was to promote lines of manufacturing based upon lumber.

Another method which was peculiarly available to most of the northern Wisconsin towns was to promote the settling up by farmers of the neighboring cut-over pine lands, the burned tracts, and the lands covered with hardwoods. In 1895 the state legislature passed an act creating a State Board of Immigration, with a secretary whose office was at Rhinelander in Oneida County. Money was also appropriated for the publication of a handbook to be prepared under the direction of Professor William A. Henry, dean of the College of Agriculture, State University of Wisconsin. During the summer and fall of 1895 Professors Henry, King, and Goff spent much of their time in the north making careful examinations of the several districts with reference to their soils, the kinds of crops adapted to soil and climate, the possibilities of livestock production, dairying, sheep raising, fruit growing, etc. They made a fairly complete general agricultural survey of the northern part of the state, taking as their starting point a line drawn from Green Bay to Hudson on St. Croix River. The material arranged by Professor Henry was published in 1896 in a book containing nearly 200 pages and fully illustrated with cuts made from photographs taken in the course of the survey. It was called Northern Wisconsin, A Handbook for the Home Seeker, and is without question the most valuable single source of information in regard to northern Wisconsin at that time. It was distributed by means of the State Board of Immigration and also through immigration bureaus established in 39 northern counties, including all of the 29 which we have called the New North.
Professor Henry found agriculture well advanced at some points along his dividing line drawn from Green Bay to Hudson. But at other points, especially in portions of Clark and Wood counties, conditions were still decidedly primitive "owing to the heavy hardwood forests which once entirely covered those sections." The same cause, a heavy covering of hardwoods, delayed the settlement of other great areas, as for example the huge belt of territory extending north from Portage and Waupaca counties and including large portions of Shawano, Marinette, Langlade, Forest, Oneida, and Florence counties. There were other large tracts covered with hardwoods, but since the hardwood timber was coming into demand and mills for its manufacture were springing up in many localities, settlers on those lands frequently found ready sale for their timber at prices which often left a profit after clearing the land.

Accordingly, Professor Henry did not hesitate to recommend the hardwood lands to settlers who were willing for some years to combine woods work with farming. Many of those lands, in fact, were taken up for homes by men who began as woodsmen, working for mill companies. As landowners they continued to fell trees and get out logs for the mill, but they now sold logs rather than day's labor, and every tree that crashed to the ground let in more sunlight to warm the soil and get it ready to produce crops. Thousands of sturdy Northmen, many Germans, and other foreigners, and some native Americans changed their condition in this way from hired laborers to independent owners of valuable farms.

Large tracts of forest, both pine and hardwood, from time to time had been burned over. Such a burned area was in appearance most forbidding. It showed gaunt, ghostly looking dead pines still erect, giant trunks burned off at the base and in falling arrested by other dead but standing timber,

12 Hardwood timber, which could not be floated on the streams like pine, waited for its exploitation and marketing upon the construction of railroads into the hardwood areas.
half-buried logs overgrown and hidden by underbrush or by
groves of saplings; in short, timber living and dead inextric-
ably intermingled and nearly all worthless. Such a tract, in
such condition, was costly to clear and brought little or no
return for the wood taken off. Sometimes, however, a "dou-
ble burn" occurred. That is, a burned-over forest such as we
have just described would burn under a strong wind a second
time. Now the dry dead timber served the purpose of helping
to consume the green, stumps and all, leaving the land after
the fire had passed practically clear so that much of it could
be gotten ready for the plow at a nominal expense of about
$1.00 per acre.

Such land was the next thing to prairie. In fact, it prob-
ably was prairie in the making. Those who took it for farms
were hardly in worse case, as regards the labor of clearing,
than the immigrants to North Dakota or western Nebraska,
while on the double-burned lands of Wisconsin they were sure
of firewood, sure of rainfall, sure of crops, and sure of a mar-
ket for their products. This explains the popularity of such
lands and the rapidity with which they settled up, once nor-
thern Wisconsin began to be looked upon as a farming country.13

Last of the three great classes of timbered lands to be taken
for farming was the cut-over pine lands, covered with pine
stumps. In certain sections, it is true, pine grew on light,
sandy, bowlder-strewn or gravelly soils, which were of little
value for farming. But in general the soil of the pine lands
was quite as good as that covered with hardwoods, the prevail-
ing belief to the contrary being largely a prejudice brought by
Wisconsin people from the East. One reason why settlers
thought lightly of these cut-over lands was that the lumber
companies thought too little of them to retain title after the
timber was gone, allowing them to be sold by the county for
taxes.14

13 The great fire of 1871 practically cleared most of Door County, together with
portions of Brown and Kewaunee. Other great forest fires also have an historical
relation to the settlement of large tracts.
14 Later, land companies began to pay up the taxes on such lands and to
receive from the counties certificates of tax payments known as "tax-titles." These
titles they gave to homeseekers who bought of them.
A PARTLY CLEARED FARM ON CUT-OVER LANDS

From Henry's *Northern Wisconsin*

A MARATHON COUNTY FARM—NOTE OAT FIELD

From Henry's *Northern Wisconsin*
A HARDWOOD FOREST IN FLORENCE COUNTY
From Henry’s *Northern Wisconsin*

A NEW HOME IN THE NORTH
From Henry’s *Northern Wisconsin*
Pine stumps will last nearly a hundred years, whereas the usual hardwoods rot out entirely within less than one-fifth of that time. There was no encouragement to take cut-over pine lands and wait for the stumps to rot away. However, it was found that after a few years their earth gripping rootlets decayed, making it much easier to lift or blow the stumps out of the ground. Stump pullers operating on the lifting plan have been used with considerable success. However, experiments by the College of Agriculture and by individuals have finally demonstrated the economy of using dynamite for clearing such land, and they have also shown what grade of explosive should be used for best results. The expense depends on the size and number of stumps per acre, also on the length of time during which their rootlets have been decaying. There is stump land which would cost $100 per acre to clear, though much of it would cost less than half that amount. Of course, at the higher figure men can afford to stump only the best of the pine lands.

The soils of northern Wisconsin were grouped by Professor Henry under seven classes—sandy soil, sandy loam, prairie loam, clayey loam, loamy clay, heavy red clay, and swamp or humus soil. The greatest body of sandy soil is found in Monroe, Jackson, Adams, Juneau, Wood, and Portage counties—the great triangle in the Driftless Area covered with weathered sandstone soil unmixed with glacial material.\(^{15}\) The lightest of these sandy soils requires irrigation for successful cropping. But not all sandy soils are equally light. Loamy sand is usually excellent, easy to clear, easy to work, warm, and responsive. With careful farming, to restore fertility as fast as crops consume it, such lands make excellent farms for certain crops, for sheep and other stock, though they are not of first quality for dairying because they produce grass too gingerly.

The sandy loam type he found much more widely distributed over the north than the sandy soil. It covers most of the

\(^{12}\) See p. 8.
glaciated portions of the state which are underlain by the upper Cambrian sandstone, the soil being a mixture of the materials brought from the north and spread over the surface by the glacier and the weathered sand from the Cambrian foundation. The greater part of Waupaca, Waushara, Marquette, portions of Monroe, Jackson, La Crosse, Trempealeau, most of Eau Claire and Dunn, and part of Chippewa County are covered with the sandy loam soil. Buffalo, Pierce, Pepin, St. Croix, and Polk have mostly clayey loam. Outagamie has heavy red clay and clayey loam.

In the great area of the crystalline rock formation the soil is mostly a clayey loam except in the valley and about the headwaters of Wisconsin River, where are sandy soils, sandy loams, with swamp or humus about the hundreds of lakes and marshes. Light soils also cover a strip from Menominee River to Green Bay, while Brown, Kewaunee, and Door counties have mostly red clay, clayey loam, and loamy clay. The Lake Superior slope also has the heavy red clay—a strong, enduring soil, somewhat stiff to work but which was found to be greatly benefited by thorough underdraining. The ridges between the rivers flowing to Lake Superior and those flowing south contain a good deal of light, sandy, and stony soil not very valuable for farming. The working of the iron and copper deposits in that region is one of the causes, in addition to lumbering, that has built up Lake Superior cities, which in their turn have stimulated the development of farming to supply the market for all manner of farm products.

When Henry's survey took place, in 1895, only the beginnings of agriculture had been made along Lake Superior. The quarter-century which has passed since then has witnessed a great transformation, as the census of 1920 showed. The county of Douglas was credited with almost 50,000 population. Of these the city of Superior had 39,671, leaving slightly more than 10,000 to be distributed over the rest of the county, mostly on farms though there are several villages aggregating

16 See map, p. 4.
upwards of 1000. Bayfield County had an aggregate population of 17,201, about 5300 of whom lived in villages, the balance on farms; while Ashland County, with an aggregate of 24,538, had approximately 8000 living on farms, and Iron County had 5000.

Regarding the 29 counties of the New North as a single region, we find that the population in 1920 aggregated 702,974, a gain in thirty years of 341,368. A part of that gain was in the cities, for it is still true, as it was in 1895, that the cities of the north are in advance of the country. But growth in recent years has been relatively more marked in the rural neighborhoods than in the towns. In twenty years the rural population increased 140,000, while the urban increased 45,000. In fact, northern Wisconsin was the only part of the state in which during the twenty years prior to the census of 1920 rural population had been increasing at all. Everywhere else it was stationary or even on the decline. In the north, with large bodies of good land still out of cultivation, a continuous, sometimes a rapid, influx of agricultural immigrants took place.

These immigrants were of all types, but the table of nativities, extracted from the last census and printed herewith, shows that a very large proportion were Scandinavians, including Norwegians, Danes, Swedes, and Finns. These four classes taken together made 43,707 of the total, the Norwegians being most numerous (19,311), the Swedes coming next (15,881), the Finns third (5744), and the Danes last (2771). Of Germans there were 31,691, of Poles 13,740, and of Canadians 10,760. Other nationalities, as will be seen from the table, were negligible.

Those who have accustomed themselves to think of northern Wisconsin as a vast, undeveloped wood land, and have failed both to keep up with statistics of growth or to view the country at first hand, will be quite unprepared to appreciate the results of agricultural history in that region. It is startling to be told that Marathon County has a larger rural population
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<th>County</th>
<th>Total</th>
<th>Belgium</th>
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than has Dane County, yet such is the testimony of the cen-
sus, which also shows that Marathon has the largest rural population of all the 71 counties in Wisconsin, 46,598, Dane standing second with 45,953. There are in the northern group 3 other counties with 30,000 or more rural inhabitants—namely, Barron, Clark, and Shawano; while 7 others—Chippewa, Dunn, Marinette, Oconto, Polk, Portage, and Wood—have 20,000 or over. Only 5 of the 29 counties—Florence, Iron, Oneida, Sawyer, and Vilas—have less than 10,000 rural inhabitants.

The record of agricultural progress in the several districts and counties of northern Wisconsin cannot be treated in de-
tail. The *Transactions* of the Northern Wisconsin Agricul-
tural Society, 1872 to 1887, throw a good deal of light on what the people were doing to promote better farming, particu-
larly in the border counties between the north and the south. The headquarters of that society were at Oshkosh, and the annual fair was held at that place. Membership was not confined to the northern counties, and those north of Dane, Jefferson, and Milwaukee participated largely.

In one aspect the section we have called the New North presents today many of the contrasts which were to be ob-
served in the older Wisconsin of the south and southeast in 1850. In the region are some of the finest farms in the state, with modern buildings, the best improved or purebred stock, and well tilled fields growing splendid crops of hay, grain, and silage corn. On such farms the old log house of pioneer days is often standing alongside of the new dwelling supplied with every convenience, including running water, plumbing, bath-
room, and lighting. On the other hand, this is the region where the mud-daubed log house and the temporary board shack are still in use as homes of families. Northern Wis-
consin is still a land of promise to the pioneer, and new homes are rising daily in the hardwoods and among the decaying pine stumps. It is a land of rural contrasts in other respects as well as in the homes and the farms. There are districts having
the one-room log schoolhouses characteristic of the primitive
days all over the older West. Yet, no section of the state has
made greater progress in establishing the consolidated type
of rural school, with thoroughly equipped school building,
graded course of study, library, and high school facilities,
which with well trained teachers is the true solution of the
educational problems of rural communities.

Northern Wisconsin is a land abounding in wild game and
in streams and lakes teeming with fish. These allurements,
coupled with its remaining forests, its diversified scenery, and
temperate summer climate, have made it one of the summer
playgrounds for tourists from southern Wisconsin and most
of the Mississippi Valley states. Good roads and the automo-
bile have played a decisive part in developing the tourist
trade, which is a unique feature of life in the region. It is
comparable to nothing in the experiences of the older Wiscon-
sin communities, and its social as well as economic influence
will be watched with deep interest.