

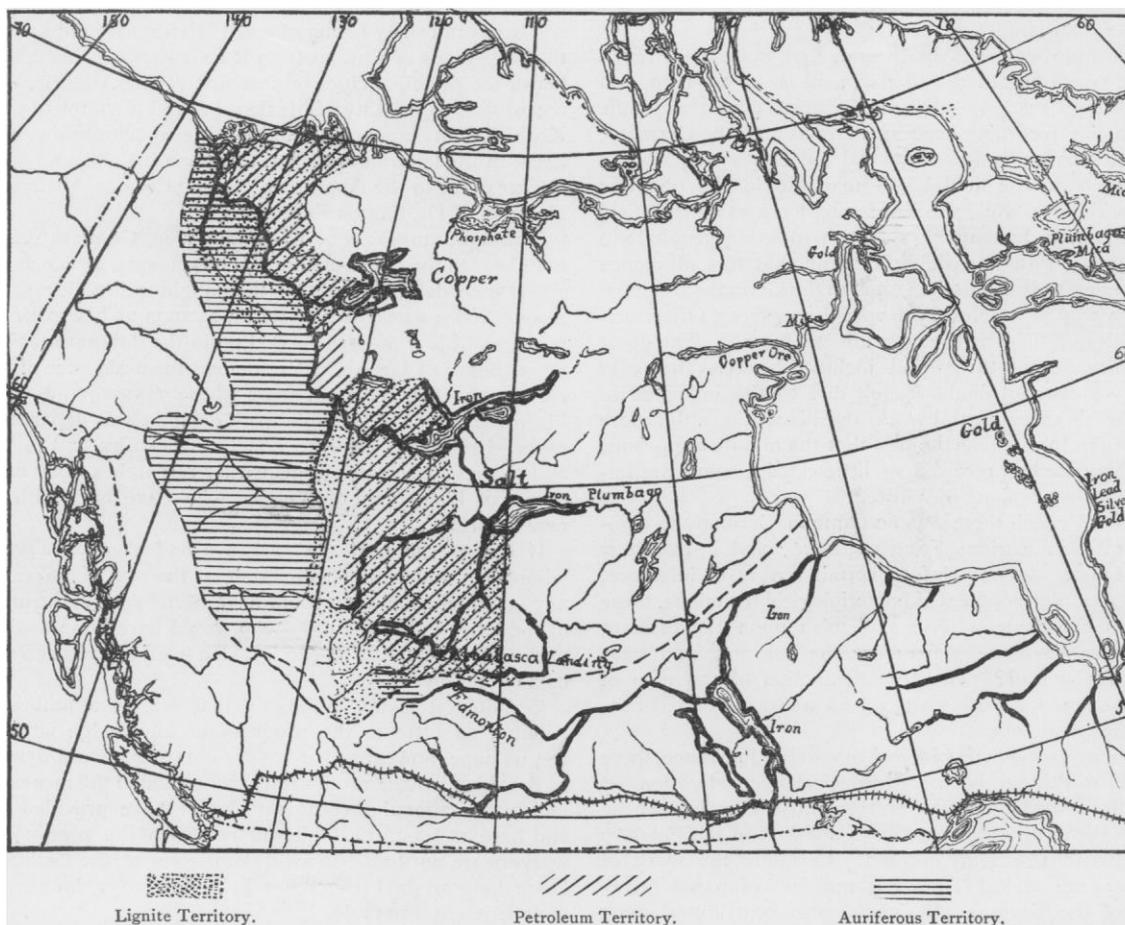
## THE GREAT MACKENZIE BASIN.

THE select committee of the Senate of the Dominion of Canada, appointed to inquire into the resources of the Mackenzie basin, has made its third report, which embodies a vast amount of information. The report is accompanied by a series of valuable maps, on which the extent of navigable waters and the distribution of mineral and other products of the country have been laid down. From these maps we have compiled the accompanying sketch-maps, which give a comprehensive review of the results of the committee's investigations.

One of the remarkable features of the country under consideration is the great extent of navigable rivers. The Hudson Bay Company has always availed itself of this fact by using the water-ways, even when circuitous and difficult, rather than resort to land-car-

The great value of the fur trade in this vast region is so well known that it is not necessary to dwell on the remarks of the committee. Dr. R. Bell's map of the distribution of fur-bearing animals, which accompanies the report, will be found very instructive.

Extensive tracts of land have been traversed by miners, and the southern and eastern districts have in part been explored by members of the Geological Survey. From these and other sources an account of the economic sources of the Mackenzie region has been compiled, from which it appears that there are hardly any layers that would pay to be worked, the auriferous region adjoining the Rocky Mountains perhaps excepted. The extensive petroleum fields which are suspected to exist all along the Mackenzie may become of importance with the progressive settlement of Saskatchewan and Alberta. The committee is inclined to consider this oil-



The heavy lines show the navigable river-stretches and shore lines of lakes.

riage; and their inland posts, to as far north as the Arctic Circle, are now supplied from their central depot at Fort Garry, with only 114 miles of land-carriage, the greater part of which is from Edmonton to Athabasca Landing. From the latter place steamers and flat boats run to Fort Smith, on the Great Slave River, where twenty miles of wagon-road connect the shallow with deep water navigation; and a steamer distributes goods to the various posts down to the mouth of the Mackenzie, just above its estuary, where the river is said to be six miles wide, and up Peel River, which joins the Mackenzie near that point, to Fort Macpherson, on that gold-bearing stream. The great lakes which receive the drainage of this vast region, and give an equal flow to the Mackenzie, all have deep-water navigation, and, like most lakes of the Laurentian formation, are studded with islands. The western affluents of the Mackenzie are believed to form valuable links as a means of access to the mining districts of Peace and Liard Rivers. We have indicated by heavy lines those stretches of rivers which are considered navigable.

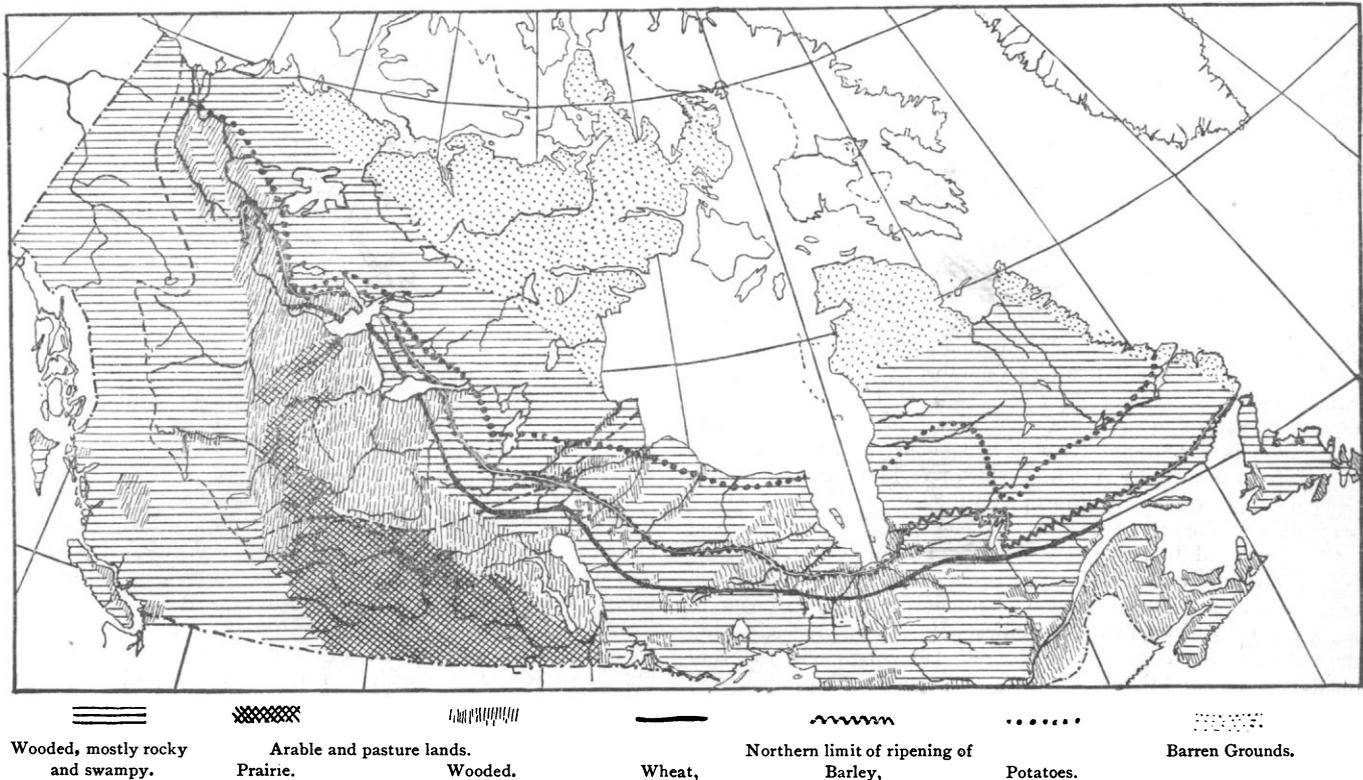
field of the greatest value, and recommends its thorough exploration.

The principal question, however, is the extent to which agriculture can be carried on in the region under consideration. From a geographical point of view, the determination of the limits of the Barren Grounds is of great interest. For agricultural or pastoral purposes the greater portion of the wooded parts of the country is also waste land, the timber being of no commercial value, and the land being incapable of yielding any crops or of supporting sheep or cattle. Although many of the informants of the committee were inclined to describe the northern portions of the country too favorably, good judgment has been shown in not using such information in the construction of the map. It will be observed that the prairie region sends forth a narrow arm north-westward towards Peace River. The soil of this region is described as very fertile, but early frosts in August deprive it of much of its value. Notwithstanding this fact, it must be considered well adapted for stock-raising, and capable of supporting a considerable population. As the settle-

ment of the fertile prairie region on the Saskatchewan advances, these regions and their produce will become more valuable. It is worth remarking in this place, that the region near the southern limit of forests is far more valuable than the arid prairies near the forty-ninth parallel, adjoining Dakota and Montana, which are crossed by the Pacific Railroad. The political considerations which have determined the southern location of this road will undoubtedly prove to have retarded the growth of the Canadian North-West Territories. The information regarding the forest-covered area on the Mackenzie River, north of Great Slave Lake, is very scanty, and it appears doubtful whether the committee's views regarding its value as a pastoral area are justified.

On the whole, it appears that the south-western portions of the Mackenzie basin are far more productive than they were formerly believed to be, and that they are capable of supporting a consider-

pancy as that to which we refer, impossible any longer, for it brings within the reach of every teacher and student in the land a scientific and practical and modern treatment of the subject of memory and its cultivation. Professor Harris, the editor of the series, prefaces Mr. Kay's book with an interesting introduction, in which he sums up the result of the author's discussion. He says, for example, "Memory is not one faculty, so to speak, but a condition of activity of all faculties. There is one memory of places, another memory of the names of places; one memory of persons, another memory of the names of persons; still another memory of dates; another of principles and causes; and so on. The cultivation of one species of memory may assist or it may hinder another kind of memory, according as the mental activity by which the attention is fixed on one subject aids or hinders the mental activity of the other kind of memory" (p. vi.). We are disposed to think that Profes-



able population. The country is far from being rich, and, while more promising areas are open to settlement, progress will be slow; but there can be no doubt that in course of time its prairies, woods, and mineral resources will give support to thrifty communities.

BOOK-REVIEWS.

*Memory: What it is, and how to improve it.* By DAVID KAY. New York, Appleton. 16°.

THIS volume, the eighth in the International Education Series, is in some respects the most important and interesting yet issued. We by no means underrate the value of Rosenkranz's 'Philosophy of Education,' nor that of Mr. Brown's translation of Preyer's 'Die Seele des Kindes;' for those works are broadening and stimulating, and should be read by all those teachers who are seeking to perfect themselves in the philosophy of their profession and to extend their knowledge of the phenomena of the child-mind. But Mr. Kay, in his treatment of memory, has had an opportunity to discuss, in the light of modern physiological and psychological research, a subject about which there has been a vast amount of almost willful misunderstanding and ignorance. The commanding place which verbal memory occupies in the schools of to-day is a relic of the system of teaching current for the last five hundred years, and is the result of permitting educational practice to lag far behind psychological investigation. Mr. Kay's book makes such a discre-

tor Harris does Mr. Kay an injustice in stating (p. xiii.) that Mr. Kay has not discussed the physiological side of memory with reference to the most recent special researches in physiological psychology. To be sure, we find no reference to Wundt, Volkman, James Ward, Ebbinghaus, Fechner, or Meynert; but Ribot is quoted and referred to with great frequency, and we have also noticed quotations from Michael Foster, Dr. Carpenter, Dr. Maudsley, George Henry Lewes, Bernstein, E. Hering, Müller, Dr. L. S. Beale, Helmholtz, Du Bois-Reymond, and others, who are certainly in touch with the most modern theories in the branch of knowledge referred to. In fact, so far are we from agreeing with Professor Harris, that we are disposed to think that the first four chapters of Kay's book, which discuss 'Memory,' 'Matter and Mind,' 'The Body,' and 'The Senses,' form the most accurate and concise introduction to the study of physiological psychology that we have yet seen.

Every reader will be struck with the number of the author's citations. They are more than one thousand in number, and are taken from over two hundred authors. They in themselves would form an interesting *olla podrida* of what has been said and written about the subject with which the book deals. The author strikes at the current misconception of memory in the first pages of his book, and remarks (p. 13) that "a leading error that arises in regarding the memory as a single faculty is the belief, that, in whatever direction we exercise it, we improve it as a whole. This, however, is very far from being the case. If we exercise it only in one direction, we