

geologist in America is generally obliged to take topographical observations; he was in every way a competent guide over wide regions whose geographical features had been recognized by him with great clearness. Moreover, his personal amiability and constant approachableness helped to make our long journey one in every way enjoyable. With him too was Dr. Coleman, Professor of Geology in Toronto, and State Geologist of the Province of Ontario, who likewise knows great stretches of our route by personal explorations. The C.P.R. assisted us by many favours and placed at our disposal a large sleeping car in which we lived the next nine days. There were twenty-seven of us. Among them I may name the former director of the Geological Survey of India, Dr. Blandford; Mr. Lamplough, of the Geological Survey in Great Britain; the mineralogist, Prof. Miers of Oxford; the Professor of Mining and Mining Inspector, Le Neve Foster; the explorer of Kafiristan, Sir George Robertson; and the explorer of the Amoor territory, Prince Kropotkin; further, the secretaries of the Geographical Societies of London and Edinburgh, Dr. Scott Keltie, and Colonel Bailey, the librarian of the London society; Dr. H.R. Mill, the Professor of Geography of Harvard University; Dr. W. M. Davis, the director of the Museum of Natural History in Manchester; Dr. Hoyle; Prof. Armstrong, the chemist; and the technicists, Prof. Beare and Dr. Harden of London; as well as the Breslau physiologist, Prof. Hurtle. Our two leaders and guides were assisted by the Canadian geologists who were working in the district. Mr. A. E. Barlow was awaiting us at Sudbury, and Mr. McInnes joined us on the road to Rat Portage. Finally in Banff we met with Prof. Macoun, the botanist of the Geological Survey. We had thus every opportunity of being shown a very great deal in a very short time. While our company was not of one profession, we were one in the eager desire for knowledge. The wives and daughters of some of the members accompanied us, and took a friendly interest in the magnificent landscapes and broad, scientific impressions which we enjoyed.

We first went north in order to reach the line of the C.P.R. The richly cultivated land on the north shore of Lake Ontario was soon left behind, and we entered the immense primeval forest which extends from the great lakes northward to Hudson's Bay. The boundary between the horizontal beds of the Silurian formation and their subjacent strata, the primeval Laurentian and Huronian rocks, has offered a barrier to the extensive progress of clearing, and will to all appearance continue to do so. The Laurentian land has been smoothed off by the glaciers of the ice age, stretches of bare rock appear in smooth, humped barrows, the hollows between filled with loose debris and boulders. This rock, however, does not produce a fruitful soil like the Silurian slates and limestones; it weathers very slowly, and since the ice age it has scarcely formed a humus. Besides the climate is very severe. The same conditions prevail as in Sweden and Finland, of which countries we are also reminded by the character of the extensive Laurentian forest. Rounded mountains of moderate height rise irregularly. Only here and there where they meet with specially hard rock do they take the form of ridges. Between stretch marshy plains or lakes full of islands, the only natural interruptions of the gigantic forest in which we travelled nearly 48 hours, almost 2000 kilometers.

A visit to a couple of mining districts on August 28th and 30th made a break in our long journey. At Sudbury, the point where the "Soo" line branches from the C.P.R. to Minneapolis, there is a rich deposit of iron pyrites on the boundary between the Huronian and Laurentian rocks. Along with the iron it contains copper and especially nickel, and is at present being worked with great energy. In the neighbourhood anthracite has lately been found in peculiar old slate deposits, upon which discovery the people of Sudbury are basing hopes that are probably too high. We were pressed by our amiable hosts to go there. An engine drew our sleeper some kilometers on, a stop was made on the line, and having taken to some rather rough wagons without springs, we continued our way to Vermilion Creek. Here we were divided up among a number of Indian canoes and heavy boats in order to row to Vermilion Lake. All the poetry of the Leatherstocking Tales at once came vividly back to mind as I was gliding forward upon the peaceful, mirror-like water between the trees of the primeval forest. Then our way led on by a narrow Indian path, a so-called trail into the lofty forest, now clambering over fallen tree trunks, now scrambling through them till we reached the spot in the middle of the woods where they were in the act of sinking a shaft. There