The Iron Hunter
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CHAPTER 21

DEPOSITS OF IRON ORE AND BEDS OF COAL
UNDER THE SHADOW OF THE POLE

Crossing the Arctic Circle anywhere the route on north is a bleak one in the winter. Snow fields, bare, cold, gaunt, rocky ridges, almost no sign of vegetation or animal life, make a region that would repel anything almost but selfish or needful men. Infrequently I saw Lapp winter camps. It is a lonesome world. All visitors to the far north notice the oppressive stillness: “the muffled footfalls of silence,” as quiet as a noise too great to hear.

The Kirunavaara-Luosavaara iron ore fields contain the most extensive deposits of magnetite known in the world. It may be that they possess a greater tonnage than any, even more than the Mesaba of Minnesota, or the Itabira, of Minas Geraes, Brazil. They are located in the northwest part of Swedish Lapland, well within the Arctic Circle, and not far from the boundary between Norway and Sweden.

The region had not been thoroughly explored when I visited it in the last decade of eighteen hundred, but enough was known to warrant expensive measures to get the ore into the markets of the world. Since the first attack upon it, much more has been learned, until there remains no doubt that there is a most remarkable tonnage. The ore is a magnetite. It runs as high as sixty-nine per cent. in metallic iron. I was assured that cargoes averaging as high as that could be shipped.

Some of it is low enough in phosphorus to make it a Bessemer ore, which process is impossible to ore containing more than one-thousandth of one per cent. of phosphorus to one per cent. of metallic iron, unless, of course, that ore higher than that in phosphorus is mixed with an ore much lower in phosphorus.
Sulphur in the Kirunavaara ore varies. The percentage is always rather high, but not enough to be prohibitive of treatment. The most objectionable ingredient of the ore is titanium, which is present to as great a degree as one per cent.

It was generally considered among metallurgists that so much titanium as that rendered ore unfit for use and valueless. They had as yet discovered no way to flux titaniferous ore. It would become sticky and mushy and would not flow freely.

Inability to handle such ore, because of lack of knowledge, caused a condemnatory report to be made upon the titaniferous iron ore range north of Port Arthur in Canada, that has kept that region undeveloped to this day. It nearly operated in the same way with the Kirunavaara field.

Now methods are employed that do away with the objections to the presence of titanium up to one per cent. or even in greater quantities.

At the time of my visit the Kirunavaara range had been traced for sixty miles. Where the railroad touched the range and the first mining was begun, practically an uninterrupted outcrop of iron ore extended for more than five miles. Some places it was seven hundred feet above the surface. At one point it dipped under a small lake and had been cut with a diamond drill operated upon the ice. Even with the lower wages prevailing, the cost of getting out the ore was greater than upon any of the American ranges. Coal was a problem and I was told that a cargo of iron ore had been sent to Canada in exchange for a return cargo of coal. Since that time, John M. Longyear, of Michigan, has opened coal measures upon Spitzbergen, and the fuel question has been solved in a measure.

From Kirunavaara to the ocean at Narvik the railroad is a series of snow sheds and tunnels, requiring superior courage and engineering in construction. Narvik was just being built. The ore docks, pockets and trestles were of steel and plans for an important port had been made.

Since then, I am informed that as much as fifteen million tons have been shipped from Narvik in a year, more than half of it
going to Essen, Germany, where the great Krupp iron works are located.

At Narvik I visited the cod fisheries among the Ofoten or Lofodan Islands and formed a new aversion to that efficacious remedy cod liver oil. Also I saw the famous maelstrom, caused, as is well known, by the tidal waters choking between rocky islands. A portion of the wild ocean is forced through with roars and hisses and churning and foam. Sometimes the maelstrom reminds one of the great tidal bores that are to be seen in some of the rivers on the China coast. The twisting, charging, convulsive waters eddy and swirl, and require little imagination to look wicked and justify the demon stories told in Norse by Skald and Saga, from primitive times down to the present. They could easily have wrecked the Viking ships, which were not ships at all but only big, clumsy, mostly open boats, very similar to the little traders and fisher craft that dodge in and out along the rocky, saw-edged coast to-day.

I found good coastwise steamers and had a comfortable and pleasurable trip to Trömsoe and Hammerfest. It was not so easy to get to North Cape and over to Spitzbergen, about four hundred and fifty miles from the mainland.

West Spitzbergen area about fifteen thousand square miles; North East Land, about four thousand, and Edge Island, about two thousand five hundred square miles form the No Man’s Land group, known as Spitzbergen. They are between seventy-six and eighty-one north latitudes. West Spitzbergen is nothing more than a rock-girt ice house. A central plateau of ice forces glaciers down to the sea through giant rifts. All around the coastal belt one may hear roaring, splashing, rumbling, cracking, as the huge ends of ice rivers break off into the sea, fractured by their own ponderousness, and float off as icebergs. Tourists generally visit the west coast where a hotel has been built in connection with a weekly, in summer, steamer service.

The Dutch are credited with the discovery of Spitzbergen in 1596, but no nation claims it. If anything it is American, because an American company, led by John M. Longyear, of Michigan,
is mining and shipping coal from there. They have a shaft down through frozen material more than one thousand two hundred feet, the deepest ice shaft in the world. It is reported that these mines have recently been sold to Russia for thirty million dollars.

Many interesting fossils have been exhumed, mostly of a tropical nature, proving the polar regions once to have been warm before the tilting ice cap and precession of the equinoxes caused an axial shift. Huge palm fronds have been dug out and vast quantities of imbedded fossil coprolites have been encountered. In summer the sun glare and reflected heat on the interior ice fields is trying. Over one hundred species of autochthonous flowering plants and ferns have been classified.

Rabot and Sir Martin Conway have done some exploration, but really little is known about Spitzbergen.

By the time of my return down the Norse coast the headlands, black-bordered shore and shadowy fjords were compelling, and kept one’s senses alert and emotions stirred. I could easily see how the hardy folk were content to remain in the thralls of such environment. Every color that sky and sea could assume was present; the fjords were Rembrandtian bins of gloom with all arrangements of chiaroscuro from arrows of sunlight to pitchy dungeon depths of darkness.

Over the cliffs poured silvery streamlets fed by melting snow, making a black and white barred coast line and even suggesting troops of white horse cavalry concealed over the top of the escarpment, with only their straggling white tails hanging in view over and down.

The deep green of spear-topped tannenbaum amidst snow formed a fairy background. Altogether the scenery in April and May along the north coast of Norway is indescribably fascinating and beautiful.

Flocks of water fowl took wing, fishes broke through the water to the surface, the clumsy eider duck quacked to its nesting mate, and spring in gnomeland was in the nostrils.

On the way down the coast I found Throndjem and its ancient cathedral and hall of the Vikings worth some hours.
I worked my way inland to the famous older iron fields of Sweden, and finally arrived at Stockholm after a fine canal trip.

One must be charmed with Stockholm with its singing Mälar and its intrusive water roads, so much sweeter than those of Venice, if not quite so romantic and colorful.

In these days the Swedes give one the superficial impression of being sensualists, living only to eat and drink and unrein their passions. There was a deeper side than that in evidence at the smörgös board and the puntsch table, that told of more serious things and higher ideals.

The culture that starts at Upsala may be traced in its admirable diffusion if one takes the trouble to do so.

The Swedes are democratic, but not so much so as the Norwegians, who have no superiors as a worthy and fine people.