

argillaceous hematite, or red clay iron stone, when a heavy, hard, reddish-brown stone containing clay or sand; very abundant in St. John and Carleton counties, N.B., and in Pictou, Colchester, Annapolis, Digby and Cape Breton.

4. *Brown Hematite Ores.* Principally the mineral limonite ($2\text{Fe}_2\text{O}_3 + 3\text{H}_2\text{O}$). Powder or streak yellow or yellowish-brown. Not magnetic. Red hematite, with water in its composition, may contain over 50 per cent. metallic iron. Varieties—compact, often with shining, nodular surfaces, fibrous, etc.; yellow ochre, earthy; bog iron ore, in marshy places, generally porous and full of various impurities; brown clay iron stone, same as the red only it gives a yellowish streak. Found in the same localities as red hematite, and other places in inexhaustible abundance.

5. *Spathic Iron Ore.* Principally the mineral siderite (FeCO_3), carbonate of iron. Whitish grey or brown, generally. Powder or streak, white. When heated crackles and gives off CO_2 and darkens into an oxide of iron which is magnetic. May contain 40 per cent. of metallic iron. Varieties—crystallized, concretionary, granular, oolitic, and earthy or stony, sometimes called spathic clay iron stone. Very abundant in Pictou and Colchester counties; found in Cape Breton Island, and Hants Co., etc. Ankerite which is a mixture principally of the carbonates of iron, lime and magnesia, comes under this head, and is a very valuable ore, and exists in extensive deposits in Pictou and Colchester. Sideroplesite, which is ankerite without the lime, is found in large quantities near the Londonderry Iron Works in Colchester Co.

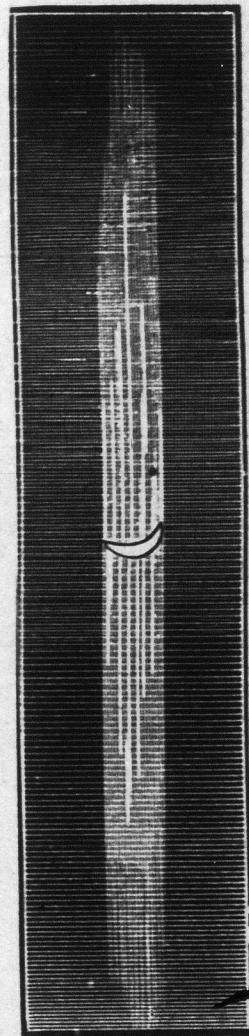
The red sandstone of Prince Edward Island and of Nova Scotia are colored by red hematite, which under certain conditions may be dissolved (especially out of the red soils where organic matter is present), and may be forming at present deposits of bog ore in favorable spots. The yellow and brown coloring matter in our soil is brown hematite, and is subject to same chemical action as the red hematite.

(Other iron minerals in another lesson).

KEEP one or two of your school books to gladden your heart in your old age. When the shadows grow long in the afternoon of life they will be a delight to you. Their oft-conned pages, as you turn them over, will each have a story of its own. Says a writer who accidentally picked up a copy of the English grammar which he studied as a boy: "When I saw that book I felt the marbles bulging in my pocket; the sole of my shoe flapping as I walked; my hands were battered and dirty, and there was a gnawing in my gastric regions as if I had eaten my dinner at recess."

A RARE LUNAR PHENOMENON.

At Pictou, the evening of February 17th was overcast and mild with some snowflakes from the south. After 10 P. M. the sky was clear and the wind apparently shifted to the north. The moon near its first quarter came out bright in the deep blue western sky, which showed a few patches of hazy cloud above the horizon in some places for a portion of the time. A band of light as bright as an aurora and of the exact breadth of the moon was projected vertically from it for a distance of perhaps ten degrees upwards towards the zenith, and as far downwards towards the horizon. The band was exactly vertical with the moon in its centre, as shown in our cut. It remained visible for at least an hour, until the moon set. Rapid fluctuations of intensity in the brightness of this beam were observable, and were tested by two observers calling the maxima and minima simultaneously. It is supposed to have been caused by the interposition of a great mass of transparent air, moving from north to south or vice versa, between the moon and the localities of observation. The moisture in the moving mass was being gently condensed into millions of minute linear hexagonal ice crystals, which were all polarized horizontally by the air current. The crystals were so far apart as to leave the air transparent, except in a vertical plane through the moon, where the light was being reflected from the myriads of horizontal facets of the crystals, and also to a certain degree refracted by passing through them. Were the ice crystals lying in every possible direction, the brightness would radiate in every direction from the moon. The varying undulations of intensity were, no doubt, due to the varying character of the crystal-loaded air moving past. A similar phenomenon does not appear to have ever been observed here before.



A SPEAKER at one of the educational gatherings in England thus declaims against history. He says:

"I give it as my opinion that the teaching of history to boys and girls at school is most pernicious. Why should their young minds be imbued and corrupted by the accounts of battles, massacres, and treacherous assassinations, perpetrated by kings, nobles, clergy, highland chiefs, and border ruffians?"