

ON NATURAL PHOSPHATES.

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When your President and Treasurer did me the honour to request me to read a paper on "Phosphates" before the Ottawa Field-Naturalists' Club, I hesitated in complying.

"Phosphates" in a general way, as we employ the word in this locality, implies the crystallized Mineral Apatite, so abundant in certain parts of our Laurentian formation. The good work done by the Geological Survey, has from time to time, through its officers, kept us well informed of the localities and peculiarities of the occurrence of the Canadian Apatite, by valuable contributions from the pens of Sir Wm. Logan, Sterry Hunt, Vennor, Dr. Geo. Dawson, Torrance, Dr. Robert Bell and others. At the present time, I understand that Mr. Ingall also, who has been in charge of a special study of our Canadian Apatite fields, is about to terminate and publish his preliminary report, so with deference to his opportunities and approaching publication, I could not presume to undertake a paper purely on Canadian Phosphates or Apatites as was proposed, but thought it might be acceptable to our members here, to give their attention to a more extended and general consideration of natural mineral Phosphates, and hence the title of my paper this evening, instead of being "Canadian Apatite" is "Natural Phosphates" in a general way. My present occupation prevents me from giving much time and study to the preparation of this work, but if by some generalization of facts, we can awaken a healthy discussion and exchange of ideas, my humble attempt will not have been useless.

Natural phosphates owe their commercial value to the proportion of phosphoric element contained in them, and are employed as raw material for the manufacture of phosphatic fertilizers, being also sometimes applied in the natural and raw state direct to the soil by the farmer. They are also in demand for the manufacture of phosphorus, baking powders and some other chemical products. By far the greatest demand for them, however, is made by the manure manufacturers for