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The CANADIAN MINING REVIEW, is devoted to the opening up of the mineral wealth of the Dominion, and its publishers will be thankful for any encouragement they may receive at the hands of those who are interested in its speedy development.

Visitors from the mining districts, as well as others interested in Canadian Mineral Lands, are cordially invited to call at our office.

Mining news and reports of new discoveries of mineral deposits are solicited.

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Address all correspondence, &c., to the Manager of the CANADIAN MINING REVIEW, Ottawa.

Mining Excitements.

The present excited condition of the public pulse, in the districts of Mattawa and Buckingham, are, in both instances, due to the discovery of a sample of ore, holding visible or (in mining terms) "free gold," or to a reported assay of a hand specimen of such ore. A discovery of this kind is quite natural, and may be the result of intelligent search or prospecting in almost every township from Lake Superior to the coast of Labrador, where, or in which, Huronian or Laurentian rocks can be observed. There is not in this anything to excite the intelligent miner, but "gold!" in any form is liable to excite the ignorant, or those who do not from experience, understand the conditions under which it is found, and made marketable. In a country where the mineral right is held by the Government for the benefit of the actual discoverer, who, with little or much capital, is compelled, under just mining laws, to develop and prove that discovery before gaining a title or deed to the same, the find is a gain, as work must be done to hold it; but, under individual ownership of the minerals no one is compelled to do work or to prove the value of it, and possibly not having the necessary knowledge to develop it, the claim is undeveloped or is held at such an absurd valuation that capital will not invest until its value is proved by a sufficient amount of crushing or treatment of the ore, and the result of that development is the only thing worth getting excited about. When from 10 to 100 tons or so of such gold ore have been mined and milled, and reliable returns received of its richness, then, and not till then, will we be liable to enthuse or excite. Excitements

which have no foundation in actual development are a system of mental dissipation much to be regretted, and end in nothing but a reaction, which is sure to come, as has been instanced too often in the history of mining in this country. In this connection we might say that the action of several daily papers not a hundred miles from our elbow, who have devoted whole columns to "booming" these reported finds before having any tangible evidence to back them in their loud talk about "El Dorados," etc., cannot be too strongly deprecated. Much unwholesome excitement both in Mattawa and Buckingham has been the result of such nonsense.

Crude versus Acid Phosphate.

The use of mineral phosphate as manure began in consequence of the discovery by Liebig, in the year 1840, that sulphuric acid made it soluble. It is supposed that the effect of the acid upon the mineral is the same as extreme pulverization, and that in this minute form the particles become available for plant food. When the pulverized phosphate is mixed with about an equal weight of sulphuric acid it becomes soluble in water; but it is stated that all agricultural chemists now concede the fact that when soluble phosphoric acid comes into contact with the soil it immediately, or speedily, becomes insoluble. The authority of the eminent chemists Stillwell & Gladding, Thenard & Delaine, is given to support this point. If this is the case it would seem that the only reason for using the acid is that it may produce a finer subdivision of the particles than can be obtained by machinery, and when mills are secured that will effect extreme pulverization the use of the acid may be proved to be unnecessary.

In the United States about \$5,000,000 worth of sulphuric acid is used every year in the manufacture of fertilizers. It is generally admitted that the acid of itself possesses no productive power, while many assert that it is positively injurious; but it is its indirect action in preparing the plant food for assimilation that is supposed to warrant its use. It gives such an offensive odor that fertilizers compounded with it cannot be kept in general stores, and thus the distribution of fertilizers is hindered. If it is shown that the crude phosphate alone or combined with other effective plant foods is serviceable as a fertilizer, this expense and many difficulties will be overcome. The cost of mineral manures will be reduced one half and an immense impetus will be given to the mining of phosphate and its extensive use by the farmers upon the worn-out fields that are everywhere craving its renewing and stimulating effects.

For several years past Mr. Andrew H. Ward, of Boston, has ardently and persistently advocated the use of crude phosphate without acid treatment, and he possesses a mass of testimony in support of his theories that appears to thoroughly confirm them. From this

formulae, the Economic Fertilizer Co., of which Messrs. Butler, Breed & Co., of Boston, are agents, prepare fertilizers without sulphuric acid and are slowly but surely bringing them into use. Mr. Ward frequently addresses the farmers upon this theme and also writes extensively for the newspapers. From recent articles contributed by him to the *Boston Globe*, we quote some testimony from the highest authorities as to the value of crude phosphate as a manure. Professor Storer, of the Agricultural Department of Harvard College, in his recent valuable work entitled "Agriculture," says, "It has repeatedly been proved by experiment that plant roots, that are abundantly supplied with nitrogenous and potassic food, can readily obtain phosphoric acid from powdered phosphatic guano, and even from powdered rock phosphate, and several observers have noticed that many of the natural phosphates are attached to an appreciable extent in the compost heap.

"One great trouble in regard to superphosphates is that most of them cannot be kept for any great length of time without suffering deterioration. The soluble phosphoric acid contained in them is liable to 'go back,' as the term is, or to 'revert,' as is sometimes said, to an insoluble state. English chemists think so little of reverted phosphoric acid that they put no value upon it. The pound of useful phosphoric acid can generally be bought for the least money in the form of finely powdered phosphate rock, such as is sold under the name of 'floats.' In many situations farmers would probably find an advantage in using this material, either directly upon soils surcharged with humus, or perhaps in composts, as well as by treating it with sulphuric acid. With regard to the manner in which the phosphoric acid which has become fixed in the earth is made soluble again for the use of plants, it is sufficient to say that among the various means by which this result may be accomplished the action of carbonic acid, water, and of the acid juices exuded by plant roots are conspicuous. There are withal special situations, soils and crops where an instructed farmer might find it profitable to use a cheap insoluble phosphate rather than the costly soluble product prepared from it"

Sir J. B. Lawes, the highest agricultural authority in Great Britain, says, "Although phosphates under every possible form have been under experiment here for forty years I have nothing conclusive to bring forward in regard to the great superiority of soluble over insoluble phosphates."

Director George H. Cook, in the sixth annual report of the New Jersey Experimental Station for 1885 says, "The more difficult the solubility of these phosphates the less their price; while on the other hand it is claimed that under certain and not unusual conditions the lower priced ones will give the largest returns in increased crops. A more useful work could