

The attendance of members at the weekly meeting of the Institute, on Saturday, January 15th, was remarkably good, as stated in the preceding notice. A very interesting paper on the "Mineral Springs of Canada" was read by Professor Croft. We hope to have the opportunity of introducing Professor Croft's paper into the February number of this Journal. A considerable number of candidates for admission into the Institute were proposed. Their election will be confirmed on Saturday next. This large weekly increase in the number of members is a very gratifying indication of the progress which the Institute is making in the favour of the public. At the close of the proceedings, the President announced the subject of a paper to be read before the Institute at their next meeting, on Saturday, January 22nd, to be "Notes on the Geology of Toronto," by Professor Hind.

REVIEWS.

The Canadian Agriculturist, and Transactions of the Board of Agriculture of Upper Canada.—W. McDougall, Toronto.

The first annual Report of the Board of Agriculture for Upper Canada is found on the first page of the January number of this very useful publication. The Board recommended a few modifications in the Agricultural Statute passed last Session of Parliament, such as the rendering each County belonging to United Counties "distinct and independent for agricultural purposes under the said act whenever desired." They further suggest that the sum of £17 10s. required to be raised by Township Societies before they can legally organize and receive parliamentary aid, might be advantageously reduced to £10. In relation to an Experimental Farm the Report states as follows:—

"The objects which the Board recommend in establishing an Experimental Farm on the University Ground may be thus briefly stated:—First, to afford the Professor of Agriculture a ready means of giving practical illustration and effect to his class lectures in the University; Second, to import from abroad new and improved kinds of seeds, plants and implements, chiefly with a view of testing, by experiments carefully conducted on the farm, their adaptation to the climate, soil, wants and markets of this country, and in all cases of a favourable result, to distribute such productions on easy terms throughout the Province. An occasional importation of improved breeds of animals, the offspring being sold and distributed through the Province, would be an efficient means of advancing this very important department of husbandry, and would tend to increase materially the wealth and progress of the country. It is believed that in thus connecting the science and practice of Agriculture in their various bearings on each other, in our Provincial University, it will be made more subservient to the public good.

The Board are desirous that these fifty or sixty acres for experimental and illustrative purposes, should not be mistaken for a Model Farm, which should consist of a larger area, and which would consequently involve a much greater outlay and risk. Whether Model Farms, strictly so called, are adapted to the present wants of this young country, fairly admits of a question. But something should at once be done to connect the leading facts and principles of Agriculture with the routine of instruction given in all the schools and colleges of the Province; and if small portions of land could be set apart for such purposes, the instruction would prove far more practical and efficient.

The Board will feel much pleasure should the plan of an experimental farm on an inexpensive scale meet the approval of the Legislature, so that they may feel authorized in taking final steps for the carrying out of the same. The principal difficulty lies in the necessary outlay for the commencement. A grant of £500 would enable them to do so with every prospect of success; and it is believed that the ordinary amount of funds placed at their disposal, would after the necessary

preliminary expenditure had been made, nearly or quite meet all exigencies hereafter."

The correspondence of the January number of the *Agriculturist* is more than usually voluminous. We notice some views of doubtful stability advanced which we do not wish to pass altogether unnoticed. We allude in the present instance to a communication headed 'Agriculture and Coal Fields of Ohio viewed in reference to Canada.' We would suggest a friendly caution to the enterprising writer against causing the indulgence of the expectation that workable coal measures will be found in Upper Canada. We are not disposed to agree with him in the result of his deductions from an experiment with phosphorescent wood, or in the supposition that the same degree of heat necessary to drive off carbonic acid from common lime will 'destroy' the phosphoric acid of phosphate of lime.

The selected articles are very good. One on butter making is well worthy of attentive perusal and study. The Horticultural department contains much useful and interesting matter.

The Genesee Farmer for January, 1853.—DANIEL LEE, Rochester, N. Y.

The January number of this periodical is well supplied with excellent wood-cuts and useful information. The 'Farm as a Manufactory' is to be discussed in subsequent numbers of the *Farmer*. The subject is one of great interest and importance, and if properly handled will exercise a very beneficial influence.

The writer of 'British and American Agriculture' is rather hard upon English labourers, and scarcely institutes a fair comparison between "a smart well fed Yankee and an English labourer who lives on nothing but beer." The Horticultural Department is well sustained, and contains much applicable information and advice.

SCIENTIFIC INTELLIGENCE.

Geology.

Abridgement of a Description of a Brown Coal Deposit in Brandon, Vermont, with an attempt to determine the Geological Age of the principal Hematite Ore Beds in the United States. By EDWARD HITCHCOCK, D.D., LL.D., President of Amherst College, and Professor of Geology.—SILLIMAN'S JOURNAL.

In the autumn of 1851, Professor Shedd, of Burlington, presented me with a few specimens of beautifully preserved fruits from Brandon, Vermont. They were converted into Brown Coal, and retained exactly their original shape and markings. Early in the spring of 1852 I visited Brandon, and found that the fruits were obtained from a bed of Brown Coal, connected with the white clays and brown hematite of that place. I perceived at once that an interesting field was open before me; and ever since I have been endeavouring to explore it. Great difficulties presented themselves; and I have resorted to several gentlemen, both in this country and in Europe, for aid. Their opinion has yet been obtained only in part. But there are several points of much interest to American geology cleared up by what I have already ascertained. I have concluded, therefore, to give a brief account of this case; hoping hereafter to make additions to it.

I would here acknowledge my deep indebtedness to John Howe, jr., the proprietor of this deposit of iron, clay, and brown coal. Not only did he do all in his power to aid my investigations upon the spot last spring, but since then he has sent me, free of expense, numerous specimens of the fruits and the coal; especially at one time two barrels of the coal containing the fruits, and at another time a gigantic mass of lignite,—the trunk of a large tree, in fact,—which is now deposited in the cabinet of Amherst College.

I shall first give a description of the topography and geological associations of this carbonaceous deposit; next an account of the lignites and fossil fruits; and, finally, deduce from the facts some geological inferences of importance.

I. Topography and Geological Associations.

Geologists are aware that along the west base of the Green and Hoosac Mountains, from Canada to New York, occur numerous beds of brown compact and fibrous hematite iron ore. That in Brandon lies between two and three miles east of the village. Passing easterly from the village the surface rises slightly and exhibits clay, drift, and limestone rock in place. According to my measurements with the aneroid barometer, Brandon village is 465 feet above the ocean, and the iron