

should have occurred to a depth fully 100 feet below tide-level, and that, too, directly along the line of the great Appalachian axis, is certainly remarkable. It is further singular, that while the ledges along the shores of the lake are covered with glacial striae, corresponding generally with the course of the depression at the point where they occur, the transportation of bowlders has been largely to the north, blocks of fossiliferous limestone from the beds of Mount Wissick being abundantly scattered about the upper end of the lake, but not to the southward. The country between the head of the lake and the St. Lawrence has not yet been examined, but along certain lines is believed to be low. The Madawaska, on the other hand, flowing almost due south, occupies a drift-filled valley, bordered by high and steep hills similar to those of the lake, and probably marks its former extension in this direction. It would seem as if lake and river formed together a great transverse channel of erosion, the result of sub-aerial action, from the St. Lawrence to the St. John, at a time when the entire region stood several hundred feet higher than now, and that the movement of the ice was in the direction of the former. The fact that the direct northward extension of this depression is coincident with the famous gorge of the Saguenay gives additional interest to the observations mentioned.

L. W. BAILEY.

Fredericton, N.B., Oct. 23.

Coloring geological maps.

Professor Branner has issued a neat little card containing a colored geological map of the state of Indiana, on a scale of 1:4,878,720, or 77 miles to the inch! In a letter, which, from its having been written in French, is probably designed to be widely distributed in Europe as well as this country, he complains, 1°, that, with the scale of colors provisionally adopted by the International congress, it is not possible to employ a color which shall indicate the Devonian without specifying whether the area be upper, middle, or lower. Professor Branner will be convinced that he is mistaken if he will look at the report of the committee on the geological map of Europe (Amer. com. rep., p. 43, b), where in such a case it was suggested (and later approved by the congress) to use the medium shade of color accompanied by the characteristic letter of the system (in this case, d), but without any one of the indices 1, 2, or 3 (see Amer. com. rep., p. 103, for the conclusions of the map committee, arrived at after the meeting of the congress).

Professor Branner complains also that the difficulty of indicating four or five divisions in the carboniferous is greater still. This is not surprising on a map-scale of closely one-five-millionth. The congress never contemplated such a problem, though even here the individual geologist is expressly left free to employ his ingenuity to differentiate by means of tints and symbols, the only restriction laid upon him being that the base of the tint used shall be gray. This certainly opens the way to any method of differentiation which he may desire to try.

Professor Branner misunderstands the object of the congress if he supposes that the color-scale was adopted only for the geological map of Europe, and not for the use of all the geologists of the world. The fact is, that the geological map of Europe was simply selected as a lay figure on which to display the pres-

ent 'provisional system.' If it be found that this system is bad, another will be substituted for it; but it will require more proof than Professor Branner furnishes to convince geologists of this.

If the 'carbonic' of Europe can be adequately represented by the proposed system, there is good ground to hope that the carboniferous of Indiana will not present insuperable difficulty; but not while the human eye remains what it is can any one succeed in displaying geological details at a scale of one-five-millionth and on a paper surface already one-third covered with printer's ink, representing names of towns and counties and railroad lines.

It is only fair to add that the system proposed by the congress will come as near to satisfying this impossible demand as any other. PERSIFOR FRAZER.

Air from a cave for house-cooling.

I wish your opinion upon a matter in which I am much interested. Grand Avenue cave, situated four miles from Mammoth cave, contains some nine miles of avenues filled with delightfully cool, pure, dry air; temperature 55°. I propose to erect a house immediately over this cave; make the outside walls and partitions all hollow, so that they may communicate with a cellar, which shall be connected with the cave by a large shaft, say, eight feet square. The question is, will the air between the house and cave take the temperature of the cave by diffusion or otherwise, or will it be necessary to use mechanical means to get the air into the building? I have seen and spoken to several scientific men on the subject, who agree with me that an interchange of air will take place, and continue until equilibrium is restored by making the temperatures the same.

It is proposed to erect a hotel for a cool-air summer resort, and also for a sanitarium. If you think proper, I would like you to put this before the readers of your valuable periodical, and get the benefit of their opinions. It is a matter of some scientific interest, in which physicists, geologists, and sanitarians may be interested.

M. H. CRUMP.

Ogden college, Ky., Oct. 26.

Zinc in Moresnet.

In your issue of this date, on p. 383, you speak of tin ore being found at Moresnet. This is a mistake. The county contains, however, some of the most important zinc-mines of Europe. Almost every collection of minerals contains some specimens of zinc taken from these very interesting and important mines.

THOS. EGLESTON.

New York, Oct. 29.

Ely's Labor movement in America.

A newspaper discussion in criticism of any particular article or review is rarely profitable, but it seems necessary to make a brief reply to the communication of Professor Ely published in *Science* for Oct. 29.

Professor Ely charges that his reviewer, while apparently neither an untruthful nor malevolent person, failed to read the book in question before noticing it. Inasmuch as every statement of Professor Ely's which is mentioned in the review is accredited to the page on which it occurs, his allegation is of