

Nevertheless, all this scientific research is appreciated by a very small number of persons. Indeed, the more valuable it is, the less obvious may be its merits. Every seaman knows the value of a good chart: not every seaman, not every scholar, not every statesman, knows the conditions by which a good chart is produced. It is only the expert who appreciates the subtle sources of error which must be eliminated: he only knows the infinitude of mathematical, physical, astronomical, and geodetic problems, which are involved in an endeavor to portray faithfully such a coast line as that of the United States, and to keep the portrayal in accurate correspondence with the changing sands.

The judge of what to do, and how to do it, must be the superintendent. Congress must say how much money may be spent, and the secretary of the treasury must exercise an authority over the methods of expenditure: but the master of the works must be the head of the survey; and, although he is liable to error, like the general in the field, or the seaman on the deep, the ultimate results, attained under his guidance, are the criterion of his scientific efficiency.

In the zeal for civil-service reform, which has characterized the new administration, it will not be surprising if outlays for scientific observation, experiment, and research should be regarded as questionable if not extravagant. It is not to be wondered at, that an auditor of accounts should consider as needless, expenditures which experience has shown to be absolutely necessary for the efficient management of a scientific bureau. It will not be strange if a commission of government officials pronounces many of the investigations of the coast-survey to be incomplete, useless, or unduly costly. It will be easy to gain a reputation for economy, and for discovering the faults of preceding administrations, by striking at work, the methods of which, from their very nature, are incomprehensible to the public. It is easy to furnish witticisms to innumerable writers by a judicious repetition of scientific technicalities. But, happily, Congress is not likely to be misled by such combined misapprehensions

and misrepresentations. The president, unless we mis-read his official and personal character, will insist upon wise economy. Beyond the administration and Congress, there lies an appeal to the intelligence of the people, who certainly do not want parsimony in the study of the sea-coast. Honesty and accountability will be demanded by the public in all branches of the government service: they will rejoice in every check which may be devised to prevent the misappropriation of funds, but they will not want the efficiency of the coast-survey impaired. An administration will indeed appear awry, which proposes in one breath to restore the navy to efficiency, and in another to interfere with the accurate study of the coast, and with the perfection of our knowledge of harbors and reefs. Let there be fair play in considering the affairs of the coast-survey, and we shall have no fears of the result.

LETTERS TO THE EDITOR.

A mad stone.

THE Sedalia and other papers lately contained accounts of the application of a 'mad stone' to a Mr. Girard of this city, who had been bitten by a supposed mad dog.

The stone was owned by Mr. J. M. Dickson of Kansas City, who advertises the use of the stone, and states that it has been in possession of his family for more than a hundred years, and was brought by one of the family from Scotland. From the large number of references given in Mr. Dickson's advertisement to the mayor and other officials, and physicians of Kansas City, we may take it as true that Mr. Dickson is honest in his belief as to the virtues and history of the stone.

To a reporter Mr. Dickson made a statement that he had applied the stone to more than five hundred cases of bites by various kinds of mad animals and wild skunks; his opinion evidently being, that the bite of this animal, whether rabid or not, will produce hydrophobia. He gave the method of application, which was to place the stone upon the wound, or upon an abrasion of the skin made on any part of the body, first soaking the stone in sweet milk. He stated, that, if the person contained any virus, the stone would adhere to the wound or abrasion until it was saturated with the poison, when it would fall off; and that it was then cleaned by again soaking it in sweet milk, and this was repeated until the stone would no longer adhere.

We may presume, that, of the five hundred treated by him, a large number had been bitten by animals which were not mad; and statistics show, that, of those bitten by dogs which are mad, not more than one-third to one-half will have hydrophobia; and yet we can hardly suppose, that, of five hundred persons who believed themselves to be in danger of hydrophobia, not one would have taken it even if no preventive measures had been taken. Mr. Dickson

states, that no case treated by him has developed into hydrophobia.

At the time of Mr. Dickson's visit to Sedalia, I had the opportunity of seeing the stone for a few minutes, and found it to be a fossil coral of the genus *Favosites*. It was of rather small size, only about three-fourths of an inch across, and was of hemispherical shape, with one side cut so as to present a smooth surface. The fossil seemed to be silicified, a part of the tubes being filled almost to the ends, and a part open. The tube cavities on the flat surface generally presented open spaces between the diaphragms or tabulae, making the stone more or less cellular or porous. From the slight examination I made of the stone, I judge it to be *Favosites gothlandica* Lam., if from Scotland; and, if it is American, *F. hemisphericus* Y. and S.

I have since seen Mr. Girard; and I learn from him, and also from the Sedalia agent of the Adams express company, that the stone was first soaked in sweet milk without having any effect upon the color of the milk. It was then applied to the arm, and adhered so tightly, that, on turning the arm over and shaking it, the stone still clung to it. About three times the stone was taken from the arm and soaked in milk, and it then turned the milk a greenish color. At last the stone would no longer adhere to the wound, and the cure was pronounced complete.

Has any competent person made proper tests of reputed mad stones? Are these persons mistaken about the stone adhering tightly? Would any similar porous stone adhere the same way? Are the persons also mistaken about the change in the color of the milk? In short, will any stone have any effect on virus in a person's blood? F. A. SAMPSON.

Sedalia, Mo., July, 1885.

[We may add as a final query, How did such a superstition arise? — Ed.]

The inscription rocks on the island of Monhegan.

During a recent visit to the island of Monhegan, Me., my attention was called by Mr. P. C. Manning of Portland to the so-called inscriptions described and figured by Schoolcraft in his 'Indian tribes,' vol. vi, p. 610. The inscriptions are on a small island, Menana, which is separated from Monhegan island proper by a narrow channel. The principal inscription, that figured by Schoolcraft, is on the nearly vertical face of a small cliff about five feet high, situated a few rods north and east from the fog-signal station. The country rock of both islands is a black or dark-gray rock different from any rock I have seen in Maine except at one other locality. A lithological description of this rock is reserved for the present. It shows great numbers of veins. Part of these veins are of white granite, or sometimes of white quartz; but many are black, like the surrounding rock, and differ from it simply in fineness of grain. When weathered, even the blackest of the rocks become dark gray in color. As the various layers differ so much in granular condition, and somewhat in composition, they naturally weather and fracture very differently. Some of the rock is quite massive, with no regular fracture: other layers fracture quite prismatically, almost like slates. The rocks are everywhere weathered into forms unusually varied, and often fantastic; the veins sometimes weathering faster than the contiguous rock into furrows, at other times into ridges. The joints and veins are often arranged systematically.

When one first sees the inscription rock, he cannot fail to notice that the appearance is as if a tablet had

been prepared upon the surface of the rock, not horizontally, but obliquely. There are two parallel furrows about one-half an inch deep, and eight inches apart; and the so-called letters are on this 'tablet.' The tablet has a fine-pitted surface of weathering quite even and flat. The surrounding rock is more coarsely pitted. Examination shows that this apparent tablet is simply the exposed edge of a fine-grained vein which penetrates the coarser-grained rock obliquely. This vein shows both on top of the rock and also on the side. The parallel furrows which enclose the so-called inscription tablet are simply furrows of weathering at the sides of the vein. The supposed letters are composed of straight furrows intersecting each other obliquely, so that most of them are some modification of the letters V and X. A cross-section of these furrows ends in a sharp angle enclosed between curved lines, like the sinus of a crenate leaf. At the base of the furrows I invariably found a crack in the rock, though sometimes not readily without the aid of a magnifier. There are two systems of these joints, — one nearly vertical, the other nearly at right angles to the sides of the vein. Nearly all the furrows forming the supposed inscription belong to these two systems of joints: a few are aberrant, and two are horizontal. Most of the joints are filled with a film of oxide of iron, but the two horizontal joints and two others are open. At the point where the vein obliquely enters the rock, the furrows on the vertical wall are continued without a break around the angle of the rock to the edge of the roof-exposure of the vein. This is plainly caused by the same joint penetrating the vein at both exposures. In general, the exposure of the vein on top of the cliff has been more unevenly eroded, and shows fewer furrows. A small piece has recently been broken from the south-east corner of the inscription tablet; and an iron-filled crack, which is found at the base of a furrow above this fracture, can be seen crossing the fresh surface, though it is faint. The inscription furrows bend downward into the two longitudinal furrows which border the so-called inscription tablet. The surrounding coarse-grained rock shows but few furrows, and they are not so regular in outline as those on the edge of the vein.

It is evident that the 'inscription' is a freak of surface erosion. The furrows are the result of weathering along joints. At the same time they differ from the ordinary weathering of the island in certain details.

A few rods from this inscription is a smaller one, very much like it in form of erosion furrows; and I found a small slab, near the north-east angle of Monhegan island, showing almost identical V and X forms.

Portland, July 27.

G. H. STONE.

Recent contributions to the literature of micro-biology.

Two works upon this subject have recently been published. Dr. Friedländer, pathologist to Friedrichshain, has reviewed the French work of Cornil and Babes mercilessly, and with a personal animus not in harmony with scientific accuracy. It will be remembered, that Dr. Babes was the Hungarian authority who bitterly opposed Koch's views of the tubercular bacillus, and sought to substitute in lieu thereof 'Babes' granules.' He was, for a short time, a student in the laboratory of Professor v. Recklenhausen, and then went to Dr. Cornil, in Paris. Later, he came to Prof. Dr. Virchow, in Berlin, where he has remained ever since. He is still a very young man; and while he has not the extended experience in pathological mycology of Friedländer, Koch, or Hirschberg, he has been constant, in season and out of season, in his lab-