

fatal among the blacks as among the whites; while diphtheria, singularly, was three times as fatal to the whites as to the blacks.

—The New York academy of sciences announces a lecture, free to the public, at the library building of Columbia college, on March 8, by Prof. George F. Barker, on 'Radiant matter.'

LETTERS TO THE EDITOR.

. Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.

International geological congress at Berlin.

I send you the following from a paper on the 'Third session of the International geological congress' (*Journ. math. phys. nat. sc.*, Lisbon), sent me by the author, Mr. Paul Choffat, one of the most important and independent members of the late congress. His strictures are only too just, and his criticisms are well worthy of attention.

After briefly sketching the incidents connected with the origin and the assembling of this congress, already familiar, M. Choffat remarks, "A goodly number of the 255 persons, representing 17 countries, came to make a scientifico-artistic visit to Berlin, or to make numerous acquaintances among their *confreres*. These must have been completely satisfied; but it is otherwise with those who came to hear treated the subjects which formed the end of the congress. These, I fancy, will unanimously agree that this end was a little neglected." He reminds his readers how important it is, and how much time it saves, to discuss questions among representatives of different countries where the answer comes at once, instead of waiting for months, or even years; and he complains that half of the afternoon sessions were devoted to scientific communications on subjects not particularly interesting to the congress, and which will be more profitable to those who read than to those who heard them. "Granting that there was an average of an hour and a half to each *seance*, in the four consecrated to debate there was a total of six hours." He complains that the report of the sessions at Zurich and Poix simply stated that a number of answers had been received, both from the national committees and from men of science acting spontaneously, but that the nature of these answers and the names of the *savants* were not given. In answer to the reproach of the international committees' report, that many national committees had not furnished the material that was expected of them, he says that the reason of this is plain, and unfortunately exists yet: it is, that the limits of the divisions have not been fixed; and, after taking the trouble to send a map made on this or that division, one is in danger of receiving it back again with the request to make another copy. In the last four *seances*, which ought to have been devoted to the discussion of questions of nomenclature, only the point of view of the map was considered. This ought to furnish those who look upon the map as simply a first edition, to serve as a basis for the discussions of future congresses, food for reflection. He thinks that the first mistake was to commence the publication of a map without settling the principles on which it should be based. He gives the following summary of the constitution of the three congresses thus far held: Paris, 194 Frenchmen and 110 foreigners, representing 20 countries; Bologna, 149 Italians and 75 foreigners,

from 16 countries; Berlin, 163 Germans and 92 foreigners, representing 17 countries. "What geologist would sacrifice his convictions to such a heterogeneous assemblage?" He thinks that not only ought the number of those voting to be much reduced, but they should not vote by countries. Instead of this, he proposes that they should vote by geological basins, and that the voters should therefore be different for every geological question raised. He concedes that it would be very difficult, if not impossible, to create such a bureau or bureaus; but he thinks that some approach to it might be made, even if voting was not permitted, but the subject was elucidated by the longest and freest discussion of each subject possible. Finally, he thinks that a great centre ought not to be chosen for the place of meeting of the congress, as the distractions are too great, and therefore he is in favor of Professor Hughes's proposition (which, however, was voted down) to hold the next session in Cambridge instead of London. M. Choffat concludes this somewhat dissatisfied commentary on the congress by acknowledging, that, "in spite of all the weak points of the three sessions of the congress, they have done much for the science of geology directly and indirectly;" and as an example of the latter influence he points to the splendid map of France, on a scale of 1:500,000, undertaken by geologists who have not any official mandate, and yet have not shrunk from the task of its publication.

Permit me to replace by my full name the first two letters of it, signed to the translation of Stelzner's letter in your issue of Jan. 22.

PERSIFOR FRAZER.

Philadelphia, Feb. 3.

Cliff-picture in Colorado.

Professor Tillman's note on a cliff-picture in Colorado (*Science*, vii. p. 80) leads me to send this account of the same object from notes made on the spot in August, 1871, and published in *Old and new*, a Boston magazine, since discontinued, in December of that year:—

The Bear Rock is a comparatively smooth face of a sandstone bluff that extends about sixty feet above the water, from which it is distant a hundred or more yards. Upon the exposed surface of the rock, about ten feet from the bottom of the cliff, is an excellent life-size representation, in profile, of a three-year-old cinnamon bear. The figure is dark brown, approaching black, being darker on the anterior half. The outline is distinct and perfect, unless exception may be taken to a slight blurring at the bottom of the hind-feet and a somewhat pronounced excess of the claws of the fore-feet. From the tail to the nose the length is about six feet, and the height at the shoulders is about three and a half feet. These are merely approximate dimensions; the writer having no facilities for exact measurement at the time of his inspection, Aug. 8, 1871. The legs are all visible, and the head points straight to the front, as if just about to take, or just having taken, a step. The fore feet are on a slightly higher plane than the hind ones, as if on rising ground. The expression is one of surprise and alarm: the head is thrust forward and slightly upward, the ears are sharply cocked forward as if on the alert, and the whole attitude displays the utmost fidelity to that of a bear in some excitement and apprehension. There is no room for a moment's doubt as to the animal, or the state of mind in which

it is. The figure is of full size, but, until scrutinized, appears smaller, being dwarfed by the magnitude of the rock on which it is depicted. . . . The Indians look upon it as great or strong 'medicine.' Beads and broken arrows are still to be found below it and in the crevices near by, apparently placed there as propitiatory offerings. Deep gashes in the subjacent sandstone show where the savages have for a long period sharpened their knives in its presence, while rudely carved, not painted, figures on the rocks are apparently the autographs or totems of individuals or bands. The popular explanation among the white settlers is, that it has been painted by the Indians. This is inconceivable by those having any intimate knowledge of them, from the utter absence of artistic skill among the savages, as shown by the almost unintelligible hieroglyphics near at hand, and from their want of familiarity with paint as durable as this pigment. The fidelity to nature of this figure is utterly beyond any ability ever known to be exhibited by them. It has been suggested that it was painted by the Spaniards, who explored this region, and described this river as Rio del Animas in what is now nearly a traditionary period. But, if a conceivable motive could be supplied, there are local reasons why no artist would place a picture just where this is found.

The surface on which it is depicted is slightly irregular and roughened, while an absolutely smooth one can be found a few feet above; and, as the existing figure is so far from the ground as to require a staging from which to be painted, the same staging could easily have been carried up the small additional height required. There is no reason why the figure should be slanting, in the absence of the accessory of sloping ground. An artist who had the skill to create this could have made a much more effective picture by giving it a somewhat different posture, or by adding a figure or two. A deep yellow stain or vein in the stone runs longitudinally through the figure, marring it as a work of art. This would have been avoided by placing it a little higher up, or it might have been obscured by the use of more color directly upon it. A small portion of the rock, where the color is deepest, was removed some time ago; and, having been carefully ground to powder, it was burned without the smell or any sensible sign of paint being elicited.

To the mind of the writer it is clear that the object is not artificial; but these details are mentioned that those who have no opportunity for personal inspection may have some basis of judgment. If this reasoning is correct, of course the figure has been placed there by some natural cause, and the most probable seems to be lightning. . . . It would appear that a bear had taken shelter under the somewhat overhanging ledge, or had simply stopped near by at the time, and, while startled at the close display of lightning, was by that agency depicted upon the solid wall. If not, what is the explanation? At places where the rock has scaled, the color shows to the depth of one-sixteenth to one-eighth of an inch, according to the closeness of its texture. White barbarians are already destroying this natural curiosity. It affords a tempting mark to passing ranchmen, and it is fast being destroyed by their well-aimed shots. Others, in sympathy with that vandalism that befouls the fairest monuments of civilization, chip off convenient projections, and pencil their little names on the fresher rock beneath. What the

superstition of the red savage has preserved, the irrational iconoclasm of his white brother destroys. The writer, since preparing this paper, has been told that a scientific party visited the Bear Rock in 1867, and attributed the picture to electricity.

The light spots in the reduced print from Captain Anderson's photograph show the scaling due to violence. The original picture, of which I have a copy, shows many bullet-marks not reproduced in the reduction. The outline of the upper part of the neck in the reduction does not closely follow the curve of the original, and the comparative coloring of the fore-quarters is too intense. It is said that there is a somewhat similar picture of another animal about fifty miles farther up the Purgatoire; but this I have not seen, nor have had definitely described.

I am not prepared to defend the suggestion of electrical agency made above, and I believe scientific opinion would not accept it. But a careful study of the object *in situ*, on more than one occasion, convinces me that it is not the result of human agency, and it certainly is the accurate outline of a bear.

David's Island, N.Y., Jan. 30.

ALFRED A. WOODHULL.

A scientific corps for the army and navy.

In the army, as well as in the navy, we have several corps or departments which have a greater or less claim to being called scientific. Since the earliest days in the history of our army and navy, we have also had men of the highest scientific attainments appear in the line of these two organizations. But the question may be asked now, Is not the time approaching when we should have, strictly speaking, a scientific corps for these two institutions of the public service? Their past history goes to show that every twenty or twenty-five years, either one, produces a limited number of men, who, through their writings and influence, compel us to recognize them as scientific leaders in certain lines of research, and among the ablest of those concerned in the progress of learning and the advancement of knowledge.

It is not the object of this letter, nor will the space admit of it, to refer, either by name or deed, to any of these persons. A moment's reflection on the part of any scientific man will recall to his mind whom they are, both the living and the dead, many of the works of either are imperishable. Our country does not stand alone in this matter, for we find the same applies to the military organizations of other nations. With ourselves, however, it seems to me that without any particular legislative violence, much might be accomplished whereby the country would derive a greater amount of benefit from such men, and the national credit for wise and sound legislation be considerably augmented.

The formation of a scientific corps, open to the recognized scientists of either army or navy, would remove many of the present existing disabilities that these persons have now to contend against. Then should the scientific bureaus of the government ever be grouped as a department of science, the way will be properly opened for the work of these men, and they will naturally gravitate to their proper spheres of action, without conflicting with laws that can easily be construed to send them elsewhere.

To better show the wisdom of the step proposed, and the reasons why science should recommend it for