

Some of the last chapters of this excellent work are specially rich in information and suggestiveness. That on "Will and Voluntary Movements" deals lucidly with a difficult subject; and the chapters on "Speaking, Reading, and Writing," and on "The Cerebral Relations of Speech and Thought" contain much valuable information regarding the physiology and pathology of intellectual expression and the light which they throw upon the nature of mind as a function of the brain—a phrase which must be read subject to the explanation which Dr. Bastian gives of the title of his work. There may be some reason to doubt whether transcendental metaphysicians will be prepared to admit that their belief in mind as an entity has been so completely destroyed, as Dr. Bastian thinks, by the demonstration of the doctrine of unconscious cerebration and the consequent vitiation of all deductions drawn exclusively from within the range of consciousness; but there is no room for doubt that metaphysicians of all shades must make themselves familiar with such researches as those embodied in Dr. Bastian's work. Should they fail to do so they must be prepared to find their carefully-nurtured speculations exposed to many severe rebuffs, and open at all times to that kind of merciless danger which theories experience when they run against conflicting facts.

This work is the best book of its kind. It is full, and at the same time concise; comprehensive, but confined to a readable limit; and though it deals with many subtle subjects it expounds them in a style which is admirable for its clearness and simplicity.

#### LETTERS TO THE EDITOR

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts. No notice is taken of anonymous communications.]

[The Editor urgently requests correspondents to keep their letters as short as possible. The pressure on his space is so great that it is impossible otherwise to ensure the appearance even of communications containing interesting and novel facts.]

#### Eozoic and Palæozoic

PERMIT an old worker in fossils to protest mildly against the slapdash manner in which writers sometimes hit off great palæontological questions. In your review of Roemer's valuable "Lethæa Palæozoica" it is stated that in regard to *Eozoon canadense*, he "accepts the verdict of Möbius against its organic origin, and rejects it from the list of palæozoic fossils." Now as to the acceptance of the "verdict" in question, I have nothing to say, except that the naturalist to whom are assigned the functions of judge and jury in the case very obviously lacks some of the qualifications for that high office, and has not been recognised by those best qualified to understand the case of *Eozoon*. But why Roemer or your reviewer should "reject *Eozoon* from the list of palæozoic fossils" I am at a loss to understand. As a writer on palæozoic fossils, Roemer has nothing to do with *Eozoon*. It belongs to that great series of eozoic or archæan formations which precedes the palæozoic, and which probably represents quite as long a period. Little comparatively is known of the fossils of these oldest rocks; but what we do know of their *Eozoon*, *Archæospherina*, *Spiral arenicolites*, and *Aspidella*, and of their immense deposits of graphitised plants, is sufficient to assure us that the life of the eozoic period was very different from that of the palæozoic; *Eozoon*, whatever its nature, is one of the most characteristic of these eozoic fossils. It has been recognised through a great vertical thickness of beds, and over so wide areas, that it is now equally characteristic of eozoic rocks in Canada and Brazil, in Bavaria and in Scandinavia. Further, it has obviously been connected with the accumulation of some of the greatest limestones of the eozoic time.

One can excuse a palæontologist familiar only with mesozoic or kainozoic fossils, when he doubts as to the organic nature of such obscure markings as *Oldhamia*, or even as to those wrinklings and scratchings on Cambrian slates which are recognised as trilobites and sponges; but we never think of asking him to accept or reject them as mesozoic fossils. In like manner those who are working out the dim traces of life remaining in the eozoic rocks will be content if geologists who scarcely condescend to recognise these great formations in their arrangements will abstain in the mean time from pronouncing judgment on eozoic remains supposed to be organic.

To us in Canada who have long regarded the eozoic formations as being quite as important in a physical point of view as the palæozoic, it is a matter of congratulation that they are now attracting so much of the attention of British geologists. Their palæontology, it is true, is still meagre, but our knowledge of it is gradually increasing, and those who have lived to see the Cambrian fauna grow from nothing to its present satisfactory condition need not despair of the Laurentian or Huronian.

Montreal, August 5

J. W. DAWSON

#### Algæ

I NOTICE in NATURE, vol. xxii. p. 319, that amongst other subjects you answer inquiries about minute "algæ."

I venture to send you herewith specimens of one of the Oscillatoriaceæ, which I believe is rare. In form it is nearest to what is described in the "Micrographical Dictionary" as "*Spirulina oscillarioides*" (Turp.?), but it is very much larger. When two join and intertwine they form a cable. Under an ¼th objective it is a most striking object; it has the characteristic deep blue-green colour, and also its movements.

I shall be glad to know if it has been described by any one.

G. F. CHANTRELL

St. James's Mount, Liverpool, August 6

[The alga is *Spirulina jenneri*, Kütz, and the *Spirillum jenneri*, Hassall. It is described in the "Fresh Water Algæ" of the latter author, and the description occurs also in Rabenhorst's "Algæ aquæ-dulcis."]

During this year, in a paper read by the Rev. J. E. Vize at the Montgomery Society, and printed in their *Proceedings*, it is called *Spirulina oscillarioides*, but it is larger, and more distinctly articulated than that species. The figure given by Mr. Vize is accurate. It is not very common, but we have heard of it in two or three localities during the past twelve months.—ED.]

#### Lightning Conductors

I SHALL feel exceedingly obliged if you will have the kindness to reply to the following question:—The painter of my villa (Villa Calpe) having taken the liberty to paint the chain of the lightning conductor attached to my house, I should like to know whether it will interfere with the efficiency of the apparatus.

CATHERINE MCPHERSON DE BREMON

Biarritz, August 5

[A coat of paint on a lightning conductor will not at all affect its efficiency. It will protect it from rust, which of course is an advantage. But if the note is to be read literally and a chain is used as a conductor, it is the worst possible form, and it ought to be changed for a continuous conductor. The links of a chain only touch each other at points, so that even a link made of half an inch in diameter of metal is reduced to the size of less than 1/16 of an inch of metal. We would rather trust to a copper wire of 1/8 than to a link of much larger size. A point of great importance is to have a good discharge in the earth, either wet soil or a large quantity of metal joined to the conductor.—ED.]

#### Strange Method of Crossing a Torrent

REFERRING to the inquiry of your correspondent as to the existence in modern times of the practice of carrying a stone to steady oneself whilst crossing a torrent, I may state that it is well known to the inhabitants of mountainous districts, and though practically it may not often have to be resorted to in Switzerland, where the streams are mostly well bridged, I have myself been glad to adopt it in Dauphiné. As, however, a weight on the head or shoulders would, by raising the centre of gravity, rather diminish than add to the steadiness of the bearer, it is more usual to fill the lower side pockets of the coat, and per-