

monograph enable us to trace the numerous and rapid changes which these carboniferous strata undergo within comparatively limited areas. The manner in which the several members of the series overlap one another, as has already been pointed out by Mr. Davies, is also admirably illustrated in this work of Mr. Morton's.

Perhaps no part of this excellent memoir will prove of more general interest to geologists than Mr. Morton's account of the numerous faults which traverse the district; the positions and effects of these being illustrated by a map and several sections. The isolated patch of carboniferous rocks faulted down among the Silurian strata near Corwen is also more fully described than by any previous author. Besides the numerous woodcuts and lithographic plates, the work is illustrated by three admirable photographs by Mr. W. H. Wilson. We heartily recommend this exhaustive monograph to the attention of our readers, as a model of the kind of work which may be advantageously undertaken by the members of local scientific associations.

J. W. J.

Magnetism. The High School Series. (London: T. Murby, 1879.)

THE anonymous author of this little work of sixty-eight pages has produced a very readable and in many ways admirable primer of Magnetism for boys and girls. Clearly written, well illustrated, and dealing with such matters of experiment as boys and girls can verify for themselves, it will be sure to command popularity. The experiment on p. 22, which suggests the form of the curve of magnetic intensity along a bar-magnet by the length of the chain of nails which can be hung on at equidistant points, thus building up visible ordinates on the abscissæ is new to us, and as neat as novel. One cannot help wondering, however, why the author has assumed that "high-school" pupils must have mathematics and even arithmetic kept almost entirely out of sight. Why the separate chapters are entitled as "Lectures" is not very evident. The "Lecture," for example, on "Diamagnetism"—the ninth of the ten—is just thirty-seven lines long, and takes just two minutes to read aloud!

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.]

To Astronomers

I HAVE the honour to inclose to you a copy of a circular which I have lately sent out from my observatory to upwards of 200 observatories, public and private, scattered over the face of the globe. I have long felt that it was highly desirable that some means should be found whereby the discoveries in astronomy should be made public in a rapid and systematic manner, more especially in this country, where I am proud to say we number so many among all classes who take an intelligent and earnest interest in this the highest of the studies of nature. After much thought as to the best means of carrying out the plan, I determined, it may be presumptuously, to endeavour to do the work myself, and to that end I issued the circular to all directors of observatories whose addresses I could lay my hands upon. Should I have the fortune to receive favourable replies from abroad, I hope to make the matter successful. Now as to the distribution of the news in the British Islands: I am making a list of those who apply to me for the circulars and I will endeavour to post these within 24 hours of receiving the notice myself. I have made arrangements with the telegraph officials, that any telegram addressed (as below) shall be sent out at whatever hour it may arrive: I have further set up a small printing press in my observatory from which to pull the circulars, as I feel sure that this is the most convenient method and the least liable to error.

In conclusion I may add that should any devise a better means

for doing this work, I will at once place my experience at their disposal and do all I can to assist them.

LINDSAY

Haigh Hall, Wigan,

November 29

"The Observatory, Dun Echt, Aberdeen,

"November 1, 1879.

"STR,—I am very anxious to form some system whereby information of astronomical interest may be rapidly and widely disseminated among English observers; and I would beg to ask for your assistance in carrying out my plan.

"In the event of your discovering a comet, new star, or other object of immediate interest, I would ask you to send me a telegram announcing the discovery and giving such details as are usual.

"I have purposely omitted to mention minor planet discoveries, inasmuch as this branch is already admirably carried out by the Berlin Observatory.

"For convenience, the telegram should be in the form recommended by the Vienna Academy in the 75th vol. of the *Astr. Nachr.*, No. 1785, page 142, as follows:—'Comet (new star, &c.) Discoverer, Date, Local Mean Time of Observation (in hours and minutes), Place of Discovery, Right Ascension *in Arc* (degrees and minutes), North Polar Distance (degrees and minutes), Daily Motion in R.A. and N.P.D. (minutes of arc) plus or minus, Description, Diameter of Comet, &c. (in minutes of arc).

"Thus a telegram would run:—

"'Comet Winnecke 5 April. 1445 Strassburg 33157
07508 Motion 0 minus 60.'

"This would read:—

"'Comet discovered by Winnecke, 5th of April, 14
hours 45 minutes Mean Time Strassburg, R.A.
331° 57', N.P.D. 75° 8'. Daily Motion, stationary
R.A., minus 60' in Polar Distance.'

"Noughts should be put in where are no significant figures, so as to make three figures for degrees, and two for minutes (five in all), in R.A. and in N.P.D., similarly four in the Local Time.

"Telegrams, &c., should be addressed—

"'Observatory, Dun Echt, Aberdeen.'

"I will engage to distribute the notices of discovery within 24 hours of receiving the telegram, by means of a circular, sent out by first post from my Observatory, to all those who would be likely to make useful observations, and who will also favour me with their addresses.

"At present, it is only by accident that private observers hear of the discovery of Comets, &c., and it is obviously greatly to the advantage of astronomy that early and reliable information should be spread over the British Islands, without having to wait for its publication in some of our scientific journals.

"I should feel much gratified if I may feel assured of your valuable co-operation in this matter.

"Believe me, yours very faithfully,

"LINDSAY,

"Pres. Roy. Ast. Soc."

The Cresswell Cave Exploration, 1876

IT seems to me proper to notice the statements made by Mr. Heath in a pamphlet on the bone-caves of the Cresswell Crags, published in August last, and since more broadly put in the Manchester press, calling in question the results of the exploration carried on by the Committee in 1876.¹

It is insinuated that the engraved bone now in the British Museum, discovered by the Rev. J. M. Mello, and the tooth of *Machairodus*, discovered by myself, are not *bonâ fide* discoveries in the caves of the Cresswell Crags, but were placed there by some one, not specified, and were derived from some other locality, which also is not specified. With regard to the engraved bone, it is only necessary to say that Mr. Heath was not in the Robin Hood Cave when Mr. Mello's discovery was made, while

¹ Committee:—President: Sir John Lubbock, Bart., F.R.S., M.P. Secretary: Prof. Boyd Dawkins, M.A., F.R.S. Treasurer: Fredk. Longden, Esq. Members: Prof. Busk, F.R.S.; Prof. Prestwich, F.R.S.; John Evans, Esq., F.R.S.; A. W. Franks, Esq., F.R.S.; the Rev. J. Magens Mello, M.A., F.G.S.; Rooke Pennington, Esq., LL.B., F.G.S.; William Bragg, Esq., F.G.S.; R. D. Darbishire, Esq., B.A., F.G.S. The work is under the direction of the Rev. J. M. Mello, Prof. Boyd Dawkins and Mr. Heath, F.R.H.S., being superintendents. The Report will be prepared for the Geological Society of London by the Rev. J. M. Mello and Prof. Boyd Dawkins.