

LETTERS TO THE EDITOR.

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Peripatus in the Malay Peninsula.

MY friend Mr. Richard Evans, of Jesus College, Oxford, now in the Malay Peninsula with the Skeat Expedition sent out by the University of Cambridge, writes to me that he and subsequently other members of the expedition have discovered *Peripatus*. His letter, written from Aring, Kalantan, and dated August 27, states that he had found two specimens about three months previously. The locality is given as "one of the mountains here." For some months after this discovery no further specimens were found, in spite of much searching. A little before the date of his letter, however, Mr. Laidlaw, of Cambridge, had found five and Mr. Evans six additional specimens, thus bringing up the number to thirteen.

The eleven specimens which were obtained last were found in two groups of five each, while a single individual was discovered by itself in the rotten tree in which one of the groups occurred.

The individuals of a group differed much in size, although each group was probably a brood.

The colour of the specimens is chocolate-brown above with numerous small pale spots, the under-surface being pinkish yellow with a nearly white spot between the feet of each pair.

The number of pairs of feet varies from twenty-three to twenty-five, the latter number occurring in the largest and presumably the oldest specimens.

Mr. Evans has asked me to embody these facts in a note to NATURE, and I feel sure that they will be of great interest to all naturalists.

EDWARD B. POULTON.

Oxford, October 13.

Dark Lightning Flashes.

THE paper by Mr. A. W. Clayden, referred to in my lecture from which Dr. Lockyer quotes (p. 570 *ante*), is entitled "Note on some Photographs of Lightning and of Black Electric Sparks," and is to be found in the *Proceedings of the Physical Society*, vol. x. p. 180, having been read on June 22, 1889. The author's photographs were exhibited at the meeting, but were not printed with the paper.

The following extract shows that some of Mr. Clayden's observations were very similar to those described by Dr. Lockyer. He photographed some electric sparks of different intensities, "and before developing the plates exposed them to the diffused light from a gas flame. The brilliant sparks then yielded images which may either be called normal with a reversed margin, or reversed with a normal core. The fainter sparks were completely reversed. . . . The reversal seems to spread inwards as the exposure to diffused light is increased." If the section of a flash is approximately circular, the luminosity would naturally be greatest along the middle, gradually falling off towards the edge.

It was of course known long before the date of Mr. Clayden's paper that the bright parts of a photograph might be reversed by the action of diffused light before development (Sutton's "Dic. of Photography," edition of 1867, p. 299).

I think it hardly possible that any lightning flash would be sufficiently brilliant to give a photographic image with a dark core and bright edges—Nos. 5 and 6 of Dr. Lockyer's list. The image of the sun itself is not generally reversed, unless with comparatively long exposure. The picture in the *Strand Magazine* (vol. xiii. p. 44, Fig. 10), which I understand to be the only apparent example of this class of reversal which Dr. Lockyer has met with, seems to me, from considerations of perspective, to represent beyond question merely a close double flash, two connected discharges having taken the same path through a moving body of air.

Dr. Lockyer's convincing article has no doubt finally disposed of the dark flash as an objective reality. It is to be hoped that so-called "ribbon lightning" will soon follow in its footsteps.

SHELFORD BIDWELL.

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Heredity and Variation.

THE interesting suggestion made by Prof. Adam Sedgwick in his Dover address—to the effect that variability has decreased and heredity increased, so to speak, as evolution has progressed—leads me to call attention to the work of certain other writers. Prof. Bailey, of Cornell University, in his work "The Survival of the Unlike" (Macmillan) argues in detail for a similar view, *i.e.* that heredity has been gradually "acquired," while variability has been reduced. His book deals largely with evidence from plants. He stated the view earlier in certain papers. Moreover Prof. Williams, of Yale University, independently took up a like position at about the same time in several papers, the latest one having been read and discussed before the Society of American Naturalists at Ithaca, N.Y., December 1897, and subsequently printed in *Science*.¹ The point of view has become fairly familiar to American biologists. Indeed the editor of *Science* has referred to it as one of the two most important recent suggestions in the theory of evolution. As Prof. Sedgwick does not refer to these writers—though he may intend to do so in the fuller discussion which he promises—his readers to whom the suggestion appeals may find it worth while to look into them. The work of Prof. Bailey—who is a natural selectionist among botanists!—is remarkable from other points of view as well.

Oxford, October 10.

J. MARK BALDWIN.

Phosphorescent Earthworms.

IN a recent issue of NATURE (during May of the current year) Mr. Beddard, in referring to the phosphorescence of *Microscolex (Photodrilus)* and of *Allolobophora foetida*, suggests that this phenomenon is exhibited by the slime secreted by the epidermis. Will you allow me to mention my observation on a New Zealand worm that indicates that the matter is worthy of re-investigation?

Our large white earthworm (*Octochoetus multiporus*) has a milk-coloured coelomic fluid of very great tenacity; it can be drawn out into strands, and soon hardens on exposure to air. In the dark, when the worm is handled, this fluid is discharged abundantly from the dorsal pores and from the mouth, which it reaches through the "peptonephridia" opening into the buccal cavity. The fluid is brilliantly phosphorescent when freshly discharged, and the fluid sticks to one's fingers very persistently; but it soon loses its phosphorescence. I wish here merely to point out that the luminosity is due to the coelomic fluid in *O. multiporus*, and I believe that further examination will show that the same is true of *A. foetida*.

The fluid in *O. multiporus* contains numbers of "elæocytes," which are present also in *A. foetida* and other European worms; but in the New Zealand worm they are colourless, not yellow. A very remarkable kind of corpuscle is also present, *viz.* a cell containing a threadlike structure not unlike those described by Goodrich in an enclytroid a few years back. I am now endeavouring to locate the phosphorescence—that is, to ascertain which of these two cells is the seat of the phenomenon.

Dunedin, N.Z., August 5.

W. BLAXLAND BENHAM.

MEETING OF THE INTERNATIONAL METEOROLOGICAL COMMITTEE.

THE Committee met at St. Petersburg from September 2-7; the meeting was a small one, only about half of the members being present. It was opened by the Grand Duke Constantine, who delivered an interesting address, in which he specially referred to the service rendered to meteorological science by A. Kupffer, the founder of the Russian climatological organisation. The reports of the various sub-committees were read and considered, and the following are the principal resolutions arrived at:—On the report, by Prof. Rücker, upon terrestrial magnetism and atmospheric electricity, it was decided that the sub-committee should be maintained as a distinct organisation, under the direct supervision of the International Committee. In reply to a question by

¹ I regret that absence from my library makes it impossible for me to give the exact references to his papers and to Prof. Bailey's.