

arranged that when the bob is swinging, and in the position of maximum amplitude nearest the lens, the shadow of a portion of the wire immediately above the bob, thrown on a screen some 32 feet distant, is clear and distinct, and coincides with a vertical black line thrown on the white screen.

The bob is drawn back towards the lamp about eight inches, by a loop of thread, and when we wish to experiment the thread is then burned in the usual manner.

When the pendulum completes its first oscillation, the shadow falls exactly on the black line traced on the screen. In about five minutes the shadow has moved to the left of the line, and in ten minutes conspicuously so. In this time the maximum amplitude has decreased so little that the image on the screen is still distinct and clear when the pendulum is in a position nearest the lens.

W. R. WESTROPP ROBERTS.

Trinity College, Dublin.

Snake Cannibalism.

HAVE read with interest the numerous accounts of snake cannibalism which have lately appeared in NATURE. During my residence in South Africa, I have come across several instances of a similar nature. A few weeks ago I received a large roughals (*Sefodon hamachate*) which had swallowed another one of the same kind and of nearly its own length. As the swallowed individual was too long to disappear completely before the front portion of its body was digested, its tail was sticking out of the mouth of the swallower by about six inches. I have dissected two yellow cobras (*Naja haji*), each of which had swallowed a puff adder (*Vipera aritans*) more than three feet long. This case is very interesting, as the puff adder has much larger fangs than the yellow cobra, and in a fight the latter would probably succumb. To mention only one more case, I received, some years ago, the skins of a cross-marked schaapsticker (*Psammophis crucifer*) and a spotted schaapsticker (*Psammophylax rhombatus*), the former of which had swallowed the latter. In all cases which have come under my personal observation the swallowed snakes had entered head first, and thus probably they were simply drawn in after having caught hold of the same prey as the swallowers. In conclusion, I may mention that cases similar to the above are frequently described in the South African newspapers.

J. SCHÖNLAND.

Grahamstown, South Africa, March 1.

American Fresh-water Sponges in Ireland.

A SHORT time ago, Dr. R. F. Schaff, Dublin, sent me a small collection of Irish Spongillidæ. The examination of the material resulted in the discovery of two or three American species, obtained from the West of Ireland, viz. *Heteromeyenia ryderi*, Potts, *Tubella pennsylvanica*, Potts, and (?) *Ephydatia crateriformis*, Potts, the first of these three species having been identified by Dr. W. Welner, Berlin. All these species are new to Europe, and as they were found in a small collection taken more or less at random, it is probable that if the fresh-water fauna of the West of Ireland were thoroughly investigated, a great many more American species would be discovered.

Details will be published in the May number of the *Irish Naturalist*.

R. HANITSCH.

University College, Liverpool, March 13.

Peripatus in the West Indian Islands.

WEST INDIAN records show that occasionally single specimens of various species of Peripatus have been found in the different islands. During the past week, Mr. Lunt, my assistant, found a single specimen, and a further search being organised, resulted in the capture, by two collectors, of fifty specimens. These, it is believed, belong to two different species, and a goodly number of the specimens have been sent for determination to the British Museum.

Either the animals are more numerous than usual, or the previous search for them has not been a very careful one, as the whole of our specimens were found within the precincts of the Gardens.

J. H. HART.

Royal Botanic Gardens, Trinidad, March 6.

Planetary Photography.

I UNDERSTAND that in photographing a planet, such as Mars, only a short exposure can be allowed, because there is no way of compensating the planet's axial rotation. But, while following the planet with the equatorial, would it not be possible to compensate this axial movement by slowly sliding the plate, so that certain features of the planet should fall always on the same parts of the plate? If this is so, an exposure of some length might be available for the more central portions of the disc, those portions for which, during the interval, no serious alteration due to foreshortening comes into play.

Cardiff, March 23.

C. T. WHITMELL.

Cleaning Tobacco Pipes.

I HAVE discovered a new method for cleaning pipes which have become foul. A shallow cork, through which a hole is bored large enough to enable it to fit tightly on to the nozzle of a soda-water syphon, is fitted into the bowl. The nozzle is inserted, the mouth-piece directed into a vessel, about a wine-glassful of soda-water forced through, and the pipe is clean!

This is not a scientific discovery, but it may be of use to those scientific men who are smokers. Rubber stoppers answer better than corks.

CECIL CARUS-WILSON.

THE HABITS OF LIMPETS.

SOME observations made by the present writer at the Scottish Marine Station during July 1884, were published in NATURE for January 1, 1885. These observations confirmed the statements previously made by various naturalists, from Aristotle onwards, that the common limpet (*Patella vulgata*) settles down on some eligible spot (its "scar") between tide-marks, and makes a home, to which it returns after having been out to feed. The conclusion was drawn from various data that this "locality sense" is independent of smell, sight, and touch so far as the head-tentacles are concerned. Prof. Lloyd Morgan, in a letter to NATURE ("Homing of Limpets," December 6, 1894), has shown that the limpet possesses an even greater power of "homing" than previous observers have suspected, and he believes that the head-tentacles are the sense-organs concerned.

Since 1884, I have made further notes, and aided by a grant from the Research Grants Committee of the Royal Society, to whom my best thanks are due, have pursued the subject with some care during the past year. The results, apart from those connected with histology, here follow.

The limpets observed live on a reef, which extends several hundred yards seawards (practically west) from the front of Aberystwyth College. The rocks are Silurian grits and imperfect slates, alternating in a very regular way, striking north and south, and tilted at high angles. At low tide the *Laminaria* zone is well exposed, and for some yards above this the rocks are somewhat bare, except that they are thickly encrusted with small *balani*. Nearer the land various brown seaweeds (mostly *Fucus serratus*, *F. vesiculosus*, and *Ozothallia nodosa*) thickly cover the reef, except towards high-water-mark, where they become scanty. Throughout this area limpets of all sizes abound, being specially numerous, however, on the barnacle-encrusted rocks above mentioned. Groups of them were here marked with enamel paint, and watched. A number of observations were also made on the small limpet, which lives on *Laminaria*, and has its shell marked by three diverging blue streaks (*Helcion pellucidum* = *Patella pellucida*).

Food and Feeding.—As before, the chief food noticed consisted of the minute algæ coating the *balani* and rock-surfaces. Specimens were also found feeding on the calcareous seaweeds *Corallina* and *Melobesia*, on *Fucus*, and on *Laminaria*. It was suggested in the previous notes that the great length of the radula is perhaps