

On Iron Crows' Nests.

THREE years ago, the removal of an old tree in the Cossipore Ordnance Factory, near Calcutta, brought to light a singular bird's nest, composed mainly of bent and twisted fragments of stout iron wire, such as is used to bind up bundles of bar iron for transport. The pieces, which were all about as thick as stout telegraph wire, were of considerable length and weight, and were keyed together by their own irregularities; but as there was no evidence by which to identify the builder, I merely made a note of the circumstances.

Last year, however, attracted by the laboured flight of a crow carrying in its bill a very unwieldy and apparently heavy load, I watched the bird until, frightened by a passing object when about two feet from the ground, it dropped its burden, which I at once secured. I found it to be a piece of crumpled iron wire, which on measurement in my laboratory proved to be $2\frac{3}{4}$ inches long between its apparent extremities (straightened out it measured $35\frac{1}{2}$ inches in length), to have a diameter of $0\cdot125$ inches (=No. 11 B.W.G.), and to weigh $55\cdot72$ grammes, or nearly 861 grains. The bird was in the main road, about 300 yards from the site of the original nest.

This evidence as to the ownership of the nest, and of the weight which an Indian crow can carry, may perhaps interest some of your readers.

WALTER G. McMILLAN.

Mason College, Birmingham, April 20.

Early Arrival of Birds.

MR. PRIDEAUX, in the last issue of NATURE, having recorded the unusually early arrival of the summer migrants in Surrey, it may perhaps be permissible to state the date of arrival here. The cuckoo, uttering its festive note, flew into a tree in my garden on March 25, attracting the attention of the whole household, and has been heard at intervals in the neighbourhood of Worcester ever since. The swallow and martin were here on the 4th inst., the willow warbler and the white-throat on the 7th, and the red-start on the 16th. Nidification was remarkably early this season. In my garden the long thrush, blackbird, and robin hatched out by March 30, and the missal thrush in an orchard close by was, as usual, earlier in its family arrangements. I heard the swift on the 26th inst. The spring flora was also early: lilac, hawthorn, bluebell, cowslip, primrose, wood anemone, spotted orchis, and orchis morio were in blossom on the 20th inst.; the sweet violet gone, and the dog violet blooming profusely in its place.

There is nothing wonderful in the cuckoo being here in March. The wonder is that it was then vocal.

J. LLOYD BOZWARD.

Henwick, Worcester, April 28.

Irritability of Plants.

IN your issue for April 19 (vol. xlix. p. 586) there is a short notice of a paper by Prof. Pfeffer on the "Irritability of Plants." In it you say: "Pfeffer instances the remarkable researches of Hegler on the effect of mechanical traction on growth stems, which when stretched by a weight, gain mechanical strength through the development of the mechanical tissues, which follows as a response to the pull to which they are subjected."

This recalls to mind the interesting passage in Tennyson's "Idylls of the King":

So Gareth ere he parted flash'd in arms.
Then as he donn'd the helm, and took the shield
And mounted horse and grasps a spear, of grain
Storm-strengthen'd on a windy site, and tip
With trenchant steel.

Derby, April 24.

R. M. DEELEY.

The Action of Light on the Diphtheria Bacterium.

SOME time ago it was reported that colonies of the diphtheria bacterium do not thrive well when exposed to light, and it occurred to me that the electric light might afford a means of checking the development of the false membranes by projecting a very powerful arc light on the throat, for it is known that the tissues are to some extent penetrated by light. Or possibly the arc light could be sent into the throat through the mouth? I know that in Germany microscopic objects have been lighted with the aid of a lamp

placed at some distance, and connected to the microscope by a curved glass rod, which conveyed the light by internal reflection. Incandescent lamps might be used in a similar manner, and some means could be devised in order to intercept the heat they produce, if it be objectionable.

A few days ago I noticed an article on Dr. Phillips' electric lamps, which he has employed to light the mouth, and the cavities between the mouth and the nose, and you recently published a paper read before the Royal Society, by Prof. H. M. Ward, on the bactericidal action of light, which partly confirms my views. It seems worth while, therefore, to make experiments with arc rays projected indirectly as above, and with incandescent lamps, and that especially upon diphtheria membranes.

J. EREDE.

Rome, April 18.

Centipedes and their Young.

IN No. 1275 of NATURE (vol. xlix. p. 531), Mr. Ulrich, of the Trinidad Field Naturalists' Club, asks for information about the breeding habits of centipedes.

Similar observations to those made by the members of the Trinidad Club, and described by Mr. Ulrich, have been published by Kohlrausch ("Beitrage zur Kenntniss der Scalapendriden." Diss, Marburg, 1878), and these are referred to in the standard work on Myriapoda by Latzel ("Die Myriapoden der Oesterreichisch-Ungarischen Monarchie." Wien, 1880, p. 136), and also in the "Lehrbuch der nerglischenden Entwicklungsgeschichte" (Jena, 1890), by Korschelt and Heider, p. 725.

Czernowitz, April 25.

R. v. LENDENFELD.

Marsupites in the Isle of Wight.

IN a recent visit to the Isle of Wight, plates of *Marsupites* were found by Mr. R. M. Brydone and myself at Freshwater.

The locality is one in which these fossils might be expected to occur, but so far as I know they have not been recorded hitherto from any part of the island; certainly not by Barrois, nor in the last edition of the "Survey Memoir."

Winchester College.

C. GRIFFITH.

POINCARÉ ON MAXWELL AND HERTZ.¹

AT the time when Fresnel's experiments compelled all researchers to admit that light is due to the vibrations of a very subtle fluid filling the interplanetary spaces, the researches of Ampère made known the mutual actions of currents, and founded electrodynamics.

But one step more was required to suppose that this same fluid, the ether, which is the cause of luminous phenomena, is at the same time the vehicle of electrical actions. This step Ampère's imagination enabled him to take; but the illustrious physicist, while announcing this seductive hypothesis, did not see that it was so soon to take a more precise form, and receive the beginning of its confirmation.

It was still, however, but a dream without consistence, till the day when electric measures indicated an unexpected fact—a fact recalled by M. Cornu in the last *Annuaire*, at the end of his brilliant article devoted to the definition of electric units. To pass from the system of electrostatic units to the system of electrodynamic units, a certain transformation-factor is employed, the definition of which I will not recall, as it is to be found in M. Cornu's article. This factor, which is also called the ratio of unities, is precisely equal to the velocity of light.

The observations soon became so precise that it was impossible to attribute this concordance to chance. One could not doubt therefore that there were certain intimate relations between the optic and the electric phenomena. But the nature of these relations would perhaps still have escaped us if Maxwell's genius had not guessed it.

¹ Translation of an article by M. Poincaré, in the *Annuaire* of the Bureau des Longitudes for 1894.