

upward and form quasi-vertical planes. The points still to be settled are:—1. Why these layers when turned up should not re-mix with the general mass, if their separation is due only to gravity, especially when as thin as $\frac{3}{16}$ inch, or $\frac{1}{16}$ of their length? 2. Why a particular sharply-defined space in the above figure should be avoided by the lines? 3. Are the causes the same as those preventing the uniform diffusion of charcoal dust in water?

These figures are not due to any form of caustic curves, though mistaken for such at first sight, and therefore neglected.

W. M. FLINDERS PETRIE

Velocity of Light

If you can spare the space please state that the corrected result for the velocity of light (NATURE, vol. xxi. p. 94) is—
299944 ± 50 kilometres,
or 186380 ± 33 miles per second.

A. A. MICHELSON

328, Fifth Avenue, New York, N.Y., December 17, 1879

The Word "Telegraph"

I HAVE recently had occasion to ascertain the period when the word "Telegraph" first came into use; the following may be of interest to your readers:—

It is not mentioned in Johnson's Dictionary, 1810, but it occurs in the edition of 1818. In that valuable work, Rees's "Encyclopædia," 1819, vol. xxxv., we find:—"The word telegraph, which is derived from two Greek words, *τῆλε*, at a distance, and *γράφω*, to write, was brought into use about 1793 or 1794, when the French Directory established machines of this kind for communicating intelligence between Paris and all the principal towns in France. The British Government soon after adopted the same measure, and it has since become very general." So that telegraph and semaphore are both of French origin.

In the grand French "Encyclopédie" of Diderot—1778—the word telegraph does not occur. WARREN DE LA RUE
73, Portland Place, W., December 31, 1879

The Lophiomys

As the oft-repeated statement (which originated with M. Alphonse Milne-Edwards) that the roofed-in temporal fossa of the *Lophiomys* finds its parallel in certain reptiles alone reappears in the pages of Messrs. Cassell's excellent "Popular Natural History" (see NATURE, vol. xxi. p. 137), it is high time that it should be modified in accordance with more recent anatomical investigations, which show that two *amphibian* genera, *Pelobates* and *Calyptocephalus*, participate in this singular abnormality.

Beddington Park

PAUL HENRY STOKOE

Scorpion Suicide?

MR. F. GILLMAN's note (vol. xx. p. 629) in favour of scorpion suicide carries with it its own refutation, as will be seen by examining the details of his cruel experiment. Given the "circle of glowing charcoal embers a foot or so in diameter," and the inference is that the central temperature of that circle would be well nigh "glowing" too; dropped into this fire-bound ring, the poor scorpion would at once be scorched nigh unto death, and to escape the ensuing agony, why does it not, then and there, commit suicide? No, "after vain attempts to get away," in each of which it is more and more scorched, if not absolutely burned in its head, its vital powers fail, and its last instinctive throes is to gather its limbs together as much as possible, away from the heat. The heat has killed it, and I defy Mr. Gillman, or any one else to prove that, in this experiment, the scorpion "pierces its head with its sting and dies" in consequence.

As our winter has set in, and the crickets had gone into winter quarters, I determined upon giving my scorpions an opportunity of doing the same, so, taking them into the garden, I emptied them into a hole. I only mention this to illustrate my remarks on change of colour in lizards, for, taking my scorpions into the sun, out of a comparatively dark room, each individual distinctly assumed a lighter hue on the way to the hole.

Peshawar

R. F. HUTCHINSON

Strange Incubation in Fishes

Propos of my note on strange incubation in fishes, I send you, *quantum valeat*, an extract from Mrs. Yelverton's *olla podrida* of

travels, "Teresina Peregrina," vol. ii. pp. 15, 16: "His Highness (the Tumangong of Johore) had a splendid collection of orchids, which it seemed to gratify him to point out to me. I recognised many of them as my old friends, the acanthus-shaped denizens of the Cambodian forests, from whose urn-like leaves my people used to bring me down the little fish. This *bouleversement* of natural history may sound like a traveller's tale, but the explanation is simple.

"The aquatic birds often drop the spawn of the fish into the calixes (*sic*) of these beautiful parasites, which the next shower of rain turns into basins or pools of water, wherein the little fish first opens his eyes and receives its consciousness, probably believing firmly that it is the proper thing for a fish to live in a tree (so strong are early impressions), while all the rest of the world, fish, flesh, and fowl, view him with amazement.

"Many of our beliefs have not one whit more solid foundation than this fish's belief in the cornucopia of the orchid being a real fish-pond, because a few accidental fish got there through the slaving of some ill-mannered water-fowl." !!!

Peshawar, December 2, 1879

R. F. HUTCHINSON

FURTHER NOTES UPON THE PAPUANS OF MACLAY COAST, NEW GUINEA¹

II.

OBJECTS of Art.—Specimens down to the simplest and commonest ornament were collected, or, at any rate accurately copied by M. Maclay, for the reason that the natives of Maclay Coast were still in the "Stone age"—a period which will soon belong to the past, and of which the relics are yearly becoming rarer and rarer. The implements as yet discovered by the Papuans, and upon which artistic skill has been expended come under two categories. 1. Fragments of flint, shells, and bones. 2. Chipped stones in the form of axes. The ornaments themselves may be divided into three classes. (a) Ornaments properly speaking, engraved, or drawn on their own account solely, and serving none other than a decorative purpose. (b) Ornaments and drawings demonstrating the first beginning of the figurative or ideal style of writing. (c) Ornaments, sketches, and carvings, which stand in relation to the superstitions and dark stage of religious ideas among the Papuans.

1. *Ornaments in the strict Sense of the Word.*—The salient character of most Papuan ornaments is that they are for the most part rectilinear, and for the reason that bamboo and reed, from which the majority of their utensils are made, are best adapted for such style of decoration, for it is, as Maclay has practically convinced himself, difficult to draw or scratch round and circular designs upon the substance, while straight lines, on the contrary, can be made with ease, the tools being sharp fragments of flint or shell. It is upon the bamboo receptacles for lime for betel chewing, but more especially upon the large comb which is worn by all men that their decorative skill is principally expended. That style of ornament which of necessity was adopted for articles of bamboo, is also applied to such as are of other material, *e.g.*, wood or clay, for the Papuan, in general with the rest of mankind, is influenced by laziness, for he lacks the energy to make trial of such designs as would be more suitable for the latter kind of material. Some of the designs, however, upon wood are of a curved and circular character, but these are difficult to make with such primitive tools as the Papuan possesses. A slight scratch with a piece of flint suffices to mark a line upon the epidermis of bamboo, while in the case of wood, strong pressure and tedious scraping or scratching are necessary to produce a superficial design. More trouble, moreover, is expended upon things made of wood, such as drums and canoes (*praus*).

That the want of variety in subjects of decoration does not proceed from lack of inventive power and skill is shown by the fact that directly after use was made of the

¹ Continued from p. 206.