

nished with an excellent index. It is an entertaining and instructive book, and we wish it all success.

GEORGE J. ROMANES

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.]

Thought-Reading

By the courtesy of Dr. G. M. Beard of New York I had the opportunity of witnessing some interesting experiments in artificial trance performed on one of his trained patients, thought-reading being one of the phases exhibited. After his discovering objects in the usual way, I used a fine copper wire about a yard in length. I wound one end round the right hand of the patient (after he was hypnotised) and then placed his wired hand against his forehead. The patient then wandered round the room in an aimless sort of manner, the wire all the time being quite slack, but the moment I attempted, however gently, to increase the tension just sufficient for him to feel it, he instantly moved off along the direction of the wire, like a horse with a rein. I subsequently tried a thicker wire. The patient stood with his face in a direction at right angles to my own; he moved straight towards the table on my left hand, and after oscillating his head sideways as if trying to find some particular spot, he finally brought his forehead slowly but with great accuracy down upon a metal disk about $1\frac{1}{2}$ inches in diameter, and at a distance of about 18 inches from the edge of the table. This was exactly what I had "willed."

The different effects produced by a slack and a stiff copper wire respectively would seem to show, clearly, that the patient cannot acquire the "will" of the operator unless the connection be sufficiently rigid to communicate the involuntary muscular action of the operator, however imperceptible such action may be to the latter himself, who wills what the patient is to do.

GEORGE HENSLOW

A Gun-Signal Recorder

In the judgment recently delivered by Mr. Mansfield on the stranding of the steamer *Britannic*, he says:—"With respect to the signals from the Hook Tower it is stated that the gunner who discharged the gun—a twenty-four pound gun—commenced firing at 1.50 a.m. on July 4, and continued firing at intervals of ten minutes till 10.10 a.m. He took the time from his watch, as his sandglasses were unserviceable; he had no light but a dark lantern in his gunhouse. Without imputing to him intentional neglect of his duty or wilful misrepresentation, it seems to the Court that he may have been less vigilant and less accurate than men who were keenly awake to the difficulties of their position, and who must have known that the safety of the ship was involved in their taking the time between the signals with scrupulous care. In his unsupported testimony the Court cannot find that the signals from the Hook Tower were fired at regular intervals of ten minutes. Looking at the importance of accuracy between the intervals of the fog-signals, the Court wish to draw attention to the statement of the gunner that he has no relief in his duty, however prolonged it may be; nor do the Court find that there is any check, mechanical or otherwise, on the gunner to insure accurate firing."

The writer would suggest that a simple recording apparatus might be made by means of a clock controlling the movement of a strip of paper, as in the Morse telegraph; this strip being divided by transverse lines into spaces representing minutes and seconds.

A diaphragm of thin sheet iron, caoutchouc, or other suitable material, connected with a metal point as in the phonograph, would then register each explosion of the gun by depressing the point on to the paper strip, and either making a pencil-mark or a perforation. Such an instrument would be a check on the accurate firing of the gun in the station where it was placed, and the production of the strip would do much to remove the uncertainty which appears to have existed in the case above cited.

Liverpool, July 30

A. G. P.

Symbolical Logic

As Mr. Venn appears to be really serious in accusing me of having misquoted him, I may as well give the whole sentence which contains the statement which he says I distorted. The complete sentence is this:—

"Take, for instance, such problems as those of which Prof. Jevons has discussed a sample under the name of Numerical Logic (*Pr. of Science*, p. 169), as any of those which play so large a part in Mr. Macfarlane's volume, or, still more, as those problems in Probability which Boole justly regarded as the crowning triumph of his system."

I certainly thought that in this sentence the last relative pronoun *which* referred to Boole's probability problems in general, but especially to that much discussed problem (sometimes called his "challenge problem") which Boole gave in illustration of what he conceived to be the superiority of his "general method" over the usual methods. It never struck me therefore that Mr. Venn would seriously accuse me of misquoting him because (in order not to inflict upon the readers of *NATURE* the irrelevant three-quarters of the above sentence) I represented him as saying that Boole "justly regarded his problems in probability as the crowning triumph of his system." What then are the problems to which Mr. Venn refers? This, I own, is not a point upon which I have "any claim to call for an answer," but I think it is a point upon which he might courteously condescend to gratify the natural curiosity of many admiring readers of his "Symbolic Logic," who (unlike me, I am afraid) cannot be suspected of any unkind wish to place him in a difficulty.

Boulogne-sur-Mer, August 2

HUGH MCCOLL

Bisected Humble-Bees

AT the end of my garden two magnificent lime-trees grow, on which bees—of specimens of which I herewith send you portions—feed at this time of the year by hundreds—by thousands. What kind of bees are they? But the following are the points on which I should like some information. Every morning I find numbers of them on the ground, helpless, behaving very much like men when they are drunk. What causes this? Next, how comes it to pass that, apparently, these helpless bees all become bisected or trisected as the specimens I send? This morning there are hundreds of portions under the trees. We have a family of "fly-catchers" in the garden—would they do it?

T. MASHEDER

The Grammar School, Ashby-de-la-Zouch, July 29

[The bees are a common species of *Bombus* (Humble-bees), mostly workers, and mostly bisected at the junction of thorax and abdomen. Perhaps wasps are the culprits, adopting this method in order to rob the bees of their honey-bags. We shall be glad to have information on this point.—ED.]

A New Meter for Electric Currents

IN *NATURE*, vol. xxiv. pp. 294-5, you notice a new meter for electric currents, giving a description which is fairly correct for a slight sketch, and attributing the invention to Mr. Edison. The invention, however, is not American, but English, and, as the inventor, I think myself entitled to whatever credit this entirely novel system may merit. My patent rights for America have been purchased of me, and the invention will be shortly in use in New York.

JOHN T. SPRAGUE

Birmingham

[Our correspondent is doubtless right in his claim. Nevertheless the invention we referred to in the brief note in question has been recently patented in this country on behalf of Mr. Edison, presumably at a later date than our correspondent's invention. We should be glad if he would kindly furnish us with the date of his English patent. We certainly meant no injustice in publishing the note.—ED.]

A POPULAR ACCOUNT OF CHAMÆLEONS¹

II.

THE next most interesting of the animal's life processes is its change of colour. Mistakes and exaggerations as to this matter are of very old date. Aristotle believed

¹ Lecture delivered at the Zoological Gardens on July 28, 1881, by St. George Mivart, F.R.S. Continued from p. 312.