which are far less trouble to make, that it was only sent me yesterday. I at once used it to photograph a man's hand on an inverted celluloid film, the whole enclosed in a black bag in the usual way. With five inches of spark, and an exposure of three minutes at eight inches distance from the film, I obtained fine definition of the bones as far as the film went, including the junction of the two bones of the arm with the wrist. No Tesla apparatus was used. Had it been, doubtless the exposure could have been considerably shortened. An area of twelve inches by ten inches was covered perfectly. The tube was then set on for thirty minutes without stopping with a ten-inch spark coil, and showed no perceptible heating.

Although the definition was even better the original tube with the platinum required an exposure of ten minutes under the same conditions.

I should like to draw attention to a curious dark shadow, which appears to be hanging in mid-air just above the anode, when the six-inch tube is set in action, and persists for some time afterwards. This shadow has the appearance of an ovoid dark space surrounded by a halo, and is probably the shadow of the kathode. Is it possible that rays proceed from a spot coincident with this shadow? A few rough experiments I have made, seem to lend colour to this view.

Chard, March 8. J. WILLIAM GIFFORD.

I SEE, from a note in last week's NATURE, that some little doubt has been thrown upon the practical value of Röntgen's discovery in surgery. The following notes may therefore be of some interest.

With regard to the cryptoscope—after trying a number of substances, I have fallen back upon potassium or barium platinocyanide for the screen; the potassium salt was suggested to me, and I find the shadows show up in some respects better. The special form of cryptoscope which I have made is binocular, and with a good Crookes' tube I have had excellent results. I have been able to see distinctly shadows of the whole of the bones of the upper extremities, and a good portion of the lower; but what is most interesting, I have been able to look straight through a skull into which I had placed two or three bullets, and had no difficulty whatever in seeing shadows of them, although somewhat enlarged.

With regard to the photography—I have photographed the inner table of the cranium, the upper part of the spine in the neck, and half the spine and vertebræ in an adult. Not only have I got shadows, but distinct images of the surface of the bones of the spinous and transverse processes of the vertebræ; the ribs being particularly well defined. I have also photographed all the joints in the body with two exceptions, and this for the simple reason that I had not time to do them.

For practical purposes exposure is of importance. Fortunately the movable parts, such as the extremities, are more easily photographed than the denser and thicker tissues of the trunk. In other words, where we require quick exposures the conditions are more favourable.

I believe the Röntgen photography, and the cryptoscope, will prove to be one of the most valuable discoveries ever placed before us. JOHN MACINTYRE.

179 Bath Street, Glasgow, March 16.

WHILE a Crookes' tube discharges an electroscope charged with positive or negative electricity, when negative most rapidly, I have found with several of the ordinary spectrum tubes, particularly one containing oxygen, and another hydrogen, that these tubes produce the Röntgen rays, but act differently upon a charged electroscope. When the charge is positive, the leaves collapse immediately; when negative, they open out still further.

With the spectrum tube containing oxygen, good impressions have been obtained upon a photographic plate in four minutes.

London, March 16. F. J. REID.

The Huxley Memorial.

SINCE last a public announcement was made, the names of Sir H. H. Johnston, K.C.B., H.M. Commissioner and Consul-General in British Central Africa, and of Mr. Charles Hose, resident magistrate at Sarawak, have been added to the General Memorial Committee, which now numbers considerably over 700 persons, representative of science, literature and art, in all parts of the world.

The amount promised and received now exceeds £2300, and as a sufficient sum is thus guaranteed for the statue at the British Museum of Natural History and the medal at the Royal College of Science, London, the first two objects of the Committee definitely decided upon, Sub-Committees have been appointed to carry these objects through, and designs for the statue are now being prepared by Mr. Onslow Ford, R.A.

Appeal is now being made for the third object of the Committee, viz. "the furtherance of biological science in some manner to be hereafter determined, dependent upon the amount collected." The foundation of exhibitions, scholarships, or lectureships has been proposed, and for this purpose a considerable sum will be required. The efforts of the Committee to raise this are being promoted by the organisation of Local Committees in all parts of the world. Conspicuous among the results already obtained by this means is the receipt of £25 from the town of Leicester, through the mediation of its Literary and Philosophical Society; and it is hoped that this may be taken as a criterion of expectation from other localities. Donations of any amount will be gladly received by the Hon. Treasurer, Sir J. Lubbock, Bart., or by the Bankers, Messrs. Robarts, Lubbock, and Co. (15 Lombard Street, E.C.), or by myself.

A circular is now printed for distribution in lecture-rooms and elsewhere, and I should be very glad to communicate with friends or admirers of the late Prof. Huxley, or with persons connected with societies or institutions, who may be willing to aid the Memorial Committee by distributing copies of this letter or in any other manner. G. B. HOWES,

Hon. Sec. Huxley Memorial Committee.

Royal College of Science, South Kensington, March 17.

Natural History Museum.—Bird Gallery.

MAY I ask when the "common people" Mr. R. B. Sharpe speaks of in your issue of February 20, will "have the opportunity to read, mark, learn, and inwardly digest what the Museum is trying to teach"? As regards the Bird Gallery, the "opportunity" seems to be no nearer than it was fourteen years ago. Surely there has been time during that period for the preparation of a "guide" for the Bird Gallery, equally with the Shell and various other departments. *All* the "common people" can learn at present, is the scientific and, in some cases, the popular name of the bird, and its habitat. Among the thousands of species exhibited, there must be many whose history, written in a few lines, as is done with the British specimens in the table-cases, would be both interesting and instructive. I may add that there is no "guide" to the Department of British Zoology.

E. S.

The Aurora of March 4.

THE fine auroral display, noticed in NATURE, March 12, pp. 437 and 444, was brilliantly visible from the streets of Dublin at 8 p.m. on March 4. The great beam, rising from the characteristic bank of cloud into a starry sky, originated due west, and, if continued, would have passed to the south of the zenith. At 8.5 three or four short parallel rays, resembling a gridiron, appeared in a patchy way some 20° to the north, in a similarly clear sky; they disappeared rapidly, and five similar parallel bars arose close to the north side of the main ray at 8.10. At 9.30 the display had faded, as far as the city was concerned. GRENVILLE A. J. COLE.

Royal College of Science for Ireland.

Inverted Images.

MANY years ago I tried the method of reading a book upside-down on people who had never consciously attempted it before. I was surprised at the very great difference of aptitude. Generally individuals who had clear recollections of form, and could reproduce sketches of what they had seen more or less correctly, read easily and at once; but the greater number read slowly, frequently spelling as they went along. A boy of nine years of age, who was in the habit of reproducing on paper, with scissors, horses, dogs, cats, coaches, &c., read upside-down at once. I noticed that in cutting his patterns he sometimes cut his horse upside down, but more frequently the normal way. The same