experiences differ as to the visibility of objects seen through a dewed plate. There are two reasons for this. One is that the test objects were quite different. His was a gas flame, while mine was a landscape, an object much more easily rendered invisible than a flame. The second reason for our difference is that he dewed his plate by breathing on it, and I can quite imagine it would be difficult to get sufficient obscurity by that process. I, on the other hand, dewed mine by cooling the back of the plate with a piece of ice, by means of which any amount of deposit may be obtained. I have lately tried a test object similar to Lord Rayleigh's, using an incandescent gas light. By continuing the cooling and condensation long enough, it was found possible gradually to diminish the visibility of the mantle until it all vanished and only an irregular bright, undefined centre of light remained. JOHN AITKEN.

Ardenlea, Falkirk, January.

An Electrical Phenomenon.

THE form of high-resistance Bell telephone receiver which of recent years has been evolved for use in some systems of wireless telegraphy, gives us an extraordinarily sensitive means of detecting variable electric currents of a very minute description.

Using one of these instruments, made by Mr. H. W. Sullivan, which is wound with so many turns of very fine wire that it has a resistance of 5000 ohms, I have found at my residence, 40 Chester Square, a somewhat surprising state of things.

Holding one terminal of the telephone in one's hand so as to connect the electrostatic capacity of one's body, and applying the other terminal, which one must be careful not to touch, to any metallic object of considerable size in the house, one immediately hears in the telephone a singing noise. The larger the metallic object and the higher up it is in the house, the louder the sound. The sound is also made louder if one's own electrostatic capacity is increased by contact with another person or with a metallic sheeting. The metal of all the fireplaces gives the sound most distinctly, as does also an iron bedstead on the third floor, which stands on glass castors free from contact with the wall. The sound can be obtained even from the brass stair-carpet rods only about 3 ft. long, particularly towards the top of the house, and it can also be got from the gilt of picture frames. All the curtain-poles give it loudly.

The position of the object from which the sound is obtained does not appear to matter, excepting that, as mentioned, the higher up in the house the louder is the sound.

There seems to be no question that the cause is some form of electrical induction, or wave, from the electricity supply, which is direct current, from the Westminster Company. That this is so is evidenced by the fact that an exactly similar note can be obtained from the supply mains. The sound appears to be due to a ripple superimposed on the continuous current by the commutators of the dynamos, and at times the beat of the fast-running engines, such as do, in fact, supply the current at certain hours, can distinctly be heard. Furthermore, the phenomenon described above ceases the moment the supply is cut off at the house by opening the double-pole main switch.

It should be mentioned that on the top of the house there is an aërial, consisting of a piece of wire-netting 20 ft. by 4 ft. in area, supported on four insulators about 10 ft. above the roof, with a wire coming down from this outside the house and entering a room on the ground floor, the whole being destined for use as a wireless receiving station. It is possible that this aërial may have some influence, but the fact that putting it to earth or leaving it insulated does not seem to have the slightest effect upon the results obtained seems rather to point to an opposite conclusion.

It should, however, be mentioned that with the telephone receiver connected between the wire leading to the aërial and the water-pipe, the singing noise is still very distinctly audible, even after the main double-pole switch is opened, which points to there being a field of force operating on the aërial either from the street mains or from the electric wiring in the neighbouring houses.

Similar experiments at this office, which is also supplied by the Westminster Company, give a very high-pitched but rather faint whistling sound when the telephone is applied either to the water- or the gas-pipe, while the metal of the fireplaces also gives a similar sound, but so very faintly that it is barely discernible. This sound, too, is no doubt due to the high-speed commutators of the turbo-generators which supply this portion of the Westminster system.

A. A. CAMPBELL SWINTON.

66 Victoria Street, Westminster, S.W.,
February 4.

Luminous Halos surrounding Shadows of Heads.

I REMEMBER when I was a boy, more than eighty years ago, that I used to notice this luminous halo surrounding the shadow of my head on the water when I was fishing from a bridge in the meadows below Salisbury. I think it was in some way connected with the ripple on the water, which was so clear that I could see the fish. I mention this because similar conditions could be easily met with.

O. FISHER.

Graveley, Huntingdon, January 30.

THIS phenomenon may sometimes be seen in this country when one's shadow falls on grass. It is not necessary that the grass should be wet, if the leaves have a shining cuticle; but the general direction of the blades (which grow usually more or less parallel to one another) in relation to the position of the sun at the time must be such that its rays strike their surface at an angle approaching a right angle. Under these conditions the blades of grass from which most light reaches the observer's eye are those upon which the sun's rays fall, and are reflected to him, most nearly perpendicularly, and the rays which do so are those which pass closest to his head without being intercepted by it. Hence there appears to him a ring of brighter illumination immediately surrounding the shadow of his head, the effect being heightened by contrast. Farther from the shadow, as the angle of incidence becomes more oblique, the luminous ring becomes gradually merged into the general illumination. The reason why the bright ring is not seen round the lower parts of the body or around the heads of other persons is that these are not so nearly in the direct line of incidence.

The phenomenon "A Shadow and Halo" is described in NATURE in 1888 by several correspondents (vol. xxxviii., pp. 540, 589, 619), and its production by reflection from dewy grass is explained on the lines I have mentioned.

An analogous phenomenon is the striped appearance of a lawn or grass field which has been rolled by a roller passing alternately in contrary directions. Where the roller has travelled in a direction from the position of the observer the blades of grass are bent