

substances called acids by the chemist, surely does not need a choice of seven brand-new names. In fact, one Faraday did some very important work indeed in the subject generations before the modern hydrophobic school, with its inveterate aversion to "anything wet," had arisen.

FREDERICK SODDY.

The Stereoscopic Appearance of Certain Pictures.

DR. EDRIDGE GREEN'S explanation on p. 375 of NATURE of November 18 does not go quite far enough. It is true that a picture in correct drawing and perspective will be correct only for one eye, but the eye must be situated at a certain point which is geometrically defined by the elementary rules of perspective. A photograph taken by a pin-hole camera or with any good lens is in true perspective. It should be viewed at the same angle as that with which it was taken; in other words, it should be viewed from a distance equal to that of the pin-hole (or a certain point in the lens combination) from the plate.

Photographs and illustrations are generally viewed at too great a distance. With an angle of view of 55° the eye should be at a distance approximately equal to the longest dimension of the picture. If this is considerably less than 250 mm. to 350 mm. (say 10 in. to 14 in.) a lens must be used, not for magnification—which is a disadvantage in the case of coarse-grained process blocks—but to enable the eye to be used at approximately the right position. Exactness is not necessary, as the eye is so easily pleased. An ordinary reading-glass may be used for the illustrated papers, but it must be held close to the eye. The result is sometimes very striking. Photographs of complicated instruments or of complicated machinery in a factory, which are scarcely intelligible when viewed in the ordinary way, stand out almost as solid as with a binocular stereoscope. Partly because photographs, illustrations, and pictures are generally viewed with both eyes, and partly because the distance is usually much too great, accurate perspective representation, as a rule, produces no stereoscopic illusion whatever.

A. P. TROTTER.

Ajaccio, Corsica, December 3.

Luminosity by Attrition.

THE following workshop observations may throw some additional light on luminosity by attrition, the subject of recent correspondence in NATURE:

Blocks of optical glass are cut into slabs by means of a soft steel circular saw, the edge of which is usually charged with diamond-dust, a copious flow of a lubricant such as petrol, paraffin, or soapy water being employed.

Within the block of glass at the line of contact with the saw there is often visible a blue-tinted white light, limited to the acting portion of the edge of the saw. The light is not thrown downwards in the direction of motion, as in the case of a shower of sparks or of an ordinary flame.

The bluish-white light is most apparent when the cutting is forced, when the saw is blunt, and when an insufficient amount of diamond-powder is used. When the saw is working well the light can only be seen with difficulty by excluding extraneous light.

There is no evidence of any temperature cracking over the cut surfaces, and I know of no instance in which the petrol or paraffin has been ignited even when the saw is cutting at the extreme edge of the glass in contact with the air.

When carborundum is used instead of diamond-powder—the carborundum, however, being injected

with compressed air and a water lubricant employed—a dull reddish light appears. It is difficult to say if this reddish light is accompanied by any characteristic heat cracks, as the cutting action with carborundum is more complicated, there being a secondary side abrasion at the surfaces of the saw which might obliterate minute heat-cracks.

JAMES WEIR FRENCH.

Annie'sland, Glasgow, December 8.

Tragic Death Feint of a Snake.

ON Sunday morning, May 30, about 10 o'clock, I noticed a common western hog-nosed viper, about 20 in. in length, basking on the lawn in the warm sunshine. I approached the serpent in company with a friend to make some investigation of it, and only to interfere with it enough to keep it from crawling away. The creature went through the usual feint of being a dangerous snake that is peculiar to this species, and quickly began to coil and recoil and to hide its head under its body. After it had done this a short time it turned on its back, but continued to writhe as though injured severely. Gradually it assumed a position simulating that of a dead snake lying on its back, with its mouth completely inverted and bleeding. This was done in such a way that the head appeared to be completely mashed or severed. The exudate of blood from the entire surface of the mouth was perfect. It was the most complete and well-carried-out feint of a tragic death that I have ever witnessed, and all without the least torture or stroke of any kind from me. I only detained the snake by placing my foot in front of it and turning it back once at the beginning. We left the creature in this apparently killed condition, only to see that it disappeared in a very short time.

My observation of this genus *Heterodon* (hog-nosed viper), which is not a viper at all, has shown me that it always puts up the tamest kind of bluff before hiding its head, but never before have I observed this complete performance with a bloody exudate from the inverted mouth. I am convinced that it will not often be carried out thus completely unless the conditions of season, the weather, and the development of the snake are just right. In other words, I think that it must be a peculiarity of some maturity of growth, and that the full vigour of a warm day in late spring or early summer must enter into it.

W. E. BARTLETT.

Belle Plaine, Kansas, U.S.A., November 22.

The Alkaloids of *Senecio jacobæa*.

IN the Notes in NATURE of November 4, p. 321, reference is made to "*Senecio jacobæa*, the source of the disease in sheep in Nova Scotia." It should read "cattle" instead of "sheep," for although injurious to sheep it has not been fatal to them as it has been to cattle. The "Pictou cattle disease" has in some quarters led to change of the common name "St. James ragwort" to "cattle-kill"—a term analogous to "lamb-kill" for *Kalmia glauca* and *K. angustifolia*, supposed to be poisonous to young sheep.

The alkaloids of *Senecio jacobæa* were, under the auspices of the Nova Scotia Institute of Science, planned to be investigated by the late Dr. Eben MacKay, of the University of Dalhousie, on the chemical side, and by Prof. C. L. Moore on the biological side.

A. H. MACKAY.

Education Office, Halifax, Nova Scotia,
November 22.