tically certain that the ruminants represented in the sculpture are antelopes. They must, moreover, be antelopes of an African type, as there are no marsh-haunting species with spiral horns known from Syria, or Asia in general, and the presumption is that they represent an extinct member of the tragelaphine group allied to the nyala and situtunga, in which the females are hornless. The tragelaphine group is represented at the present day in India by the nilgai and chousingha, in which the horns of the bucks are small, but there is evidence that in the Pliocene India was the home of species akin to the kudu and bush-buck. And it is therefore quite reasonable to expect that in Assyrian times a member of the group may have inhabited the Euphrates Valley.

R. LYDEKKER.

Cavities in Stones.

IN the description of the Agglestone "on the old moor of Studland, near the north shore of the Island of Purbeck," given in Warne's "Ancient Dorset," allusion is made to superficial cavities or hollows in this stone, and in stones in Yorkshire and Lancashire. In some cases "the cavities consist of holes about an inch and a half broad and of the same depth drilled into the stone." Mitchell[1] gives illustrations of the stones with cup-shaped markings described by Sir James Simpson in his work on "Archaic Sculptures."

In all probability these examples of supposed archaic sculptures (and others) have long ago received the "more extended investigation by competent observers" that Warne thought they deserved. But it would be of interest to know if they have been examined by conchologists as well as archæologists. There is just a possibility that some may be burrows excavated by *Helix aspersa*, for the description and illustrations recall the helicidean cavities in Carboniferous Limestone that occur somewhat frequently in Ireland, but are uncommon in Britain. The rock-shelters of *Helix aspersa* at Great Orme's Head, Llandudno, and at Miller's Dale, Derbyshire, have been fully described and illustrated,[2] also others more recently observed by myself in the limestone on Brean Down, Weston-super-Mare.[3].

E. W. SWANTON.

Sir Jonathan Hutchinson's Educational Museum, Haslemere, March 10.

An Experiment for Showing Lines of Force in an Electrostatic Field.

A GILT cork ball, about 1 cm. in diameter, is attached by sulphur to a vertical straw about 28 cm. in length. The lower end of the straw is fastened by sulphur to the centre of a circular cardboard tray about 5 cm. in diameter, in which is a ring of lead. The tray is put on a watch glass which floats on the surface of mercury in a large flat dish. (A developing dish about 30 cm. by 26 cm. was used, but a shallow wooden trough made for the purpose would be better.) In this way the gilt ball is able to move fairly freely in a horizontal plane. This float arrangement is kept in a bell-jar desiccator when not in use.

Two conducting spheres, about 10 cm. in diameter, are mounted on vertical glass tubes (sealed off at each end), and coated for about 10 cm. with sulphur, which can be readily got into a good insulating condition when required by warming in a flame. The centres of these spheres and the gilt ball are at the same level. The spheres being arranged on opposite sides of the dish, and so that the ball can touch them.

The spheres are connected either to the same terminal or to the opposite terminals of a Wimshurst machine.

The gilt ball describes curves which, when it moves slowly, give the general directions of the lines of force between the spheres in the plane it is free to move in.

The experiment is effective for illustrating lines of force in an electrostatic field and for leading up to the mathematical definition of potential. It may be extended for different charges on the spheres.

R. F. D'ARCY.

Caius College, Cambridge.

Units of Pressure in Vacuum Work.

SURELY physicists do, or should, for convenience, always express wave-lengths in microns (μ) and molecular distances in millimicrons ($\mu\mu$). Why not follow the same practice in dealing with vacua? The millimetre is a convenient unit down to, say, 0·1 mm., but 1/1000 mm. and 1/10,000 mm. have frequently to be expressed. It is simpler to write and comprehend these in the form 1 μ or 0·1 μ. Again, in the pamphlet sent out by Dr. Gaede to describe his very successful pumps, we see unwieldy decimal expressions used. For instance, it is stated that it is possible to obtain a pressure of 0·000002 mm. of mercury after four minutes of pumping. Why not write this 2$\mu\mu$ of mercury?

There is a small unit sometimes found in researches, viz. one-millionth of an atmosphere, denoted by the letter M, but for this unit to have a definite numerical meaning it is necessary to quote the barometric reading at the time. If the barometric reading is normal 1 M = 0·76 μ. But, of course, 0·76 μ alone needs no qualifying as to the barometric pressure, and therefore is simpler and more direct.

P. E. SHAW.

University College, Nottingham, March 2.

NEW MICROSCOPE EYEPIECES.

Eyepiece Micrometer.

DR. METZ, one of the researchers employed in the Leitz optical factory at Wetzlar, has recently described[1] a micrometer for use with the microscope which, if we are not mistaken, will rapidly replace all others, including the expensive filar micrometer where a mechanical stage is available. The root idea is that the scale used is such that microns can at once be read off without greatly changing the tube-length, or considering the micrometer value of the objective employed, and therefore dispensing with the arithmetic for which this is a necessary datum.

To bring this about, the intervals of the new scale, instead of being 1/10 or 1/20 mm. wide, as is usually the case in eyepiece micrometers, have a definite value of 0·06 mm.

With an objective of 2 mm ($\frac{1}{12}$) focus when a stage micrometer with ten $\frac{1}{100}$ mm. divisions is viewed, each of these divisions falls on the larger

[1] "The Past in the Present," p. 86.
[2] John Taylor, "Monograph of the Land and Freshwater Mollusca of the British Isles," vol. i., p. 311, fig. 601, and vol. iii., pp. 244–246.
[3] E. W. Swanton, "The Mollusca of Somerset" (Somerset Arch. and Nat. Hist. Soc., 1912), pp. 26, 27, pl. iii.

[1] *Zeit. für wissenschaftliche Mikroskopie*, xxix., p. 72.