such an idea. Mr. Wilson's results showed that ions may become the nuclei for condensation, but only when the air is both dust-free and supersaturated four-fold. An infinity of ions in dusty air, or in air supersaturated three-fold, would not cause clouds, and as neither dust-free nor super-saturated air have ever yet been met with in the atmosphere, it is difficult to see how electrons from the sun could produce cloudy weather.

(3) These considerations apply, but with still greater force, to Sir Oliver Lodge's next sentence :—" Local thunderstorms are also a not unlikely result." This is not the place to go into the controversy over the Wilson-Gerdien theory of thunderstorms, but it ought to be pointed out that very strong reasons have been put forward for doubting that the condensation of water on ions plays any part in thunderstorms.   GEORGE C. SIMPSON.

Meteorological Office, Simla, October 21.

The Identity of Certain Large Birds on Egyptian Vases.

IN looking to-day for an archæological reference in my friend M. Jean Capart's valuable volume on " Primitive Art in Egypt " (English edition), I noted that he has determined certain birds, delineated on a series of decorated vases, as ostriches. The vases I refer to are to be found on p. 116, Fig. 88; p. 118, Fig. 91; p. 119, Fig. 92; p. 120, Fig. 93; p. 121, Fig. 94; and p. 123, Fig. 96. I venture to suggest that the birds intended to be represented are not ostriches, but flamingos. The inbent beak, the dorsal body-contour, the horizontal ventral region, and the long, lanky legs, uncovered by feathers in the tibial region as in ostriches, all so characteristic of the flamingo, are delineated with great truthfulness on a large scale on the vase illustrated on p. 123, Fig. 96. The crosier-staff-like head is common to all the drawings I have indicated. Although the representation of the bird on p. 120, Fig. 93, is rather too small and ill-defined to base much upon, the curvature of the neck is yet more that of a ciconiiform than of a struthious bird. Indeed, on p. 119, Fig. 92, the group of birds at the right-hand corner of the vase is actually in proximity to water, which would hardly be the case if the artist intended it for one of ostriches; while on the vase illustrated on p. 121, Fig. 94, the four birds delineated have very characteristic horizontal flamingo tails, especially the individual on the extreme left of the row, in which it is spread. These attitudes are in striking contrast with those of certain other large birds included in the zoological group on the rocks of Upper Egypt, reproduced on p. 204, which must be admitted to represent ostriches, at the first glance, from the attitude of their legs in walking, their plumage contour, and their straight beaks.

The above suggestion I have made during the past two or three years to several Egyptologists, who have recognised its valency; but as I have seen nowhere this emendation, which I believe it to be, recorded, I think it may be of interest to give it publicity, inasmuch as the ethnographical deductions to be drawn from these rude pictures can be correct only if the artist's intention has been accurately interpreted.   HENRY O. FORBES.

The Museums, Liverpool, October 31.

November Meteors.

THE absence of moonlight during the Leonid epoch of the present year will be favourable for observations of this historic shower. For determining on which of the three dates of November 14, 15, and 16 it may occur, calculations made by the writer point to the night of November 16 as that of the maximum, when, as was the case on the corresponding night of last year, the number of meteors radiating from the Sickle may be found by observers to be considerable. The following are details as to this and also other showers that become due during the remainder of the month of November :—

Leonid epoch, November 16, 8h. G.M.T. This shower is of the sixteenth order of magnitude, having its principal maximum on November 16, 15h.; other maxima take place on November 16, 10h. and 18h., and November 17, 21h.

Epoch November 21, 9h. 30m., shower of fourth order of magnitude. The principal maxima occur on November

19, 21h. 15m., and November 20, 18h. 30m. Two other maxima occur on November 20, 2h. 30m. and 5h. 30m.

Epoch November 21, 17h. This shower, which is of the fifteenth order of magnitude and immediately follows the former, has its maxima on November 21, 21h., and November 22, 11h. 30m.

Epoch November 26, 1h. 30m. This shower, of third order of magnitude, has two principal maxima, on November 26, 15h., and November 27, 2h. There is another maximum on November 27, 5h.

Epoch November 29, 20h. 30m., of third order of magnitude; has its principal maximum on November 29, 17h., with an earlier maximum on November 29, 3h. 30m.

Dublin, November 8.   JOHN R. HENRY.

The Absence of a Lunar Atmosphere.

WITH reference to Mr. Alexander Johnson's letter on this interesting subject, I should like to point out that the theory of radiation pressure is not applicable to gases. Beyond a certain range of minuteness, the effect of radiation pressure on particles diminishes, and the size of a particle on which the repulsive force of light is at a maximum is vastly greater than molecular magnitudes. As this is very important, I quote certain numerical determinations given by Prof. Arrhenius (" Worlds in the Making," pp. 97, 98) :—

(1) Diameter of a totally reflecting sphere which would be in equilibrium near the sun under the opposing forces of gravitation and radiation pressure$=0.0015$ mm., the specific gravity of the sphere being the same as water.

(2) For radiation pressure to be effective, the diameter of the particle must exceed 0.3 of the wave-length of the incident radiation. If smaller than this, gravitation predominates.

(3) Radiation pressure is at a maximum when the diameter of the particle equals the wave-length of the incident light (*e.g.* 0.5 μ for the blue-green region about λ 5000 A.U.).

(4) In the case of sunlight, which is not homogeneous, Prof. Arrhenius gives 0.00016 mm. as the diameter of particles on which the effect is greatest.

As regards the absence of a lunar atmosphere, it seems that we must fall back on the kinetic theory of gases and attribute it to the gradual escape of the more swiftly moving molecules into the surrounding space.

    CHARLES W. RAFFETY.

Wynnstay, Woodcote Valley Road, Purley, Surrey, November 1.

Pitchblende as a Remedy.

As there is now no longer the least doubt as to important cures being effected by means of radium, the question arises whether crude pitchblende would not also have beneficial effect if applied in the case of minor chronic ailments. Perhaps one of the readers of NATURE will be able kindly to give some information on this subject. The very minute proportion of radium in pitchblende need be no real objection. If we substitute, in the case of pitchblende, grams for milligrams and days of application for so many minutes, a disparity of one million is soon made up, and there may be some action, although perhaps different from that of a pure radium salt. Moreover, we must expect a beneficial influence from minute quantities of radio-active substance if the assumption is to be finally proved that certain thermal waters owe much of their virtue to such traces. In addition to raw pitchblende, a possible utility of pure (yellow) uranium oxide might also be considered.   H. WARTH.

SOUTH AFRICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

THE seventh annual meeting of the South African Association for the Advancement of Science opened at Bloemfontein on Monday, September 27, under the presidency of the Governor, Sir Hamilton Goold-Adams. The advantage of Bloemfontein for such a conference, in that it is in the centre of South Africa, was observable in the number of busy men