OUR ASTRONOMICAL COLUMN.

WEINEK'S LUNAR ENLARGEMENTS.—Selenographers will be glad to hear that Prof. Weinek proposes to publish a Lunar Photographic Atlas, which will contain an accurate and artistic representation of the whole visible surface of the moon. The materials that will form the basis and bulk of this atlas have been mainly derived from the series of negatives of the Lick Observatory, which have been enlarged twenty-four times. The maps will be printed by the phototype process direct from Prof. Weinek's enlarged glass diapositives, and will be constantly under his supervision and control during their reproduction by the Art Photographical Institute of Carl Bellmann in Prague. The proposed scale of the atlas will be 4 metres to the diameter of the moon; there will be in all 200 maps 26 × 31 cm., and each sheet will give the selenographical latitude and longitude for the centre of the picture, and also the selenographical longitude of the terminator for the latitude 0°. This will greatly facilitate the arrangement of the sheets according to the relative positions of the lunar objects they portray. The publication of such an atlas as this, which requires a great deal of outlay, cannot be undertaken unless a considerable number of subscribers are forthcoming. Prof. Weinek appeals in the first instance to all the observatories of the world to become subscribers for the ten issues, each to contain twenty lunar landscapes. There should be no difficulty in obtaining a sufficient number of applicants, as such a useful and epoch-making publication in selenography should be in the possession of every observatory.

MARTIAN MARKINGS.—In the current number of *Knowledge*, M. Antoniadi brings together in an interesting summary all the more important observations made from the year 1864 of that well-known marking on the surface of Mars, namely, Syrtis Major. The discussion shows that, on the whole, decided changes have taken place in the form of this marking, and that its expansion has invaded the regions occupied by Mœris Lacus and Lilaga. Two new canals have also been recorded during the last few years in this region. The diagramatic sketch, showing the gradual changes recorded during the last thirty-three years, brings out very clearly the reason of the disappearance of the lake as such mentioned above. M. Antoniadi remarks, as regards the displacements of "seas" and "lakes," that "absurd and imaginary as they might seem to the ordinary reader, they are simply familiar occurrences to the areographer. Evidently the surface of Mars has some fixed areographical markings; but the stability of the lesser details and of the polygonians of the canal system is so frail, that at times the changes assume a fantastic, grotesque, and almost ridiculous character."

LEAKAGE FROM ELECTRIFIED METAL PLATES AND POINTS PLACED ABOVE AND BELOW UNINSULATED FLAMES.[1]

§ 1. IN § 10 of our paper "On Electrical Properties of Fumes proceeding from Flames and Burning Charcoal," communicated to this Society on April 5, results of observations on the leakage between two parallel metal plates with an initial difference of electric potential of 6·2 volts between them, when the fumes from flames and burnings were allowed to pass between them and round them, were given. The first part (§§ 1–4) of the present short paper gives results of observations on the leakage between two copper plates 1 centimetre apart, when one of them is kept at a constant high positive or negative potential; and the other, after being metallically connected with the electrometer-sheath, is disconnected, and left to receive electricity through fumes between the two.

The method of observation (see Fig. 1) was as follows. Two copper plates were fixed in a block of paraffin at the top of a round funnel 86 centimetres long and 15·6 centimetres internal diameter. A spirit-lamp or a Bunsen burner, the only two flames used in these experiments, was placed at the bottom of the funnel, 96 centimetres below the two copper plates. One terminal of a voltaic battery was connected to one plate, and the other terminal was connected to the sheath of a Kelvin quadrant electrometer. The other copper plate was connected to one of the pair of quadrants of the electrometer in such a way that by pulling a silk cord with a hinged platinum wire at its end, this copper plate and this pair of quadrants could be insulated from the sheath of the electrometer and the rest of the apparatus. On doing so with no flame at the bottom of the funnel, no deflection from metallic zero was observed, even when the other plate was kept at the potential of 94 volts by the voltaic battery; this being the highest we have as yet tried. When the plate was kept at potentials of 2, 4 . . . 10 volts, the deflection from metallic zero in three minutes was observed; but for higher potentials, merely the times of attaining to 300 scale divisions from metallic zero were observed.

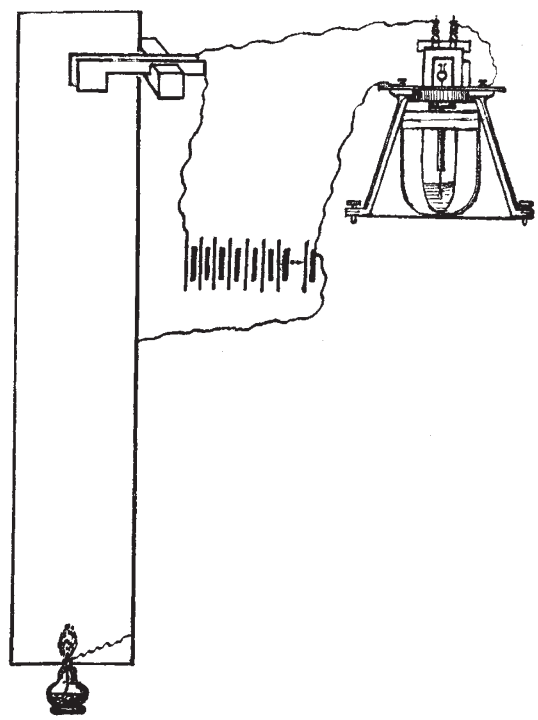

FIG. 1.

§ 2. The results obtained are summarised in the following table. In every case for potentials below 90 volts there was greater leakage when the uninsulated plate was connected to the negative terminal of the battery.

Spirit Flame.

Sensitiveness of electrometer = 60·7 scale divisions per volt. Hence 300 scale divisions corresponds approximately to 5 volts.

Difference of potential		+to plate, −to sheath		−to plate, +to sheath	
Volts		Deflection	Time	Deflection	Time
		Divisions	Min. Sec.	Divisions	Min. Sec.
2		+ 35	3 0	− 80	3 0
4		+ 92	3 0	− 133	3 0
8		+205	3 0	− 265	3 0
10		+240	3 0	− 311	1 15
Initial	Mean				
12	9·5	+300	0 53	− 300	0 38
18	15·5	+300	0 25	− 300	0 16
44·5	42·0	+300	0 4·5	− 300	0 4
89	86·5	+300	0 2·5	− 300	0 2·5

[1] Paper communicated to the Royal Society, Edinburgh, on July 5, by Lord Kelvin, G.C.V.O., F.R.S., and Magnus Maclean, D.Sc.