A lecturer in physics in the Egyptian University, Cairo—The Dean of the Faculty of Science, Egyptian University, Cairo (Dec. 9). An assistant in the botany department of the West of Scotland Agricultural College—The Secretary, West of Scotland Agricultural College, 6 Blythswood Square, Glasgow (Dec. 12). A controller of technical education under the Egyptian Ministry of Education—The Director, Egyptian Educational Office, 39 Victoria Street, S.W.1 (Dec. 14). A Government analyst and bacteriologist, Cyprus—The Private Secretary (Appointments) Colonial Office, 2 Richmond Terrace, Whitehall, S.W.1 (Dec. 15). A professor of economics (including economic history and statistics) in the University of the Witwatersrand, Johannesburg—The Secretary, Office of the High Commissioner for the Union of South Africa, Trafalgar Square, W.C.2 (Dec. 31). Eight appointments to the Forest Service of Burma—The Secretary to the High Commissioner for India, General Department, 42 Grosvenor Gardens, S.W.1 (April 7). Two first-class honours graduates for research in optics and allied studies, and in vacuum physics, in the Research Laboratories of the General Electric Co., Ltd.—The Director, Research Laboratories, General Electric Co., Ltd., Wembley. A full-time teacher of rubber technology at the Northern Polytechnic, Holloway—The Clerk, Northern Polytechnic, Holloway, N.7. A full-time teacher of engineering subjects and metal work at the Doncaster Technical College—The Principal, Technical College, Doncaster. A lecturer in tropical sanitation and hygiene at the Liverpool School of Tropical Medicine—The Hon. Dean, School of Tropical Medicine, Pembroke Place, Liverpool. A young graduate with good general chemical and physical knowledge, preferably with some experience of the technique of colour and colour lake manufacture—The Director, Research Association of British Paint, Colour, and Varnish Manufacturers, Waldegrave Road, Teddington.

ERRATUM.—In NATURE of Nov. 26, p. 770, col. 2, line 9, for "$0{\cdot}137d^3$" read "$0{\cdot}137d^8$." The equation should thus read: $\theta = \sqrt{6(d + 0{\cdot}3d^2 + 0{\cdot}137d^8 + \ldots)}$.

Our Astronomical Column.

THE TOTAL LUNAR ECLIPSE OF DEC. 8.—No total lunar eclipse at a sufficient altitude for refined work is visible in England between the years 1920 and 1938. We therefore have to make the most of those that are somewhat unfavourable. The first contact of the moon with the umbra on Dec. 8 occurs at 3.52 P.M., with the moon on the horizon; totality begins at 4.54 and ends at 6.15, the moon's altitudes, as seen from London, being 9° and 21° respectively; the last contact with umbra is at 7.18; penumbral eclipse continues for another hour, but for the latter portion of it the dimming of the moon's light is too slight to be discernible.

There are two classes of observations that can be usefully made during total lunar eclipses. The first is examination of the amount of light on the eclipsed disc, and its variation in different regions. It is only the lower regions of the earth's atmosphere that have sufficient refractive power to bend the sunlight into the inner part of the shadow; these regions are liable to have their transparency affected by cloud, so that observation of the eclipsed moon gives an integrated measure of the clearness of the earth's atmosphere round the great circle that has the moon in the horizon at the time of observation. Some have tried to establish a correlation between the illumination of the eclipsed moon and the sunspot cycle, and there are advantages in considering an integrated atmospheric effect of this kind rather than the records of isolated stations.

The other useful observations to make during lunar eclipses are occultations of faint stars; the best values of the moon's semidiameter were derived from such observations. During the coming eclipse, ι Tauri, mag. 4·7, will disappear at 4.30 P.M., P.A. 84°, and reappear at 5.19, P.A. 245°; B.D. 21° 754, mag. 8·2, will disappear at 4.57, P.A. 90°, and reappear at 5.46, P.A. 238°. The latter is taken from the *B.A.A. Handbook*. The times are for London. The darkness of totality can also be utilised for observing comets, which are usually lost for several days about full moon.

COMETS.—The comet Schwassmann-Wachmann has now been photographed on three days at Bergedorf, the following positions having been telegraphed from the I.A.U. Bureau, Copenhagen:

			R.A. 1927·0.	Decl. 1927·0.
Nov.	15d 21h	33·6m U.T.	1h 32m 14·2s	+20° 54′ 42″
	18 20	24·8	1 31 10·7	+20 46 47
	22 18	27·8	1 29 53·5	+20 36 25

From these, Mr. J. Möller, of Copenhagen Observatory, has computed the following parabolic orbit:

T	1926 May 3·368 U.T.
ω	328° 23′
Ω	331 38
i	10 5
log q	0·44793

This orbit implies that the comet passed perihelion 18 months before discovery, and is now outside the orbit of Jupiter. It would have been near opposition at the time of perihelion, and very much brighter than it is now.

It must be borne in mind that the preliminary orbit of such a distant comet is subject to considerable uncertainty. Thus, in the case of comet Shajn-Comas Sola in 1925, the early elements differed much from the final ones. The following ephemeris, calculated from the above elements, is not likely to be much in error:

0h.	R.A.	N. Decl.	log Δ.
Nov. 30	1h 27m 54s	20° 18′	0·7211
Dec. 8	1 26 22	20 0	0·7331
16	1 25 32	19 46	0·7457
24	1 25 25	19 34	0·7587

The *Bulletin of Tokyo Observatory* gives the following orbit of an object discovered there last January (designated Tokyo 1) which seems from its movement to be a comet, though its aspect was planetary.

T	1927 April 9·4662 U.T.	
Ω	343° 5′ 10″	1927·0
ω	199 10 4	
i	5 59 59	
ϕ	62 27 25	
n	101·933″	
log a	1·027796	
Period	34·809 years	

The perihelion distance is 1·20 units, the aphelion is near the orbit of Uranus. From the moderate inclination, the object would be liable to make close approaches to Jupiter.