

Feb. 6, return of form by Feb. 11). A professor of public health at the London School of Hygiene and Tropical Medicine—The Academic Registrar, University of London, South Kensington, S.W.7 (Feb. 16). A professor of pathology at the London (Royal Free Hospital) School of Medicine for Women—The Academic Registrar, University of London, South Kensington, S.W.7 (Mar. 1). An assistant in the botany department of the University of Aberdeen—The Secretary, University, Aberdeen (Mar. 1). A science master under the Agricultural Department, Nigeria—The Secretary, Board of Education, Whitehall, S.W.1 (marked C.A.(N.)), or The Secretary, Scottish Education Department, Whitehall, S.W.1 (marked N.) (Mar. 31). A whole-time research worker, for research work on infectious diseases of the bowels, with special reference to industrial areas, at the Calcutta School of Tropical Medicine—The Director, School of Tropical Medicine and

Hygiene, Calcutta (April 15). An assistant pathologist at the Royal Infirmary, Leicester—The House Governor and Secretary, Royal Infirmary, Leicester. Civilian education officers in the Royal Air Force Educational Service—The Secretary, Air Ministry, Adastral House, Kingsway, W.C.2. A temporary post in the department of mycology of the Rothamsted Experimental Station, for research work on wart disease of potatoes—The Secretary, Rothamsted Experimental Station, Harpenden, Herts. A senior unqualified assistant in the biochemical department of the Wellcome Physiological Research Laboratories, Beckenham—The Director.

ERRATUM.—Through misunderstanding of a telegraphed correction to the first footnote to the table in Mr. E. J. Williams' letter in NATURE of Jan. 28, p. 135, the expression for $(\rho - 1)/(\rho + 1)$ was wrongly printed $(15/8)\sigma\alpha \div (15/8)\sigma\alpha/8$ instead of $(15/8)\sigma\alpha$.

Our Astronomical Column.

PHOTOGRAPHY OF THE CORONA WITHOUT AN ECLIPSE.—G. Blunck describes in *Astr. Nachr.*, 5539, some interesting experiments on obtaining photographic images of the corona in full sunlight. He points out as the probable cause of the failure of previous attempts of this kind that they were made in too short a wave-length. He gives the percentage difference of illumination between the corona and the sky background as 0.2 per cent. at $\lambda 5000$, 0.8 at $\lambda 7000$, 1.7 at $\lambda 8500$, 2.5 at $\lambda 9500$; he states that Pinazyanol gives a maximum degree of sensitivity at $\lambda 6500$, Dizyanin at $\lambda 7500$, Neozyanin at $\lambda 8000$. The last named makes corona photography just possible, but the author claims to have obtained a new sensitising dye called Prozyanol, which gives a maximum sensitivity at $\lambda 8500$.

Full directions are given in the paper as regards the exposure, development, and subsequent treatment of the plates; there is a warning that the author himself suffered from the poisonous nature of some of the chemicals employed. Reproductions are given of three images obtained on Sept. 6 last, which strongly suggest that they are real photographs of the inner corona. An obvious test would be to take photographs by this method when the moon's disc is just outside that of the sun. If the coronal image is real, the dark outline of the moon should be traceable upon it.

M. ANTONIADI'S OBSERVATIONS OF MERCURY AND THE JOVIAN SATELLITES.—Allusion has already been made in this column to M. Antoniadi's examination of Mercury during the last three years with the great Meudon refractor, which confirmed the 88-day rotation. He gives further details of his observations in *L'Astronomie* for January, and notes that on several days observations were continued for several hours, during which no shift of the markings was discernible. He considers that there is evidence of some atmosphere on Mercury, producing thin veils of mist at times over the markings, since their darkness appeared to vary from time to time, though the conditions of our own atmosphere were appreciably the same. He gives a diagram illustrating the libration of the illuminated region arising from the eccentricity of the orbit. This was constructed by utilising the proposition that the angular motion of a planet about the empty focus is very nearly uniform.

During the same period, M. Antoniadi examined

the satellites of Jupiter, of which he gave interesting drawings in *L'Astronomie* for last August. He notes the extremely high albedo of satellite II., which he states to be the highest of any body in the solar system. There had previously been no certain detection of any markings on this satellite, but a dusky marking was discerned on Sept. 14, 1926. The presence of a bright equatorial belt on satellite I., first announced by Barnard in 1893, was confirmed. Occasionally in transit across Jupiter this bright zone was alone visible, the rest of the disc being indistinguishable from the planetary background.

PARALLAXES OF BINARY STARS DEDUCED FROM ASSUMPTIONS OF THEIR MASS.—It has for a long time been the custom of the computers of the orbits of binary stars to append to their resulting elements the 'hypothetical parallax,' which is that resulting from an assumed mass of the system, generally taken either equal to that of the sun or double this. A further refinement was possible when Prof. Eddington showed that mass and absolute magnitude were correlated. Assuming the mass-luminosity relation we can make a closer approximation to the dynamical parallax than that based on the assignment of a uniform mass to all stars.

Mr. R. O. Redman applies this method to 803 stars in *Mon. Not. Roy. Ast. Soc.* for November. 120 of the stars have determined orbits; the method can be applied with greater confidence to these. The remaining stars have arcs observed which are too short for the deduction of individual orbits, but they can be used statistically, as suggested by Russell and Hertzsprung. The results for the dwarf stars are fairly consistent, and give absolute magnitudes agreeing with the Russell diagram. The mean absolute magnitudes for different spectral types are: *F*0, 2.7; *F*5, 3.4; *F*8, 3.8; *G*0, 4.1; *G*5, 4.9; *K*0, 4.7. The mean result for the solar velocity comes out 21.67 km./sec., and the mean kinetic energies for stars of the different types come out fairly uniformly, though the results for types *B*0 to *B*6, and for the giants from *F* to *K*, appear to be rather high.

On the whole, the paper adds fresh evidence in favour of the mass-luminosity relation. The individual parallaxes are printed for all the stars with determined orbits. They are especially useful for the smaller parallaxes; for the larger ones the trigonometrical values are more trustworthy.