

## ANNUAL REPORT OF THE UNION OBSERVATORY

1930

*Director Mr. H.E. Wood, M.Sc.*  
*(Union Astronomer)*

***26½-Inch Grubb Visual Refractor.*** - The year's work comprises:-

***Double Stars*** .- 3524 measures of double-stars (including the 9-inch measures); 69 new pairs discovered.

***Photographs of Double Stars*** .- 35 plates with multiple exposures.

***Saturn's Satellites.*** - 40 measures of Mimas; 55 measures of Enceladus; 83 measures of Tethys, Dione, Rhea; 18 measures of Titan as a double.

***Eros, 1930-31 Opposition.*** - 5 measures.

***Variable Star.*** - A variable star with a period of 100 minutes, discovered by van Gent, was observed visually on one night for 2 hours by Hertzsprung, van Gent, and van den Bos. The period and lightcurve of the star were confirmed.

The year 1930 was not favourable as regards definition and, as most of the good nights had to be used for Mimas and for measuring difficult double stars, few definitive searches could be made.

***Franklin-Adams Star Camera.*** - During the year, 1328 plates were obtained with this instrument, distributed as follows:-

Minor planet regions and star maps	360 plates
Variable star regions	891 "
Comets	77 "

443 measured positions of minor planets have been forwarded to the Astronomisches Rechen-Institut.

Comet 1930 d (Schwassmann-Wachmann) was observed photographically from 1930 June 3 to August 24: Comet 1950 e (Forbes) from June 2 to June 13 Comet 1930 f (Tempel (ii)) from August 26 to December 21.

With the new 10-inch photographic telescope attached to the Franklin-Adams mounting 122 plates were obtained during the year.

***Occultations of Stars by the Moon.*** - The programme of the last few years has been maintained without alteration. Predictions are made graphically for the disappearances, at about first quarter, of all stars in the Moon's way for which positions are given in the A.C. Catalogues: for those stars for which the elements are given in the *Nautical Almanac*, predictions are made by Dr. Comrie's semi-graphical process, and as far as possible the occultations of all such stars are observed.

During the year 1930 the number of occultations observed was 196. The results of the year's observations are as follows:-

	s	"
1930.1	10.7	5.8
.4	12.1	6.6
.6	10.4	5.7
.9	9.3	5.1

The second column indicates the time by which the Moon has arrived too early at any longitude, and the third column the distance the Moon is ahead of its tabular longitude.

***Time-Service.*** - Throughout the year time has been taken from the rhythmic signals sent out from Rugby, England, at 10h U.T.

***9-Inch Grubb Refractor.*** - This telescope is now used mainly for the observations of occultations of stars by the Moon, eclipses of satellites of Jupiter, and measures of the wider double stars. One evening a week is set apart for visitors, the total number of visitors during 1930 being 1440.

***Opposition of Eros, 1930-31.***- Observations of Eros were commenced on the morning of 1930 December 22, when the declination of the planet was still 34°N. Up to the end of the year 5 visual measures have been obtained with the 26½-inch refractor, and 9 multiple exposure plates with the Franklin-Adams I I telescope.

***Union Observatory Circulars.*** During the year Circulars No.81, 82, and 83 were distributed.

Of the Southern Star Maps, 22 were issued with these Circulars, and the present state of the project is therefore:-

Maps already issued	388
Maps in hands of Government printer	27
Maps still to be prepared	141

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*Miscellaneous.* - Dr. W.H. van den Bos was appointed Chief Assistant as from 1930 October.

Mr. H. van Gent of the Leiden Observatory has continued to use the Franklin-Adams Star Camera throughout the year for the photographic investigations of variable stars.

Professor E. Hertzsprung of Leiden Observatory arrived at the observatory on 1930 December 2.

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