

centres still appear to interact, although without an appreciable resultant, *i.e.*, the cyclonic pole seems to fade out.

Some striking instances of the arrangement of markings due to dual control have been witnessed—drawings XXIX, plate XV, opposite p. 218, *J.B.A.A.*, 40, is a good example. The trend of the markings near the limb is towards the subsolar point, shown by a small cross. While the markings towards the terminator tend to pass below or on the right of the north pole which is situated outside the gibbous disc. This pole is not shown on the plate, but its location can be inferred from the positions on diagrams 31 and 32, fig. 4. The extent of the right-hand tendency of these markings to round the north pole indicates a fairly rapid anticlockwise rotation of, say, three days.

Communication to the Association.

THE LUNAR ECLIPSE 1931, SEPTEMBER 26.—Fortune did not favour most of England with a view of the Lunar Eclipse on September 26 last, and in the early part of the evening it seemed that this might also be the fate of those who were looking out for it at Dedham. The first part of the eclipse was entirely hidden by cloud, and until shortly before 21 hours, observation seemed hopeless. As the eclipse progressed, however, the weather changed and shortly after 21 hours the sky suddenly cleared and made work possible.

The eclipse was a bright one, and very red in colour. A curious effect was visible to the naked eye as the shadow passed over the M. Tranquillitatis and M. Fœcunditatis, the dark floors of these seas accentuating the penumbra and causing an appearance as if the umbra were still over part of the lunar surface, though in reality it had passed off. This is a matter to which naked-eye observers would do well to devote attention when working on lunar eclipses. In the case of the September eclipse it was most deceptive.

The photograph (see Frontispiece) was taken with an exposure of two seconds through an orange filter and on an Astra plate.
—H. G. TOMKINS.

Obituary Notices.

George P. Blackwood Hallowes.

It is with great regret that we have to record the death of Mr. G. P. B. Hallowes, one of the most active members of the Variable Star Section. On October 27 last he was involved in a very serious motor car accident, in consequence of which his wife also lost her life, and although for some days there appeared

to be every probability that he would recover from his injuries, complications arose, and he passed away in Poole Hospital on November 11.

Mr. Hallowes was born at Penrith, Cumberland, on 1867 April 12. He was educated at the King William's College, Isle of Man, and in due course entered the Civil Service, becoming a member of the surveyors' staff of the General Post Office, and but for his early retirement in 1912 owing to ill health following a prolonged illness he might have gone far in his profession. In 1893 he had married the daughter of the Rev. L. O. Cary, vicar of Brenzett, Kent. Since his retirement he lived in the neighbourhood of Bournemouth, for the last seven years at Wimborne. In his earlier years Mr. Hallowes was a keen amateur yachtsman, and owned successively three or four small yachts, his last one being a seven-ton cutter. He was a skilful navigator, and made several voyages from Dublin to the Kyles of Bute. In all matters relating to shipping, particularly sailing ships, he was extremely interested and well informed.

But throughout his life his great interest was astronomy. As a boy he made frequent use of his school telescope, a $4\frac{3}{4}$ -inch refractor, and soon became possessed of a 3-inch refractor of his own. Subsequently he owned $6\frac{1}{2}$ -inch, 8-inch, and 10-inch reflectors, all on tripod mountings, and in 1915 acquired the fine $12\frac{1}{2}$ -inch Calver reflector, equatorially mounted, which he used up to the time of his death. He had been elected a Fellow of the R.A.S. as early as 1891, and before joining our Association in 1922 had frequently observed the moon, planets, double stars, star clusters, and so on, thoroughly enjoying the use of his telescopes, as his note book and diaries show. In 1923 he published a short paper in the *Journal* on "Reflector Adjustments," and in the following year another on "The Ring Plain Archimedes." From this time onwards having joined the Variable Star Section he devoted his attention mainly to work upon Long Period and a few Irregular Variables, each year making a series of reliable observations. He realised the necessity of keeping his mirrors in thoroughly good condition, and made many estimates of Variables at their faintest stages, and also of faint comparison stars, which were of especial value. In other ways he was of great service to the Section. He checked the whole of the observations contained in *B.A.A. Memoir*, Vol. XXVIII, more than 43,000 in number, and at the time of his death had compiled nearly half of the observations made by the Section in 1925-29, which it is hoped to publish next year. The Director also received much help from him in clerical work of different sorts. The regular observation of Variables, begun after reading a paper upon the subject in the *Journal*, undoubtedly gave him more pleasure than any other telescopic work in which he had previously been engaged, and it is lamentable that his activities should have been brought to an end under these painful circumstances. All will deplore the loss of such a capable and enthusiastic observer.

Two sons and a daughter survive their parents.—A. N. B.

Archibald Campbell.

The West of Scotland Branch has lost an old and valued member in the person of Bailie Archibald Campbell, who died on 1931 November 5, at the age of 70, at his residence, Argyll Lodge, Pollokshields, Glasgow. He had been for long a prominent figure in the public life of Glasgow, and took an active interest in a wide range of movements—social, philanthropic, and cultural.

Bailie Campbell was born in the Tradeston district of Glasgow, and received his school education in the city, studying also at Glasgow University. He went into the engineering business, and became in time sole partner of the firm of Messrs. Andrew Campbell and Co., shipwrights and engineers. As a representative of Gorbals Ward, he was a member of the Corporation of Glasgow for 20 years—1900 to 1920. He became a Bailie in 1906, and during his tenure of office as a Magistrate fulfilled for a year the duties of Senior Magistrate. His cheerful and amiable character and his large range of interests made him popular throughout a wide circle. He was much interested in affairs relating to the Highlands of Scotland, and was a prominent member of the Clan Campbell Society and of many societies concerned with science and the arts. He was a Fellow of the Scottish Society of Antiquaries and of the Royal Scottish Geographical Society.

On 1903 February 26, he was elected a member of the British Astronomical Association through the West of Scotland Branch. In 1905 he was elected a member of Council of the Branch; in 1906 as a Vice-President; and in 1909, on the death of Major John Cassells, he was called to the Presidential chair. He performed the duties of President with much acceptance during the two sessions 1909-11. His addresses to the Branch, which were delivered in a racy and attractive style, were much enjoyed and appreciated. In more recent years, while he was not able to be a regular attender at the meetings, he was present from time to time, and contributed in an interesting manner to the discussions. At their meeting on November 19 the Branch put on record their regret at his loss and their sympathy with his relatives.

George Craig.

By the death of Mr. George Craig, F.I.C., F.R.A.S., which occurred on 1931 May 5, the West of Scotland Branch lost a member who was keenly interested in astronomical study. Mr. Craig, who was a consulting chemist, chemical engineer, and analytical chemist, was elected a member of the British Astronomical Association through the West of Scotland Branch on 1912 November 28. He was elected a Fellow of the Royal Astronomical Society on 1918 January 11. He was particularly interested in theories of the physical and chemical conditions of the celestial bodies and in theories of their evolution, and on one occasion gave to the Branch a very interesting statement of his views as to the conditions on the planet Mars.

He was of a very genial and kindly disposition, and in his will, after making certain personal bequests, directed that the balance of income from his estate should be devoted to the upbringing, training, and educating of orphans of Scottish parentage, with the view of making them worthy citizens. Mr. Craig had a very extensive collection of books, and bequeathed his astronomical books to the West of Scotland Branch, which has thereby gained a large and valuable addition to the contents of its library.

Diary for 1932 February.

The times are given in Greenwich Mean Time and are for the Meridian and Latitude of Greenwich.

Greenwich Mean Time.			Phenomena.
Day	h	m	
1			Mars in conjunction with Sun.
6	14	45.1	New Moon.
7			Jupiter in opposition with Sun.
9	21		Venus in conjunction with Moon, Venus 1° South (geocentric).
11	15		Uranus in conjunction with Moon, Uranus 3° South (geocentric).
11	21	18.5	Occultation of <i>W.Z.C.</i> 75 (Mag. 7.1), Disappearance P.A. 89° .
12	5	42	Moon in Apogee.
14	18	15.7	Moon First Quarter.
16	19	38.5	Occultation of 354 B Tauri (Mag. 6.4), Disappearance P.A. 51° .
17	3	4	Occultation of 107 B Aurigæ (Mag. 6.5), Disappearance P.A. 135° .
18	18	21.5	Occultation of 134 B Geminorum (Mag. 6.5), Disappearance P.A. 128° .
20	22		Jupiter in conjunction with Moon, Jupiter 3° South (geocentric).
22	2	7.4	Full Moon.
22	9		Neptune in conjunction with Moon, Neptune 1° South (geocentric).
24	1	30	Moon in Perigee.
26			Mercury in superior conjunction with Sun.
26			Neptune in opposition with Sun.
27	7		Venus in conjunction with Uranus, Venus $0^{\circ}.8$ North (geocentric).
28	4	45	Occultation of 4 Scorpii (Mag. 5.7), Reappearance P.A. 264° .
28	18	3.0	Moon Last Quarter.