

Eclipse of the Moon.

There will be a Penumbral Eclipse of the moon visible in India on the 6th November, 1911.

		H.	M.
First contact with Penumbra	...	7	9
Last	,, ,,	11	4

Extracts from Publications.

Speaking at the Meeting of the British Astronomical Association in April last, Major Grant said that Mr. Donald L. Springall had recently sent a number of communications with regard to the proposed calendar reform under the name of Mr. John C. Robertson. The proposal was to be discussed at a conference arranged by the Swiss Government at the instigation of the International Congress of Chambers of Commerce.

The proposal was that all four quarters of the year should each contain 91 days; that the week should be recognised as a definite unit of time, and that the months should contain four and five weeks. In the first quarter January was to contain four weeks, February four and March five, and that was continued through each of the quarters of the year. It was proposed that New Year's Day should be taken as a day separate from the calendar and called New Year's Day. The year would always begin on a Sunday and would, of course, end on a Saturday. Every month would begin on a Sunday and the whole calendar was arranged on a uniform principle. The advantages claimed for this calendar were that there would be only one set of monthly dates to memorise, and every fixed holiday would occur on the same day of the week, there would be fixed dates for Christmas and Easter; then all weekly markets would recur on the similar dates of each month, and quarter days would always recur on the same day of the week.

All months were even multiples of the week and began with the beginning and ended with the end of the week, and had therefore no troublesome fractions of a week to be dealt with.

Quarterly statistics with an equal quarter, of course, would be more easily compared, seeing that there was the same number of days, and the same would apply in the case of monthly and weekly statistics. It was claimed that the rotation of dates was not upset by reason of the first Monday, or Tuesday, or Wednesday, etc., of a month being preceded at times by later week days, and that all tabular work and books of account would be simplified and standardised. Then the regular recurrence of the extra week in the long months, instead of being a disadvantage, would possess peculiar advantages in giving the opportunity for special duties which it was not desirable to undertake so frequently as every month. Mr. Lynn's objections would be met inasmuch as it was suggested that the new calendar should start in 1916. Leap year was to be met by having a special day in the middle of the year, a special Bank Holiday at the end of the second quarter, and not taken into the calculation of the ordinary days of the year. He had a great deal of printed matter and correspondence about the proposed reform of the calendar, and as Mr. Lynn's paper had been read he thought it right to bring the matter up.

Captain Carpenter said he did not see how the matter affected the Association any more than it affected any other Association. They might have proposals that they should regulate their breakfasts and have poached eggs on Monday and boiled on Tuesday, kidneys on Wednesday, and so on.

Mr. E. Walker Maunder said that an alteration of the calendar would affect astronomers in some ways; as for instance when they were dealing with any historical question or with ancient observations of eclipses and the like. Personally when he had occasion to inquire into past astronomical events, he had always been glad when he got earlier than the Georgian reform of the calendar. The old Julian System was so straightforward and so easy to carry in the head, but when they had to allow for the dropping of ten or eleven days, as the case might be, they were very liable to be thrown out. So high an authority as Prof. Newcomb, perhaps the highest authority they had in their own time, expressed his doubt as to whether it was a wise thing to have adopted the Georgian Calendar, the advantage of the continuity of the Julian System outweighing any supposed advantage from the greater theoretical accuracy of the Georgian Calendar. The proposals now being made were open to the same objections in a much more aggravated form and were without any advantage to counterbalance

them. Some thirty years ago there was a congress held in Paris to discuss the reform of the calendar, and it struck him then as a significant thing that something like forty different plans were brought forward. He had been reminded of a little parable given by the late Prof. De Morgan in the introduction to his Budget of Paradoxes. He said it was quite conceivable that a fly might suppose itself as big as an elephant, and in that case it would be difficult to disabuse the fly of its opinion; but if they could put that fly amongst a thousand other flies, it might realise that it was no bigger than any of the rest. Each of the authors of these arrangements for reforming the calendar was confident that his own scheme was the ideal one, but when they saw forty others all equally confident about their plans, he thought that possibly Prof. De Morgan's little parable might have its application. Certainly 39 out of the 40 were mistaken; was it not probable that the 40th was just as far wrong?

[Journal of the British Astronomical Association.]

The Rev. M. Davidson, investigating mathematically the heat and light of meteorites, summarises the results thus:—

Meteorites striking our atmosphere will have their surfaces fused, even at high altitudes, up to 100 miles, say, and if sufficiently large may become visible at that height owing to the heated air forming an envelope. The height at which they will have developed sufficient heat to cause complete volatilization will depend upon their size, velocity and angle at which they strike the vertical.

For large masses ranging from a few hundred-weights up to 30 tons, this amount of heat can only be generated when they have reached lower altitudes, from 23 to 45 miles according to velocity, size and angle with which they strike.

Small Meteorites like grains of sand or shot can develop this heat in the higher regions up to about 70 miles and might therefore be volatilized at this height.

For a height of 150 miles, if volatilization occurs there, the Meteorite is possibly in a gaseous state.

The resistance of the atmosphere to the motion of the bodies becomes greater as they diminish in size, and the temperature produced in them by friction against the air increases.

[Journal of the British Astronomical Association.]

Naked-eye Visibility of Mercury.—Mercury was seen by the unaided eye on five occasions during his east elongation in April 1910, *i.e.*, April 24, 26, 28, 29 and May 6. This year the sky has been clearer, and I succeeded in obtaining observations on seven evenings as follows:—

			H.	M.	
April 7	...	...	8	10	very sparkling.
„ 11	...	...	7	45	„ „
„ 14	...	...	8	0	Steadier, pale primrose colour.
„ 15	...	...	8	0	Flashing <i>very</i> red.
„ 16	...	...	7	45	„ „ „
„ 20	...	...	8	0	Faint; pale prim- rose.

Venus was seen before sunset quite easily with the naked eye on March 1, 1911.

[*Miss Warner in the Journal of the British Astronomical Association.*]

Halley's Comet.—This is still being diligently followed at the Yerkes Observatory. *Popular Astronomy* for May contains a reproduction of a photograph taken by Mr. F. Slocum with the 2 ft. reflector, with one hour's exposure. The comet appears quite distinctly as a short trail. It was then 110 million miles further from the Sun than on September 11, 1909, and yet very much brighter, showing that the physical brightening at perihelion persists for a long time. It will be followed at least up to conjunction with the sun, and possibly recovered in the autumn after that. Prof. Barnard writes that he got good measures on April 16, 23 and 25; an observation on May 2 was doubtful owing to moonlight. The comet was of mag. 15 in April but is rapidly getting fainter; its diameter is about 10". On April 23 at 14h. 45m. 48s. G. M. T. its R. A. was 9h. 53m. 27.28s. S. Decl. 7° 48' 23.9". This was more than a year after perihelion passage.

[*Journal of the British Astronomical Association.*]

Astronomy the Oldest Science.—Entering the first of the great buildings devoted to science (at the Coronation Exhibition) one comes at once to some very beautiful transparencies, chiefly of star clusters or nebulae, which are the work of the big American observatories. These are followed by others for which Monsieur Deslandres is responsible, illustrating clouds of calcium and hydrogen in the upper atmosphere of the sun. Greenwich Observatory

is also represented, and there is a series of negatives of the moon taken for Mr. E. Ball Knobel (who organised the astronomical exhibits) at the Paris Observatory, as well as photographs of Halley's Comet and other photographs from the collection of the Royal Astronomical Society.

There is a collection of sundials and astrolabes; the oldest of the latter is one from Arabia belonging to Mr. Knobel, dated A.D. 1224. Another is one of the greatest treasures of Grouville and Caius College, as it was presented to it by the founder, John Caius, in the 16th Century, while a Chinese planisphere from the Royal Scottish Museum records observations which must have been made some thousands of years before the Christian era and handed down to the time of the maker. Two models sent by Greenwich Observatory are very remarkable. The first shows the orbit of Jupiter and the position of his moons up to the year 1911. The other illustrates a star cluster (in the constellation Taurus), and from it the position of the cluster with regard to our sun at any time during the last 800,000 years can be deduced.

[*English Mechanic*

In comparing refractors and reflectors the principal reasons of the preference for the latter amongst amateur astronomers in particular may, I think, be summed-up as follows:—Absolute achromatism; the visual and actinic rays being brought to the same focus, this instrument is equally good for photography as for observing; the horizontal view of all objects looked at; and the price only a fraction of a refractor of the same size.

Prebendary Webb, the author of "Celestial Objects for Common Telescopes," whose qualifications to speak with authority on this subject no one will question, states in the above work:—

"An achromatic, notwithstanding the derivation of the name, will show colour under high powers where there is much contrast of light and darkness. Reflectors are delightfully exempt from this defect; and as now made with specula of silvered glass, well deserve from their comparative cheapness, combined with admirable defining power, to regain much of the preference which has of late years been accorded to achromatics."

In the *English Mechanic and World of Science* for June 20, 1879, W. S. Franks, the well-known observer, gives a very careful comparison between an achromatic

refractor and a reflector side by side, and concludes that the light of a $6\frac{1}{2}$ inch silvered speculum is equivalent to that of a 5 inch object glass

[*Mr. G. Parry Jenkins in the Journal of the Royal Astronomical Society of Canada.*

Astronomical Society of India—In a letter to the Secretary asking that it be placed on our Exchange List the President of the above Society gives some interesting information regarding it. Though only founded on July 26, 1910, the Society has 250 members. Its meetings are held monthly at Calcutta, and the proceedings are printed in a monthly journal known as "The Journal of the Astronomical Society of India."

The Society is the first scientific body of its kind in India, and the speed with which members are joining shows that the country was ready for it. It has the highest official recognition, and a large number of Indian gentlemen are amongst its members.

The Royal Astronomical Society of Canada may well extend congratulations to a Sister Society in Greater Britain.

[*Journal of the Royal Astronomical Society of Canada.*

A remarkable meteor has been seen at Bristol. The sky was misty when the meteor ascended slowly from under the Polar Star, leaving a trail of sparks like a rocket. Crossing the zenith the meteor fell to the southward, and finally disappeared to the right of the planet Jupiter. The duration of the flight was 11 sec., and the whole path traversed was 118 deg. Mr. Demming of Bristol, who has been an habitual observer of meteors since the great shower of 1866, says that with one exception this meteor had the longest luminous flight of any which he has ever observed. It must, he says, have passed from above Shrewsbury to over the English Channel, near the island of Alderney, and its velocity was about 18 miles per second.

[*Daily Mail.*

The death is announced at Boston, Massachusetts, of Mrs. Williamina Paton Fleming, a well known lady astronomer.

Mrs. Fleming was born at Dundee, Scotland, in 1857, and became assistant in the Harvard College Observatory in 1879. At the time of her death she was in charge of the Astrophotographic Building, Harvard, where she had a staff of more than a dozen female computers under her. Mrs. Fleming discovered some new stars.

[*Daily Mail.*