



Asymmetry in solar eclipses

From Mr Steve Holmes

While browsing through my collection of the *Mathematical Astronomy Morsels* books by Jean Meeus for quite another reason, I came across a section which had an unexpected connection with a paper by Darren Beard in the 2012 April edition of the *JBAA* on asymmetry in lunar eclipses.

On page 398 of *Morsels II*, Jean discusses the phenomenon of 'The unequal halves of a solar eclipse'. He considers an eclipse taking place at local noon for some observers, and thus in the morning or the afternoon for those at different longitudes. The component of the speed of each observer (due to the earth's rotation) in the direction of the movement of the Moon's shadow across the Earth's surface is greater for the observer at noon than for the others. The Moon's shadow moves faster than any observer, but it will take longer to 'overtake' the quicker-moving observer at noon and so he/she will remain in the shadow for a longer time than the others, i.e. he/she will experience a longer eclipse duration.

Extending this principle to the entire duration of an eclipse happening close to noon, it is clear that because of the above effect any segment occurring either before or after noon should be shorter than the equivalent segment occurring at noon. An eclipse happening in the morning should thus have a shorter duration of the 'inward' half than the 'outward' and vice-versa for one in the afternoon. This is exactly what is found: Meeus quotes the example of the eclipse of 2000 December 25 where in Salt Lake City (starts at 8:28 local time, maximum at 9:34, ends at 10:49) the inward half took 1hr 6mins and the outward 1hr 15mins, while in Halifax, Nova Scotia (starts at 12:31 local time, maximum at 14:05, ends at 15:31) the inward half took 1hr 34mins and the outward 1hr 26mins.

While the mechanism in the lunar and solar cases is different, it is interesting to find that each of them has an inequality!

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Coma Berenices

From Dr Michael A. Covington

In response to Mr Gainsford's query, *JBAA*, 2012 June, p. 186: *Berenice* is a Greek third-declension noun, not Latin at all, and its genitive is *Berenices*. Thus *Coma Berenices* = the hair of Berenice, and *Comae Berenices* = of the hair of Berenice.

This is one of the most often misspelled constellation names; even some handbooks give the genitive mistakenly as *Comae Berenicis* [sic].

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The European Planetary Science Congress 2013

From Dr David Arditti

The European Planetary Science Congress (EPSC) is a major gathering of mostly professional, with some amateur, planetary scientists, occurring every year in September in a different European city, supported by the Europlanet programme of the European Union. In 2013 it will come to the UK for the first time. It will take place at University College London from 2013 September 8–11.

In the past several BAA members, including Richard Miles, John Rogers, and myself, have attended the congresses and presented the results of BAA work. For the 2013 Congress in London, the BAA has been approached by the organisers to take a leading role in coordinating amateur input, and also in helping to organise public outreach activities to take place alongside the scientific conference. To further this, I have been co-opted on to the Local Organising Committee of EPSC 2013 as a representative of the BAA Council.

Though still some time away, it would be a good thing for members to start thinking about how they might participate, particularly if they have active research interests in solar system subjects. The conference covers planets and all related areas, including planetary satellites, small bodies, comets, meteors, the interplanetary medium, exoplanets, and astrobiology. Contributions to the scientific programme can be in the form of presentations (usually 15 minutes long), or posters. This will be an excellent opportunity to present the best amateur observational and analytic work to professionals in the field, who are all too often unaware of the quantity



Amateur imager Sylvia Kowollik shows off her planetary imaging at the 2008 EPSC in Germany.

and quality of the work that amateurs produce. The costs of taking part will be set at an affordable level for BAA members.

As well as the scientific sessions there will be sessions on public outreach work, to which BAA members with interests in appropriate areas might also be able to contribute. The organisers are hoping for a significant programme of outreach to take place around the Congress. One way the BAA might contribute to this would be to organise a public observing event. Another might be to provide speakers for popular-level evening talks. Further ideas are sought from members.

I would be interested in hearing from anybody who would like to contribute to the 2013 EPSC: email me on d "at" davidarditti.co.uk.

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