Letters

'Centenaries for 2006'

From Dr Robert Argyle, President, the Webb Society

Barry Hetherington's list of centenaries for 2006 in the December *Journal* [*JBAA*, **115**(6), p.343] contains an important omission – the bicentenary of the birth of Thomas William Webb. The well-known Victorian populariser of astronomy was born on 1806 December 14, but the year of birth is occasionally given erroneously as 1807 (see, for instance, the obituary in MNRAS, **XLVI**, 198, 1886).

The documentary evidence for 1806 comes from the following sources and I am grateful to Mark and Janet Robinson, editors of a forthcoming biography of Webb, for the details.

Firstly, in Hereford Record Office there is a microfilm of Ross Church registers with an entry for a christening on Sunday, 1806 Dec 28: 'Thomas William, son of John (Curate) & Sarah'. In addition, in papers in the Hereford Cathedral Library in which Thomas has written anecdotes told to him by his father and adds his own comments, there is the following in Thomas' own hand: 'When my father was Curate to Rev. Thomas Underwood, Rector of Ross, at the beginning of the present century (during which time I was born, at a house called The Cottage, on the Walford Road, Dec. 14th 1806) ....'.

The Webb Society will be celebrating 'Webb 200' at the Institute of Astronomy, Cambridge on 2006 December 2 and the speakers will include Mr and Mrs Robinson.

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Richard Baum and the Walter H. Haas Award

From Mr Robert Garfinkle

In regards to the article in the December 2005 issue about Richard Baum's receiving the ALPO Walter H. Haas Award for 2005 (page 311), I want you to know that Richard was the first and only recipient to receive a unanimous vote by the selection committee for the Walt H. Haas Award.

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From Dr Darren Beard

I am writing concerning one of the events listed in the 'Centenaries for 2006' article in the December 2005 issue of the *Journal*.

For 1606, it is stated 'on 4th December Jupiter was occulted by Mars, seen from China'. In fact, there was no occultation of Jupiter by Mars on this date. Referring to Meeus J. (*More Mathematical Astronomy Morsels*, Willmann-Bell, 2002) it can be seen that no mutual occultation of planets occurred in 1606. The last Jupiter occultation by Mars occurred on 1387 Sep 22; the next such event is not until 2223 Dec 02.

Calculations by the writer show that on 1606 Dec 04 (Julian calendar) Mars passed within 32" of Jupiter as seen from China. This could well have been thought to be an occultation when observed without telescopic aid.

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Slides of recent comets and other phenomena

From the BAA Honorary Librarian

The BAA Library collection of slides for loan by members is very deficient in slides of recent comets, aurorae etc. I would like to ask if any member would be prepared to provide slides of for example comet Hale–Bopp, comet Hyakutake, aurora displays, planetary images, eclipses (solar and lunar) etc. (including details of event, instrument, location and date) or any other astronomical phenomena which would be of interest to members, and which could be used to ilustrate talks or lectures. The copyright would of course be retained by the owner, and also due acknowledgment would be made.

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The brightest feature on the Moon?

From Dr Richard McKim

On the evening of 2005 December 11 I was pottering about in my observatory, trying to make videos of Mars and the ten-day old Moon. I am an inexperienced webcam user, and fear that I shall never be as good at it as I should like to be. As I adjusted the declination slow motion after imaging the 'Moon Maiden' and other classic lunar features, I was struck by the intense brilliance of some small patches at the northern edge of a crater which I later identified with the help of the *Hatfield Lunar Atlas* as being the feature named Werner. On the monitor of my laptop computer the patches were really outstanding. After successfully imaging Werner I looked visually to confirm their brilliance with the eye. Through the wider field of the eyepiece it was clear that there were other really brilliant crater walls and patches catching sunlight at just the right angle, but the impression of Werner somehow being exceptional remained.

Later, looking in my library at the classic Moon books by Elger and Goodacre I discovered that I was not the first to have been struck by the brilliance of these spots. Indeed, Walter Goodacre wrote: 'At the foot of the N.E. slope a very bright spot develops under a high light above five miles square and covering a crater. This Madler thought was the brightest spot on the Moon. Webb, however, was never able to find it of the specified brightness and thinks it may have faded since Madler's time.'[1]

This episode prompted me to write to the *Journal* to offer a very imperfect stacked image of Werner, and to ask our readers if they can answer the following question: 'Which is the brightest feature on the Moon?' It may be an old debate, but what is the modern answer?

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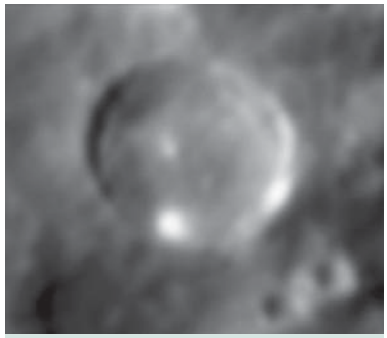
1 W. Goodacre, *The Moon*, Pardy & Son, Bournemouth, 1931



Crater Werner imaged in slightly unsteady seeing on 2005 December 11d 16h 45m with a 410mm Dall–Kirkham Cassegrain at f/25, showing the bright spots in the north. (Toucam Pro webcam, Baader IR/UV blocking filter, processed with *Registax 3*). South is roughly at the top. *Richard McKim*

The worsening curse of light pollution

From Mr James Abbott

David Frydman (JBAA Letters, 2005 December) gave an interesting account of the effect on the night sky of an electricity blackout over London.

About a year ago, a similar event occurred on a clear night here in mid-Essex. About half of the nearby market town of Witham (pop. 25,000) suffered a power cut and from the adjacent more rural areas the light pollution dome over the town also halved in its extent. Normally it produces an orange glow to around 40° in the southern sky as seen from where I live, the town centre being 5km away.

Due to the power cut, for the first time since moving here 15 years ago I could see constellations in the southern sky. Usually the light dome in the south obscures all stars below about 3rd magnitude and is now so bad that it clearly casts shadows, even though we have no actual streetlights within 1km.

I would estimate that in the best parts of the sky here (around the zenith and to the east and north), the limiting magnitude on a good night has declined from about +5m.5 15 years ago to around +5m.1 now. This is of course not just light pollution from one town but the growth of all the towns in the area, and the rapid spread of artificial lights in new and established built up areas, as well as from farms, rural business premises, etc.

The blackout showed the immediate benefit of reducing the amount of light going into the night sky – which could equally be achieved without putting residents to the inconvenience of power cuts if sky friendly policies were adopted. Although new planning guidance aimed at reducing light pollution is being introduced and for the first time excess light is to be made a statutory nuisance, the night sky over the UK will still have very limited official protection.

The astronomical community numbers many thousands in the UK. Given the speed at which light pollution is worsening in many parts of the UK I believe that we are going to have to step up a gear in campaigning if the situation is to be stabilised, let alone reversed. I would urge all BAA members and friends who are not already members of the Campaign for Dark Skies (CfDS) to join and support their excellent work and get involved. It is unlikely that anyone other than the astronomical community will engage in this vital work in an effective way.

As well as ongoing national campaigns, much can be achieved locally. Lobbying highways authorities on streetlighting policies, monitoring planning applications and approaching individual firms and properties has in my experience had generally positive results – in many cases those responsible for light pollution have little or no idea of the problem and are happy to help.

James Abbott

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Proliferation of local solar eclipses

From M. Jean Meeus

On 2005 November 5, Mr Joe Rao of Putnam Valley, NY, posted a message on the Solar Eclipses Mailing List in which he wrote that 'a veritable proliferation of solar eclipses visible over a specific location over a very short time span' is possible. He had found some instances where four solar eclipses will be visible during a span of less than 18 months: New York in 2638–2640, Los Angeles in 2044–2046, and Bogotá in 2345–2346.

Of course, in most cases all these eclipses are partial at the given place. An eclipse is considered to be 'visible' when at least one of its three characteristic phases occurs above the horizon: first contact (beginning of partial eclipse), maximum, and last contact.

We wrote a computer program to search for such cases of proliferation of four solar eclipses during the period 1600–2800. No cases were found for Athens, Berlin, Cape Town, Edinburgh, Istanbul, London, Moscow, Paris, Rome, Sydney and Tokyo. But one case was found for Bombay (in 2359–2361), Boston (2692–2694), Madrid (1780–1782); two cases occur at Bogotá, Cairo, Hong Kong, Jerusalem and Washington D.C.; three at Calcutta, Dakar and Khartoum; and no less than four at Bangkok and Miami.

No case was found for the North Pole, but for the South Pole we found no less than 4 cases: in 1782–1784, 2824–2826, 2936–2938, and 2954–2956.

We then repeated the calculation for the much longer period from 2000 BC to AD 3400. We found a total of *eleven* 'proliferations' at the South Pole, but still *no* case at the North Pole. This is the more surprising because at the North Pole the Sun remains one week longer above the horizon than at the South Pole. At epoch 2000, the Sun's declination is positive during a period of 186.4 days, negative during only 178.8 days.

But there is a further surprise: the eleven cases of proliferation at the South Pole all take place during a time span of 17, not 18 months. For instance, the last case was with the following eclipses: 1782 October 7, 1783 March 3, 1783 September 26, and 1784 February 20.

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Observing the aurora from the UK

From the Director of the Aurora Section, 1982–2005

At the joint meeting with the Royal Meteorological Society on 2004 November 27,[1] Mike Pinnock said that there was sadly little that UK amateur observers could usefully do in the observation of the aurora, and that the UK was not far enough north.

Before my observing team becomes demoralised, may I remind them that the primary objective of the Aurora Section is to make an accurate historical record of auroral events, their activity and geographic extent. This work continues the data collection for this phenomenon from archaic times to the present day. One never knows when such records may be of value to researchers now and in the future.

For example, in the 2005 August issue of *Astronomy & Geophysics*[2] Giles Harrison analysed aurora observations made between 1771 and 1805 by Thomas Hughes at Stroud. These confirmed the period from 1778 to 1788 to be quite active and 1796 to 1803 to be a period of no activity. Harrison confirmed these variations by reference to European records. I have independently confirmed the results as given by Réthley & Berkes' list of Hungarian aurorae in that period.[3]

Although Hughes' observations were that of a point location, subject to problems with cloud and observer availability, Harrison has correlated them with sunspot high maxima in 1778 and 1787 and the Dalton solar minimum period around 1800.

The Aurora Section records from 1962 to date permit the frequency of the aurora at Stroud to be calculated for the present era. Such a data set enables the situation in the two periods to be compared, should anyone wish to do so. From 1976 to 2004 some 67 aurorae were reliably observed south of Birmingham, of which at least 15 were major auroral storms. One can hardly say that southern England was not far enough north to partake in the study of the historical distribution of mid-latitude storm aurorae.

To all members my advice would be to 'observe everything that shines',[4] and you don't even need a telescope.

Ron Livesey

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References

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2 Harrison G., 'Aurora diaries', *Astron. & Geophys.*, **46**(4), 4.31 (2005)
3 Réthley A. & Berkes A., *Nordlichtbeobachtungen in Ungarn (1523–1960)*, Akadémiai Kiadó, Budapest, 1963
4 Gavine D. M., 'Observing the aurora', *J. Brit. Astron. Assoc.*, **114**(5), 293 (2004)