



The Newsletter

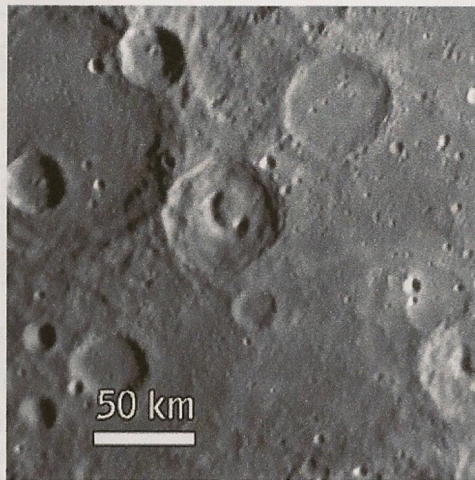
of the
Orwell Astronomical Society (Ipswich)



Registered charity No 271313
www.oasi.org.uk

2008 March

No 428



MERCURY UP CLOSE

The above image was obtained by the NASA Messenger Probe's Narrow Angle Camera at a distance of 12,000 miles from the planet's surface.

The thus far unnamed crater at the centre is approx 31 miles diameter and has a noticeable telephone handset shaped depression on its floor. This collapsed area is now subject of intense scrutiny by members of the Messenger team and could indicate past volcanic activity at or below the surface.

Credit: NASA/Johns Hopkins University Applied Physics Laboratory/Carnegie Institution of Washington
www.nasa.gov

Society News (Roy Gooding)

1 Committing Meeting Saturday 8th March

The next committee meeting will be held on Saturday 8th March from 20:00 at the Methodist Church Hall. This is meeting is open to any and any member who would like to attend

2 Subscription Renewal for 2008

If you not already paid for 2008, please return the renewal form enclosed to Martin Cook, together with monies.

3 Events for 2008

This event list will be updated through out the year

Meeting	Venue	Date
Open Weekend		12 th and 13 th April
Excursion	A society excursion will be arranged if there is sufficient interest	No date set yet
Summer Barbecue	No venue fixed yet	No date set yet
Perseid Meteor watch	The "Dip" Felixstowe	Saturday 16 th August
Geminid Meteor watch	The "Dip" Felixstowe	Saturday 13 th December
Christmas Meal		Wednesday 11 th December?

4 Access into the School Grounds and Observatory Tower

Please use the third gate into the school grounds, this is the gate behind the Gym. If the Black door entrance at the base of the observatory tower is locked, you will have to phone someone in the observatory to let you in. My mobile number is [REDACTED] (Roy Gooding) alternatively the Observatory mobile is [REDACTED] during meeting hours.

5 Welcome to New Members

6 Lecture Meeting Venue

Our town lecture venue is now at the Methodist Church, in Blackhorse Lane. The Church has a car park, can take about 30 cars, in Black Horse Lane Alternatively there is a Park & Display car park at the top of Black Horse Lane, next too the former Town Council Offices. This is about 100 yards form the church.

Black Horse Lane has only one entrance, which is from Elm Street. This is just past the Police Station, if you are arriving from Civic Drive. The church car park is on the right, just past the Black Horse pub.

Meeting starts at 20:00, doors open at 19:30

Open Weekend

The Open Weekend this year will be held on Saturday 12th and Sunday 13th April.
Doors open for the public at 19:30

As usual as much help as possible is required to make this a successful Open Weekend.

If you are only available to help for a short time your presence will still be appreciated.

A poster is included with this Newsletter, please find a suitable place to display it.

ORWELL ASTRONOMICAL SOCIETY (IPSWICH)

<http://www.oasi.org.uk/>

Charity No. 271313

PUBLIC OPEN WEEKEND

Visit One of the Few Remaining Operational Victorian Observatories
Located at Orwell Park School Nacton off the
A1156 between Ipswich and Felixstowe

THE ORWELL PARK OBSERVATORY WILL BE OPEN TO THE PUBLIC ON

SATURDAY 12th April From 7:30pm to 10:00pm

SUNDAY 13th April From 7:30pm to 10:00pm

The weekends programme includes:

OBSERVATIONS OF THE MOON, SATURN, MARS and the NIGHT SKY

Observations will be undertaken: -

(Subject to favourable weather conditions)

- In the Observatory Tower, using the 10" Tomline Refractor and other telescopes
- Outside on the field, using naked eye, binoculars and small telescopes
- If you have a pair of binoculars we recommend that you bring them with you.

Night Sky (March)

All times GMT

Moon

New Moon	1 st Quarter	Full Moon	3 rd Quarter
7 th	14 th	21 st	29 th

Object	Date	Times		Mag.	Notes
		Rise	Set		
Sun	1	06:50	17:45		
	31	05:41	18:37		
Mercury	1	05:59	15:07	0.0	Mercury is low down in the morning twilight sky this month
	31	05:32	17:03		
Venus	1	06:07	15:14	-3.8	Venus is low down in the morning twilight sky this month
	31	05:22	16:47		
Mars	1	10:40	04:05	0.5	Mars remains well placed this month for observations, even through it is receding from Earth
	31	09:40	02:50		
Jupiter	1	04:38	12:31	-2.1	Jupiter is in Sagittarius this month
	31	02:55	10:55		
Saturn	1	16:49	07:00	0.3	Saturn remains well placed this month for observations
	31	14:39	04:59		
Uranus	1	07:08	18:19	5.8	Uranus will be at conjunction with the sun on the 8 th
	31	05:13	16:31		
Neptune	1	06:19	15:53	7.8	Neptune is in the morning twilight this month and not observable
	31	04:23	14:00		

A MUCH DESERVED PRESENTATION TO THE “TEA LADY”!

A story by Gerry Pilling

I made two mistakes more than usual recently: -

1. I attended the AGM ← (*Charming! Says the Chairman*) ↓
2. I made a suggestion – so I got another job! (*And serves him right too!!*)

I proposed that OASI ought to recognise one of our un-sung heroes, the Tea Lady of old Nacton Village, (Nicky) who attends probably all the events at the Hall there and in Ipswich. That is not to say that others do not help – indeed they do, but without the boss there would be no refreshments I suspect. Having Tea and bickies available has certainly added more of a social side to both the workshops and lectures. Even Ted Sampson has alluded to this in a recent ‘spot the millennium Telescope’ article. The proposal was adopted unanimously.

I thought, I know I’ll ask Pete Richards for some helpful suggestions. He suggested, NOT cheese, NOT chocolates, NOT wine. Now being a Digital logic designer, I interpreted this literally and thought of empty boxes and bottles or even some anti-matter, but this did not seem to be what I had originally had in mind. As Pete was no help (nothing new there then!), I was on my own.

So, anyway on MY birthday last week when I was only hexadecimal 3D yrs old, the wife and I took a trip to Norwich to exercise my little sports car and whilst strolling around Jarrolds saw what we thought was the perfect solution for a gift. It is ‘Girly’ in nature it can be displayed as a conversation piece and it can be thrown at Pete on those occasions that demand it (and it is heavy enough to have an effect). (And off course it fitted the budget for this poor society!)

At the next workshop in front of hundreds of members (well 20 anyway) I presented the gift (a very attractive vase) to Nicky Gillard, as a memento to show OASI’s appreciation for keeping us fed and watered at our events.



OCCULTATIONS DURING MARCH

The following table lists stellar occultations which occur during the month under favourable circumstances. The data relates to Orwell Park Observatory, but will be similar at nearby locations.

Date	Time (UT)	D R	Lunar Phase	Sun Alt (d)	Star Alt (d)	Mag	Star
12 Mar	18:36:32	R	0.31+	-7	52	5.8	Asterope
12 Mar	18:42:15	R	0.31+	-8	51	5.7	18 Tau
12 Mar	19:01:59	D	0.31+	-11	49	6.4	ZC 555
12 Mar	20:38:39	D	0.32+	-25	36	6.8	ZC 571
12 Mar	20:56:47	D	0.32+	-27	33	6.8	ZC 574
12 Mar	22:57:41	D	0.33+	-39	16	7.5	Hip 18491
13 Mar	20:52:20	D	0.43+	-26	44	7.3	Hip 22903
14 Mar	18:50:58	R	0.54+	-9	65	4.6	136 Tau
14 Mar	19:11:36	D	0.54+	-12	64	7.0	Hip 28033
14 Mar	19:40:41	D	0.54+	-16	61	7.2	Hip 28164
14 Mar	20:43:09	D	0.54+	-25	54	7.3	Hip 28327
14 Mar	21:06:38	D	0.55+	-28	51	6.6	ZC 906
15 Mar	19:04:03	D	0.65+	-11	64	6.2	39 Gem
15 Mar	19:28:16	D	0.65+	-14	64	6.4	40 Gem
17 Mar	22:36:50	D	0.85+	-36	52	6.3	FZ Cnc
20 Mar	19:01:00	D	0.99+	-9	17	5.9	76 Leo

The tracks of two grazing occultations pass through East Anglia during March. Unusually, the events occur on consecutive evenings! The following table summarises the circumstances.

Date	Time (UT)	Lunar Phase	Sun Alt (deg)	Star Alt (deg)	Star Azi (deg)	Limb	Mag	Star
12 Mar	18:25	31% +	-5	54	231	S	6.4	Asterope
13 Mar	23:07	44% +	-39	24	282	N	6.9	ZC746

Table 4. Grazing occultations.

The graze tracks over East Anglia are as follows:

Asterope, 12 Mar: Track at approximately constant latitude. N of Brandon, N of Thetford, S of Attleborough, N of Bungay, N of Beccles and out to sea at Lowestoft.

ZC746, 13 Mar: The Wash, Fakenham, South Norwich, Beccles and out to sea N of Southwold.

James Appleton

TELESCOPE FOR SALE

Orion "Europa 150" equatorially mounted 6" reflecting telescope and tripod £150. Plus two eyepieces, 9mm and 25mm and an attenuating filter. Instruction handbook also included.

Contact:

Ian Hicks

Ipswich [REDACTED]
[REDACTED]

OBSERVATIONS OF GRAZING LUNAR OCCULTATIONS IN 2007

By James Appleton

A lunar occultation occurs when the Moon appears to pass in front of a star, hiding it from view. If the moon appears to pass centrally in front of the star, it can obscure the star for more than an hour. However, generally the moon's path will be such that the centre of the visible disk passes to the north or south of the star, in which case the star is obscured for a shorter period. In the limit, the north or south polar limb of the moon briefly obscures the star – this case is termed a grazing lunar occultation, or simply a graze.

During a graze, mountains and valleys on the lunar limb can appear to pass in front of the star, alternately obscuring and revealing it. When this happens, the star can appear to flash on and off. For a graze of any given star, such an effect is visible only along a path across the Earth's surface at most few kilometres wide: this path is referred to as the graze track. Generally, a south polar graze is more spectacular to observe than a north polar graze because the moon's south limb is the more rugged of the two.

The lunar limb profile is not known with great accuracy. In 1963, the American astronomer C B Watts published a 951 page book entitled "The Marginal Zone of the Moon" which detailed the elevation of the lunar limb above or below its mean level all around its circumference, for nearly all libration angles. Watt's monumental tome was based on 475,000 measurements made during a period of 20 years of 700 photographs of the moon. Although Watts' estimates are of variable accuracy and omit some libration angles, to date they are the only available source of limb profile data. In recent years there has been interest in revising and correcting Watts' work, but to date no organisation has been prepared to invest the necessary resources to undertake the work.

An observation of a graze establishes a relationship between several quantities: the location of the observer, the position of the moon, the position of the star and the topography of the lunar limb. The lunar limb topography is by far the least well known of the four quantities, and observations of a graze, when appropriately analysed, can reveal corrections needed to Watts' limb profile data.

In the January 2007 OASI Newsletter, I predicted three grazes visible from East Anglia during the year. Table 1 summarises the details.

Date & Time (UT)	Star	Limb	Graze Track over E Anglia
02 Oct, 01:44	ZC797 mag 6.3	N	White Colne, Nayland, Hintlesham, Claydon, Otley Botton, Rendham, Kelsale, Westleton and Walberswick
01 Nov, 02:06	9 Cnc mag 6.0	S	Chevington, Elmswell, Worlingworth, S of Heveningham, S of Bramfield and Walberswick
30 Dec, 03:17	Ups Leo mag 4.3	S	Chevington, Lavenham, Layham, Brantham, Great Oakley and The Naze

Table 1. Grazes visible from East Anglia in 2007.

Three members of OASI expressed a willingness to join me in braving the unsociable hours in attempting to observe the three grazes: Martin Cook, Roy Gooding and Alan Smith.

Preparations for the first graze did not go smoothly! I used my occultation prediction software (which I have been developing and refining for a period of some 17 years!) to calculate the graze track. We then used 1:25 000 scale OS maps and Google Earth to select potential observing locations, settling eventually on a number of possible sites in the vicinity of Otley. Alan undertook a detailed reconnaissance of the potential locations and obtained permission from a farmer to observe from a field off a minor road. It was at this point that we realised that Alan's satnav and Google Earth were providing positional coordinates (latitude and longitude) in very good agreement with one another, but that the OS maps were providing very different positional coordinates. The discrepancy amounted to over 100m! As we aimed to establish our position to within a few metres to enable accurate reduction of results, this discrepancy caused much consternation. Further investigation via the OS web site revealed that in fact the fundamental construction of the coordinate system used by satnav devices and Google Earth (referred to as WGS84, standing for the World Geodetic System 1984) is completely different to that used by the OS (which is based on a spheroid of rotation defined by Airy in 1830), and that this results in positional discrepancies which can be as great as 200m! However, the differences are predictable and can be calculated.

In any case, our efforts to resolve differences between the coordinate systems proved fruitless, as poor weather prevented observation of the graze of ZC797. The sky had been completely overcast throughout the day of 01 October 2007, and by early evening we agreed that there was no prospect of any observations. Secretly, I

for one was relieved that a journey to Otley in the middle of the night would not be required!

Plans to observe the second graze initially ran more smoothly. Again I predicted the graze track and we used OS maps and Google Earth to identify possible observing locations. By this time, I had written software which converted between WGS84 and Airy 1830 coordinate systems and we were able to work equally with either system. However, a brief but intense panic occurred when, somewhat belatedly, I realised that my occultation prediction software used yet another coordinate system, IAU 1976¹, which differed from both WGS84 and Airy 1830! However, after a little research I was able to write yet more software to convert coordinates between any of the three systems. Once more, Alan undertook the detailed reconnaissance of potential observing sites, this time selecting a farm track as our location (having first obtained permission from the farmer).

Then, from an unexpected direction, disaster loomed! With a week to go to the graze, a group at work complained to senior management about the standard of work of my team! I had to respond by running a meeting to “re-educate” our accusers! I would need my wits about me – our reputations were at stake. The meeting was arranged for the day of the graze. Disaster! I could not stay out until the early hours observing the graze and then expect to run the meeting successfully after very little sleep. Regretfully, I informed Alan that I’d be unable to undertake the observation.

Alan observed the graze alone. The sky was cloudless, the site was good and the seeing was also good. Alan observed using a 75mm equatorially mounted refractor. He was hampered by glare from the illuminated portion of the moon and by very considerable dewing of his object glass. He thinks that the former prevented him from witnessing the initial disappearance of the star, while the latter caused him to miss the final stages of the graze. Despite these difficulties he did manage to see the star successively hidden and revealed behind the features on the limb of the moon.

Alan recorded event times on an MP3 recorder hanging around his neck, with reference timings from a Rugby radio clock and satnav. His timings are as follows:

02:04:49	star disappears (into the glare?)
02:09:13	star winks in/out
02:09:18	visible
02:09:24	disappear

¹ Defined by the International Astronomical Union in 1976.

02:09:25 visible
 02:09:43 winks out/in
 02:09:48 disappear
 02:09:50 visible
 02:09:53 disappear
 02:12:13 winks in/out (this might be wishful thinking!)
 02:12:50 visible
 02:13:03 disappear
 02:15:42 visible
 02:15:50 disappear. Never saw the star again, thanks to dew on the OG.

Figure 1 plots the theoretical apparent distance of the star from the lunar limb around the approximate mid-time of the graze. The solid line represents the distance to the (imagined) mean limb and the dashed line represents the distance to the true limb, based on the Watts data for the appropriate position angle, axis angle and libration angles.

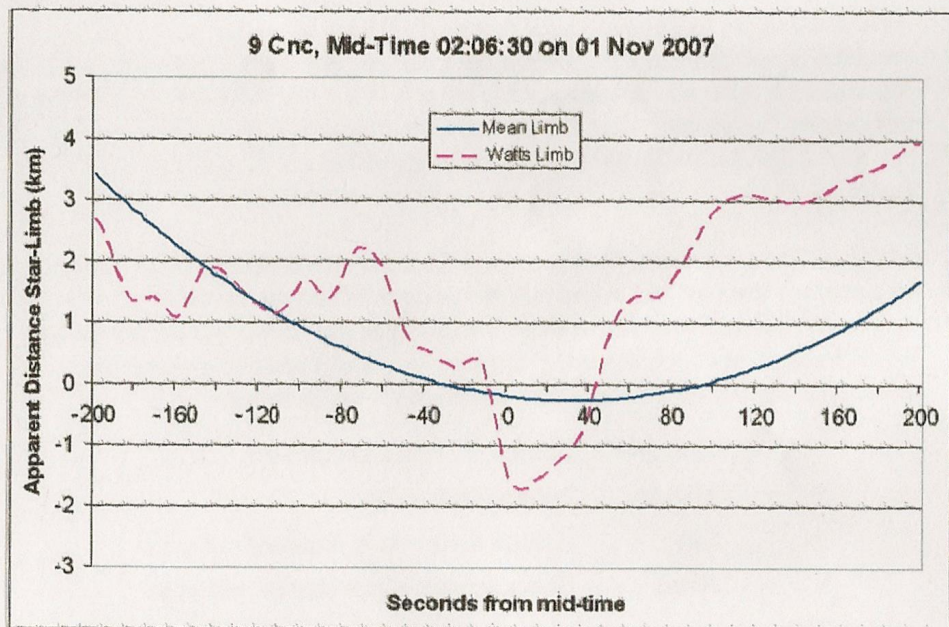


Figure 1. Apparent distance of star from lunar limb for 9 Cnc graze.

The Watts data indicates that from Alan's observing location, the star was predicted to disappear just once, during the period 02:06:21 – 02:07:12. Alan's empirical timings bear no resemblance whatsoever to this! It is likely that the discrepancy is

due to a combination of the difficulties Alan experienced in making the observations together with inaccuracies in the limb data.

Alan's successful observation encouraged us as the date for the third graze approached. We made the usual preparations. Alan selected an observing site on Lattinford Hill, 2.5 km SW of Capel St Mary.

The day of 29 December was initially cloudy, but the clouds thinned as the day wore on and by midnight, we were reasonably confident of a clear sky!

On 30 December, I collected Roy from his home at 01:45 in my wife's car and we drove to the observing location, arriving at 02:00. We were first to arrive, and on surveying our surroundings it was immediately apparent that Alan had chosen an excellent site, on a very quiet minor road and with unobstructed views. Alan arrived 10 minutes later. We decided to move the cars a few metres off the road up a track by the side of a ploughed field. The field was muddy after considerable rain in previous days. The manoeuvre should have been a simple operation – but it wasn't! Alan directed me as I endeavoured to reverse the car along the track, but there ensued a minor crisis as I slipped off the track and got stuck in the mud. After much pushing from Alan and spinning of the wheels in the mud, I finally got back on the track again, but by only after the car had been thoroughly spattered with mud. Mrs A was not best pleased when she saw the state of her car the following day! (See figure 2.)

At 02:20, Martin arrived, having missed the excitement! At this time, the sky was more cloudy than we had hoped for, so we delayed setting up our telescopes for a few minutes to see what the weather was going to do. As we waited, the clouds began to clear. We took this as all the encouragement needed to set up our telescopes. By 02:40, all our telescopes were set up, as follows:

James:	250mm SCT on altaz mount
Martin:	250mm Dobsonian
Roy:	100mm equatorially mounted refractor
Alan:	75mm equatorially mounted refractor

The sky was very clear and transparent; there was a little gusty wind, but not enough to cause any serious problems. We easily found the star. Initially, as we followed the moon seemingly drawing nearer to the star, it appeared as if the limb of the moon might miss the star altogether, but our worries proved unfounded!



Figure 2. James and his car after ploughing the fields of Suffolk at 2.00 am. Reversing practice is recommended!

We all observed the graze, witnessing the star disappear and reappear several times behind the lunar limb. Alan and Martin successfully recorded event times. Alan used his trusty MP3 recorder as at the previous graze. Martin adopted a more sophisticated approach: he had constructed a hand-held pushbutton unit wired to a battery and LED positioned beside a Rugby radio clock. He used the pushbutton to make the state of illumination of the LED match the visibility of the star (i.e. star visible – LED on; star obscured – LED off) and video recorded the Rugby clock and LED for later analysis. The audio track captured his verbal comments on his observations. I attempted to record event times using a stopwatch with pushbutton lap timer, but unfortunately when I later went to analyse the results, I found that I had been pressing the wrong button and had not recorded any times at all. Bummer!

By 03:21, the show was over and the lunar limb was visibly well clear of the star. We performed final time checks and satnav location checks before taking the obligatory photos, packing up and returning home. As we packed up the equipment,

we noted that our observations marked a fitting conclusion to OASI's 40th anniversary year!

In the days following the graze, Martin and Alan analysed their event timings. The value of recording two independent sets of event times became apparent as cross checking revealed an error in the initial analysis. Martin's and Alan's final estimates of event times were the same, when rounded to the nearest second, as tabulated below.

03:16:12 star disappears
03:16:58 star reappears but is fainter than previously
03:17:15 star disappears
03:18:16 star reappears
03:18:17 star disappears
03:18:18 star reappears

Figure 3 plots the theoretical apparent distance of the star from the lunar limb around the approximate mid-time of the graze (*c.f.* figure 1).

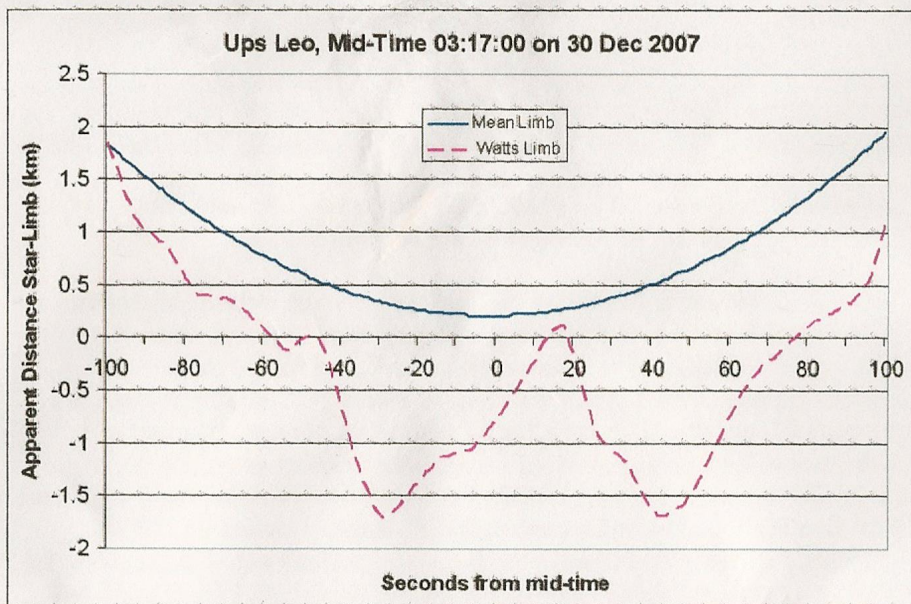


Figure 3. Apparent distance of star from lunar limb for Ups Leo graze.

This time, the empirical timings are in broad agreement with the theoretical predictions:

- The Watts profile indicates that the graze would start with the star disappearing at 03:16:02, then reappearing briefly at 03:16:11 and disappearing for a longer period at 03:16:15. The empirical timings show the first disappearance of the star at 03:16:12, indicating that the limb feature associated with the earlier disappearance in figure 3 was not in fact present.
- The Watts profile suggests a reappearance of the star near the mid-time of the graze at 03:17:13, much later than the time which Alan and Martin recorded, 03:16:58. However, Alan and Martin noted that when the star reappeared, it was fainter than previously, so it may have been partially obscured by a limb feature. This is uncommon, as most stars appear essentially as point sources of light, and so are either completely obscured or not obscured at all. However, the Hipparcos star catalogue shows the spectrum of Ups Leo as G9III, indicating that it is a giant star. It remains a subject for future research to determine whether Ups Leo has a significant apparent diameter which could explain the observations.
- The Watts profile indicates a subsequent disappearance at 03:18:19, in good agreement with the empirical timing of 03:18:16.
- The final event predicted by the Watts profile is the reappearance of the star at 03:18:17. In fact, the observers recorded reappearance at 03:18:16 and then a subsequent brief disappearance before a final reappearance at 03:18:18.

Our success in predicting and observing grazes in 2007 has encouraged us in our efforts. There are two grazes predicted for 2008 for East Anglia, occurring on consecutive evenings 12 and 13 March – details are in the January Newsletter. Please contact me if you are interested in observing either event.

James Appleton

Parramatta and Sydney Observatory

by Tina Hammond

Sir Thomas Brisbane, NSW Governor, was an amateur astronomer and paid for a private observatory (the first free standing observatory in Australia) to be built adjacent to his residence, Government House, in Parramatta. With the aid of Carl Rumker and James Dunlop, observations were made from November 1821, with the first official one taking place on the (southern!) summer solstice, 22 Dec 1821. Two pendulum clocks, including a sidereal one and a Breguet, were installed there, as well as a 92mm Edward Troughton transit telescope, an 80mm Banks equatorial telescope and a 1791 celestial globe.

Built of wood and canvas with 2 meter sandstone piers, it was a disaster area just waiting for structural problems to happen. However, in its first four years of operation 7385 stars were observed and the results were published in the snappily titled 'Parramatta Catalogue of 7385 Stars'.

Brisbane departed at the end of 1825 and Rumker took over in May 1826 staying until October 1829 when he returned to his native Germany. He identified 26 double stars (identified with an RMK designator) of which only 20 are recognised as such today.

Wishing to continue his observations during this time, Dunlop built his own mini observatory at his home in near St John's Church in Hunter Street, Parramatta. The 9" reflector, with a focal length of 9', was possibly the first

ever built Australian telescope and very poor quality. However, he was a prolific observer and by the end of 1826 had identified 629 nebulae/star clusters and 254 double stars, designated DUN or Δ . He is remembered in Parramatta, with a street named after him.

In December 1827 Brisbane's observatory was sold to the NSW government for the princely sum of £1,614, 13/5d, and on 7 Nov 1830 Dunlop became the Government Astronomer of Parramatta Observatory, holding this position until the last observation there on 19 March 1847. He was shocked at its dilapidated state upon his return and tried to get remedial work done but he was too late and it had to close, due to poor maintenance and a large infestation of white ants in the wood and canvas. He resigned in August that year when instructions came to transfer operations to Sydney. Parramatta Observatory was demolished in 1879 by then Parramatta Park ranger, George James Giles. The foundations were subsequently taken out in 1887, leaving only the transit piers. In 1880, an obelisk commemorating its existence was erected, which is all that remains of it today.

Although Sydney was home to a telescope built in 1788 on Dawes Point, standing practically where the south pylon of the Harbour Bridge is today, its life was short and unsuccessful as it was hurriedly built, almost as soon as the First Fleet arrived in Australia, in order to observe Halley's Comet in 1790. This it failed to do and its decline was pretty much assured from that point.

Having learned the lesson from Dawes Point not to construct an observatory at sea level, the second – and

current - Sydney Observatory was built in local sandstone, in 1858 on top of Flagstaff Hill (now Observatory Hill) on the instruction of Sir William Denison, and its first director was the Rev William Scott MA, selected by the then Astronomer Royal, one Sir George Biddell Airy. The budget was £7,000 plus a computer and salary for an astronomer. Scott arrived in Sydney on 21 Oct 1856, and observations took place from 1858.

A 29 cm refractor by Schroeder was added in 1877 and remains the largest in Australia even today (which does not say much for the over-abundance of refractors in Australia!). Also added was a 6" transit telescope by Troughton and Simms, which also remains in use, and a seismograph. Sydney observatory was designated the task of observing the sky between the 52nd and 56th south declinations.

Ten years later, in 1887, a wooden Astrograph was built beside the observatory, containing a telescope with a camera attached to photograph the stars. By 1899 visibility in the city centre had become so poor that the Astrograph was moved to the branch observatory way out west at Pennant Hills, where it remains in use today, and from where the time signals are transmitted daily.

Airy was very specific with his views and objectives of what an Australian National Observatory should achieve, and his guidance to Scott was detailed. All Government Astronomers appear to have adhered to his instructions, some more steadfastly than others, but certainly his guidance has been taken to heart. He was adamant that it should be a source of all information of astronomical

information relevant for civil purposes; that it should constantly be engaged in at least one branch at astronomical research at any one time; and that it should be a centre easily accessible to the public, both physically and academically.

A much needed time-ball was installed in a 58' high tower housing the Mean Time Clock when the observatory was built and, like Greenwich, still drops at 1 pm every weekday. For a hundred years arguments have been taking place over whether or not the observatory should be re-sited to a less light-polluted place, but possibly in deference to Airy's order that it should be a place at which the public should be encouraged to visit, it remains on Observatory Hill, adjacent to the famous Rocks area and south pylon of the Harbour Bridge, and is well worth a visit.

Although very little scientific observing has been done there since 1982, you can expect to find the ubiquitous shop, a lecture hall, a 3D space theatre, and an exhibition or two, the themes of which are constantly changing. It has also acquired a nice HA telescope to accompany the archaic refractor.

Sydney Observatory is open to the public every Tuesday evening by prior appointment, but it is also possible to visit during the day without an appointment, where instead of views across the River Orwell in the telescope, you will be able to see mobile telephone masts on top of the skyscrapers in the CBD, and people climbing the Harbour Bridge!

Last Two Astronomy Workshops This Season

Venue: NACTON VILLAGE HALL IP10 0EU (next to the small village school, just below and left of the N in Nacton on the map)

Date	Event	Run by...
<p>5th March 2008</p> <p>Start time: 8:00 PM (due to having to get the telescope from the school first)</p>	<p>Millennium Telescope observing session – plus short talk about observing Messier Objects. We'll be setting up the 19 inch Millennium Telescope outside the back of the village hall for a general observing session. This time hopefully with the right step-ladder! Please bring any binoculars or other portable observing equipment, skymaps etc. Plus – hopefully Steve Bentley, a friend of Tina Hammond's who is visiting from Australia will give a short talk with slides about his experiences observing Messier objects. This will be very informal and is still in the process of being organised!</p>	<p>Neil Morley</p> <p>Neil will need assistance collecting the 'scope from Orwell Park School, and taking it back afterwards. Please contact Neil before the night if you are able to help. (See committee contacts)</p>
<p>2nd April 2008</p> <p>Start time: 7:45 PM</p> <p>(Doors open by 7:30)</p>	<p>Telescope Collimation for Dummies To get the best performance from a telescope, its optics need to be accurately aligned or collimated. With most telescopes this only needs to be done (say) yearly unless something gets disturbed. With strut telescopes, such as the MMT, this needs to be done every time it is used. The workshop will explain how to accomplish this with both traditional and laser collimation tools. Some members will be bringing their telescopes for demonstration.</p>	<p>Paddy O'Sullivan</p>

At the start of the February workshop, Nicky was presented by Gerry Pilling with a glass vase as a thank-you from the committee and members for her sterling work as tea-lady par excellence, keeping workshops and lecture meetings supplied with tea and biscuits. Ably assisted by Peter of course! Thank you both.

Paul Whiting then raced through some slides about IYA2009 (International Year of Astronomy, in case you were wondering), including the range of events that the astronomy community generally are planning. Thus posing the question – what will we in OASI do to contribute. You'll hear more of this!

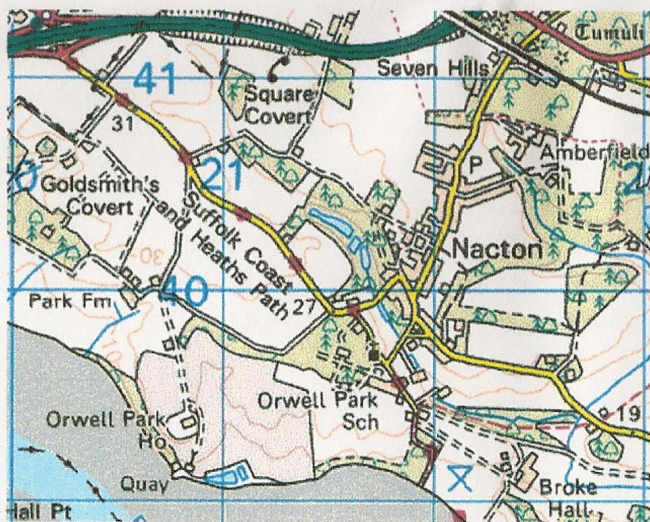
Finally Paul got on to the main subject for the evening – the lifecycles of stars. This was a fascinating if rather fast romp through the whole process of star birth from gravitational collapse of hydrogen clouds to the various end phases which depend upon the mass of the star, including collapse to a black hole. This sparked some debate about whether a black hole necessarily has a singularity at its centre, or if some black holes instead contain a super-massive neutron star, hidden behind the event horizon. There was also debate about whether or not stars can be green, and how a pulsar ends up with a magnetic field. All nice subjects for future

workshops if someone likes a challenge!

Mike Whybray
Workshops organiser

(Mobile)

(Home)



In Memoriam: Nigel Stubbington

I have to report the sad news that one of our members, Nigel Stubbington, has died. This was completely unexpected. I believe it was a heart problem but I only infer that because his family had requested donations to the British Heart Foundation rather than flowers. He was at work the day before it happened. Nigel had several interests including astronomy and only came up to the observatory occasionally, but he attended workshops and lectures more often - indeed he ran one a couple of years ago on basic image processing.

Nigel was a colleague of mine at work at BT, but I also knew him through our common interest in astronomy. Quite often we'd meet in the corridor at work and would discuss matters astronomical. Frequently the subject was the parlous state of light pollution in Ipswich where he lived which rather interfered with him using his telescope at home! Other interests were learning to play the clarinet, badminton, photography, and walking holidays - he had been to many parts of the UK and the world with his partner Cathy to enjoy walking in different landscapes.

I attended his funeral both as a friend and representing the society. It was a non-religious ceremony in keeping with his views. We came from stardust, and one day his atoms will be incorporated into new stars, new planets, and maybe even in billions of years time, new life. In the mean time, he lives on in our memories, and the world was a better place for his being in it. I'll miss him - always cheerful and interested to learn new things.

Mike Whybray

OASI Committee Contacts & Responsibilities

Kenneth J. Goward FRAS	Chairman	☎	
Roy Gooding	Secretary	☎	MAIN POINT OF SOCIETY CONTACT Press Publicity with Chairman. Observatory Decoration. Visits by potential new members.
Paul Whiting FRAS	Treasurer	☎	Finance. Supervision of Grant Applications. Visits by outside groups. IYA 2009 Coordinator
James Appleton	Committee	☎	Committee Meeting Minutes. Web Site.
Martin Cook	Committee	☎	Membership. Tomline Refractor Maintenance.
Neil Morley	Committee	☎	Equipment Curator.
Peter Richards	Committee	☎	Lecture Meetings. School Lighting liaison. Email Distribution Lists.
Eric Sims	Committee	☎	Newsletter.
Mike Whybray	Committee	☎	Librarian & Workshops.
Bill Barton FRAS	Committee	☎	Safety & Security.
1 VACANT POST			



IYA 2009 – ADVANCE DATES NOTICE

- Monday March 30th - Sunday April 5th - **Saturn Week**
- Monday July 20th - Sunday July 26th - **Moon Week**
- Monday October 26th - Sunday November 1st - **Jupiter Week**

Diary for March

<p>Monday 3rd & 17th FROM 8PM</p>	<p><u>SMALL TELESCOPE OBSERVING SESSIONS (STONS)</u> Observing Target: Constellations Cancer & Leo ☎ Paddy O'Sullivan ☎ Gerry Pilling</p>
<p>Wednesdays FROM 8PM</p>	<p><u>MAIN OBSERVATORY CLUB NIGHTS</u> Primary Observational targets: Nebulae and faint objects. ☎ Martin Cook (mobile) ☎ Roy Gooding (mobile)</p>
<p>Wednesday 5th FROM 8.00PM Nacton village Hall</p>	<p><u>MONTHLY WORKSHOP</u> Millennium Telescope Observing Evening. Supported by a short presentation; '<i>Observing the Messier Objects</i>' by Steve Bentley. ☎ Mike Whybray</p>
<p>Thursday</p> <ul style="list-style-type: none"> • 6th • 13th • 20th • 27th 	<p><u>COMMUNITY GROUP VISITS</u> Amberfield School 8th Ipswich Brownies Claydon Primary School Wolsey Theatre Club ☎ Paul Whiting FRAS</p>
<p>Saturday 8th FROM 8PM Methodist Church Hall Blackhorse Lane Ipswich</p>	<p><u>COMMITTEE MEETING</u></p> <p>Any member is welcome to attend.</p> <p>☎ Ken Goward</p>

Society Primary Contacts

Chairman: Kenneth J. Goward FRAS ☎ (daytime & evenings)
Secretary: Roy Gooding ☎ (daytime) (evenings)
E-Mail queries: ipswich@ast.cam.ac.uk

Society Trustees

Mr Roy Adams Mr David Brown Mr David Payne

Society Honorary President

Professor Allan Chapman D.Phil MA FRAS

Observatory Telephone Number

Meeting nights only

FAMILY FUN AFTERNOON

The Institute of Astronomy, Madingley Road, Cambridge will be hosting another of their highly successful family fun afternoons on **Saturday 15th March** from 2pm to 8pm as part of the Cambridge Science Festival.

A number of Astronomical displays, visiting speakers and traders will be in attendance, plus various children's hands-on activities. Visitors will also have a chance to visit and look through the various telescopes around the grounds. Light refreshments available.

Free admission and parking - and well worth a visit!