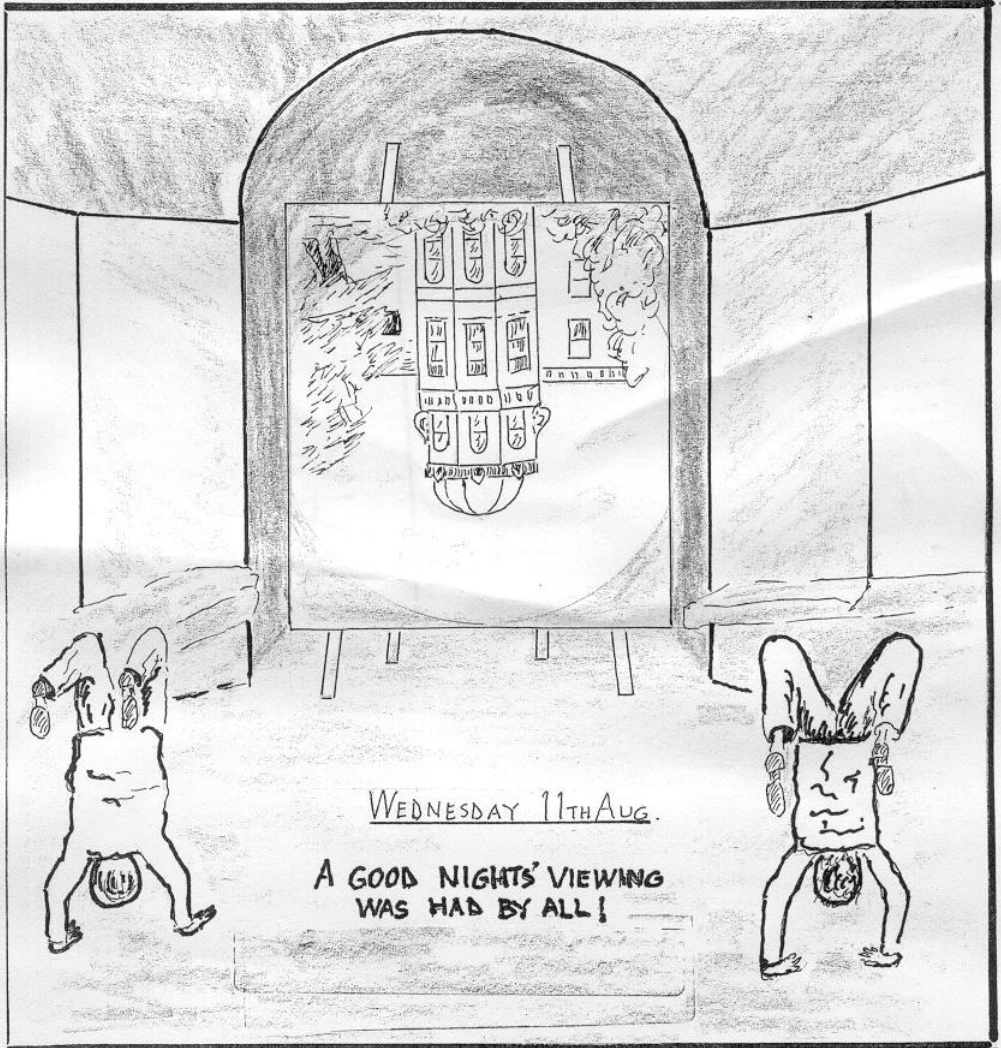


ORWELL ASTRONOMICAL

SOCIETY IPSWICH

Charity No 271313

NOVEMBER 2004



Society News

1

Events for 2004

Meeting	Venue	Date
Lecture Meeting Friend's Meeting House, Fonnereau Road	Astronomical Imaging from Mauna Kea Hawaii By Nik Szymanek	Friday 22 nd October 20:00
Beckland Astronomical Society	This is still in the planning stage	Saturday in November?
Astronomy Workshops	2004 Paddy O'Sullivan Light	Wednesday 3 rd November
Lecture Meeting Venue not yet arranged	This meeting has been postponed	Friday 26th November
Astronomy Workshops	2004 Ken Goward The Past Explains The present	Wednesday 1 st December
Christmas Meal	Red Lion Martlesham	15 th December at 20:00

2

Events for 2005

Meeting	Venue	Date
Astronomy Workshops	2005 Gerry Pilling Making Friends With The ETX-125	Wednesday 5 th January
Astronomy Workshops	James Appleton Constellation Close-up: Auriga	Wednesday 2 th February
Astronomy Workshops	Bill Barton Positioning Ourselves - A Look At Trigonometry And Spherical Triangles	Wednesday 2 nd March
Astronomy Workshops	Dave McCracken Planetary Atmospheres	Wednesday 6 th April
Astronomy Workshops	Wednesday 04 May 2005 Paul Whiting Debris of The Solar System	Wednesday 4 th May

2 Find Your Way Round the Night Sky Meetings (The new Night Sky Section)



For want of a better name, I will call these meetings the “ Night Sky Section”.

I plan to start these meetings in October on Wednesdays from 20:30. on evenings when the Astronomy Workshops are not meeting. There will not be any formal dates when these meetings will take place as it is so dependent on the weather, and my availability.

If on a clear Wednesday members would like to have meeting, it can be convened straight away. The proposed observing site is on Nacton shores. This is about a 7or 8 minute walk from the observatory. **It is important that members bring along a good torch.** The track to Nacton shores can be muddy, so suitable footwear would be advisable. Other items that may be useful are binoculars and simple star maps such Planispheres.

3 Proposed Meeting with the Breckland Astronomical Society

At the time of writing, Breckland AS have not yet given a date for us to visit them.

4 Dark Field Site Sort

Many years ago the society use to hold field trip meetings, principally to observe meteors and graze occultation’s. As the skies are progressively getting brighter from Nacton, Martin Cook has proposed holding observational evenings with portable telescopes from a dark sky site, preferably within about 10 miles of Ipswich. Martin’s first suggestion is at Rendlesham forest. If you know of any alternative observing sites please contact either Martin Cook or Roy Gooding. The site needs to have room for several cars and an area to erect telescopes.

5 Another Proposed Meeting, this time with the Lyra AS in Lowestoft .

Richard Jewels has recently contacted me about the address to which they should sent the Lyra AS newsletter. Richard mentioned that we could visit their observatory in Lowestoft whenever we wished

- 6 **Christmas Meal Wednesday 15th December Red Lion Martlesham at 20:00**
 Cost £19.99 per person Deposit £10:00 per person.

Menu

Starters
Roasted Cherry Tomato & Butternut Squash soup laced with Basil
Smoked Salmon Crème Fraiche & Crab Parcel
Warm Salad of Crispy Duck, Walnut, Spinach & Pomegranate
Port & Stilton Rarebit
Main Courses
Traditional Turkey & Honeyed Ham
8oz Sirloin Steak with Bearnaise Sauce
Fresh Haddock sat on Walnut & Stilton crushed New Potatoes
Half a Roast Duckling
Mediterranean style roasted Vegetable Spinach & Brie Calzone
Desserts
Christmas Pudding & Bandy Sauce
Festive Palova
Tarte au Citron
To Finish
Coffee & Mince Pies

For booking and deposits please contact Roy Gooding as soon as possible eg NOW!

Night Sky (November)

All times GMT

Sun

The sun will be rising approximately between 07:00 and 07:34

The sun will be setting approximately between 16:30 and 16:00

Moon

3 rd Quarter	New Moon	1 st Quarter	Full Moon
5 th	12 th	19 th	26 th

Mercury. Mercury is in the evening sky this month, but will be too close to the sun and will not be observable.

Venus Venus remains a striking object in the morning sky. Magnitude -4.0

Mars Mars will be rising at about 05:00 by the end of the month. Magnitude 1.7

Jupiter Jupiter will be rising at about 02:30 by the end of the month. Magnitude -1.

Saturn Saturn will be rising at about 19:00 at the end of the month. Magnitude 0.2

Uranus Uranus will be setting at about 23:00 by the end of the month. Magnitude 5.7

Neptune Neptune will be setting at about 21:00 by the end of the month. Magnitude 7.8

Meteor Showers

Shower	Maximum	Limits	ZHR
Taurids	November 3 rd	October 20 th to November 20 th	10
Leonids	November 17 th 21 ^{hr}	November 15 th to 20 th	+100?

Meteor source is the BAA Handbook

OASI OBSERVATIONS OF THE TRANSIT OF VENUS, 08 JUNE 2004 PART II

Compiled by James Appleton

This is part II of a four-part article summarising observations of the recent transit of Venus. Parts III and IV will appear in the December 2004 and January 2005 Newsletters.

4.5 Between Ingress And Egress

The atmosphere in the observatory changed considerably once the ingress phase of the TOV was complete. By 07:00 am (06:00 UT), several of the observers who had witnessed the ingress phase left to go to work, and a steady stream of other members of OASI began to arrive, keen to witness some of the remainder of the TOV. Special mention must be made at this juncture of Ted Sampson and Les Lamb, who suffered a more stressful journey to the Observatory than most. While travelling along the A14 in Ted's car towards Ipswich, a lorry, two vehicles in front of Ted, shed its load – of cushions! The car between the lorry and Ted braked sharply and unfortunately Ted collided with it. The lorry did not stop, so when the police arrived on the scene to take details, they donated the cushions to Ted – very useful for the boat! Fortunately no-one was injured in the incident, but Ted's car was the worse for wear.

Orwell Park School was holding examinations all morning, and between exams, many parties of pupils and teachers called in to the observatory dome to see the TOV. A few parents also called in, and as usual were impressed with the evident enthusiasm of the assembled observers!

At 08:55 am (07:55 UT), James Appleton did a five minute radio interview on the TOV by mobile phone for the *Mark Murphy Show* on Radio Suffolk.

Once the ingress phase of the TOV was complete, the observers had the opportunity to examine some other aspects of the phenomenon in detail. Four aspects in particular were noteworthy, concerning the eyepiece used, evidence of circulating air currents inside the Tomline Refractor, a mystery object seen crossing the solar disk, and detail on the disk itself.

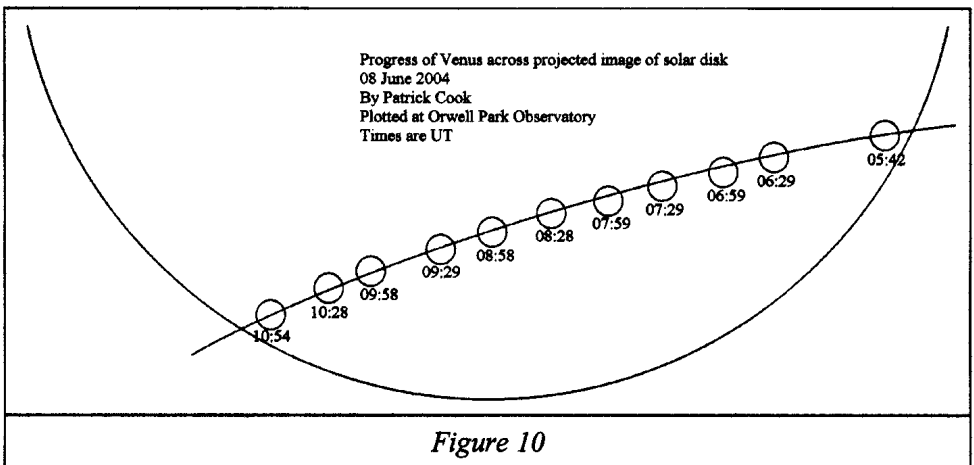
Eyepiece. On arriving at the dome on 08 June, the observers had initially experimented with several eyepieces and then rapidly settled on a large, old, ex-Army surplus eyepiece. The eyepiece gave a good sized image and contained only a few optical elements (three or four). This reduced the likelihood of it overheating

due to the Sun's rays. The eyepiece was of rather poor quality so that even if overheating did cause damage, there would be no great loss.

However, the full extent of the poor quality of the eyepiece became apparent during the TOV! The first problem was chromatic aberration. A chromatic ring surrounded essentially the entire circumference of the projected solar disk, being most pronounced at the N and S poles; it was blue from W through N to E and yellow from E through S to W. Within the solar disk, the silhouette of Venus also suffered from chromatic aberration, with a yellow ring arc at its N pole and a blue/indigo ring arc at its S pole (i.e. colour fringe the opposite way round to the aberration surrounding the solar disk). Altering the position of the telescope slightly so as to change the position of the image resulted in a change to the colour rings. In practice, the chromatic aberration was relatively minor, and did not intrude unduly on the observations.

The second problem was radial distortion. Towards the edge of the field, the figure of Venus appeared elliptical rather than spherical: it measured 15 x 18mm.

During the TOV, Patrick Cook drew the position of the planet against the Sun's disk as a set of individual sketches and as a compound sketch recording the position of the planet every approximately 30 minutes. It turned out to be difficult to sketch accurately the silhouette of Venus, so figure 10 is a re-drawn version of the original hand-drawn compound sketch which is generally faithful to the position and scale of the original but substitutes a circular Venus for the observed elliptical silhouette. It shows clearly the path of Venus as a curved arc across the solar disk; the true path (calculated with a highly accurate reference ephemeris, and as observed by many observers, e.g. see the report by Nigel Evans below) is a straight line. The apparent curvature of the path of Venus is another artefact of radial distortion of the eyepiece.



Circulating air currents. Close examination of the projected image of the Sun revealed an occasional small ripple which circulated around the edge of the solar disk, sometimes clockwise, sometimes anti-clockwise, and sometimes stationary. The consensus of the observers was that this was an effect of air currents inside the Tomline Refractor, generated by solar heating. This explanation appeared to be the only viable one, but the observers were surprised at the apparent regularity of some of the ripples, and had difficulty reconciling this to the expected random motion of air currents.

Mystery object! At approximately 09:50 UT (10:50 am), some observers in the dome saw a small, round object cross the solar disk in a period of some seconds. Paddy O'Sullivan also saw the object in the 250mm Dobsonian at Orwell Park (see below). There was much speculation as to what the object could be. The consensus of observers at the time was that the object was not an aeroplane as no wings were visible. Subsequent investigation revealed that it could not have been the International Space Station (which an observer in the Ukraine witnessed crossing the Sun during the TOV), as its orbit did not carry it over the UK at that time. Probably it was another satellite, but we may never know...

Detail on solar disk. Although there was little of interest on the solar disk in terms of sunspots, some mottling (faculae) was apparent visually. Unfortunately, photographs of the image did not record the mottling.

4.6 Egress

Some ten minutes in advance of 3rd contact, there were 18 people in the dome, all eager to witness the egress phase of the TOV. The observers in the dome locked the door to prevent late arrivals from disturbing their observations during the important 3rd and 4th contact stages. However, the very first late arrival turned out to be Andrew Auster, Headmaster of Orwell Park School, so an exception had to be made to grant him access to the dome to witness the final phases of the TOV!

Shortly before the predicted time of 3rd contact, the observers adjusted the position of the Tomline Refractor to centre Venus in the projection, thereby overcoming the problems of chromatic and radial distortion noted above. As a result of centring Venus, the centre of the Sun was offset from the centre of the image and this risked concentrating the Sun's rays onto the tube of the telescope or the wall of the eyepiece: however, the practical effect was to raise the temperature of the eyepiece by only a very small amount, and no damage ensued.

At 11:03 UT, the teardrop effect became visible. Estimates of 3rd contact were as follows (times in UT):

- Martin Cook: 11:03:45, visual estimate.

- James Appleton: 11:04:00, visual estimate.
- Garry Coleman: 11:03:57, estimated subsequently by analysis of video.
- Martin Cook: 11:04:11, estimated subsequently by analysis of video.
- USNO prediction: 11:04:03.

As with 2nd contact, the teardrop effect resulted in a large spread of estimates of the time of 3rd contact. Roy Gooding captured, in a photo taken shortly before 3rd contact, an extreme instance of the teardrop effect. Figure 11 shows a scanned version of Roy's photograph, which clearly illustrates the extension of the silhouette of the planet towards the solar limb.

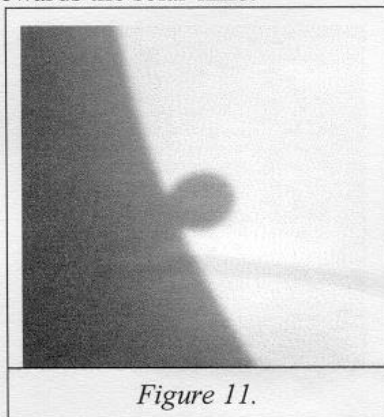


Figure 11.

At 11:05:43 UT, a white arc (*aureole*) became visible around the portion of the disc of Venus clear of the solar disk. The observers believed that this was caused by diffraction of sunlight through the atmosphere of Venus. The white arc was most pronounced where it was close to the solar disk. The arc remained visible until 11:17 UT, although towards the end of this time it became less pronounced. Unfortunately, photographs of the projected image do not show this arc, although at its maximum, it was quite unmistakable visually. Note that the observation of the white arc during egress was different from the observation of a chromatic ring (possibly indicating the presence of the Venusian atmosphere) around the silhouette of the planet during the ingress phase. In the egress phase, the image of the silhouette of Venus was central, so there was almost no chromatic aberration.

Estimates of 4th contact were as follows (times in UT):

- First estimate by an observer in the dome, unconfirmed by others and not generally accepted: 11:23:07.
- Martin Cook and James Appleton: 11:23:12, visual estimate.
- Garry Coleman: 11:23:19, estimated subsequently by analysis of video.
- Martin Cook: 11:23:13, estimated subsequently by analysis of video.

- USNO prediction: 11:23:25.

The estimated times of 3rd contact show a much greater spread than those of 4th contact. Again, this is due primarily to the teardrop effect. This is analogous to the situation during the ingress phase of the TOV where the spread of estimated times of 2nd contact is much greater than that of 1st contact.

Figure 12 by James Appleton shows part of the egress phase of the TOV, and clearly illustrates the development of the teardrop effect.

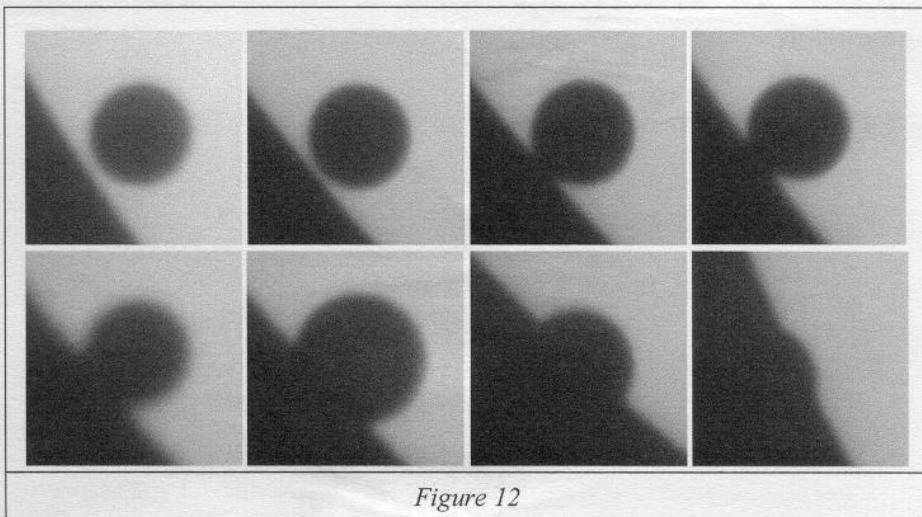


Figure 12

A reverential hush descended on the observers in the dome in the run up to 4th contact. Everyone was conscious of witnessing the end of one of Nature's great spectacles. But immediately after 4th contact, a tumult of conversations erupted as observers compared their thoughts and observations of the TOV. Ken Goward popped open a bottle of bubbly by way of celebration, and several observers enjoyed a small glass. There was much congratulation over a wonderful set of observations!

4.7 Views Inside The Dome

Many observers in the dome took pictures of the activity around them as well as of the TOV itself. Conditions for general photography inside the dome were not good, and few of these shots came out well. However, a sample of the better pictures is shown below, and these give a flavour of the activities ongoing throughout the TOV.

Figure 13: Patrick Cook plotting the position of Venus against the solar disk. By Neil Morley.

Figure 14: A photograph demonstrating the effectiveness of the sunshade: the camera is pointed along the Tomline Refractor, and although there is bright light emerging through the cloth screen covering the aperture of the dome, it is not powerful enough to wash out detail in the photograph of nearby objects. By Neil Morley.

Figure 15: Nadia Roberts (a teacher at Orwell Park School) explaining the TOV to a group of pupils in the dome. By Neil Morley.

Figure 16: Holding the Rugby clock in the frame of the projected image to enable video cameras to capture a timing reference. By Harold Waters.

Figure 17: The bank of video cameras trained on the projected image of Venus and the Sun. By Roy Gooding.

Figure 18: Martin Cook and James Appleton having difficulty attaching a piece of white card to the projection screen! By Roy Gooding.

Figure 19: The observers eagerly await 4th contact. By Roy Gooding.

Figure 20: Celebrations at the end of the TOV. By Roy Gooding.



Figure 13.



Figure 14.



Figure 15.



Figure 16.

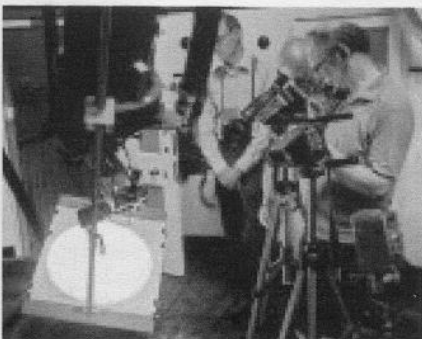


Figure 17.

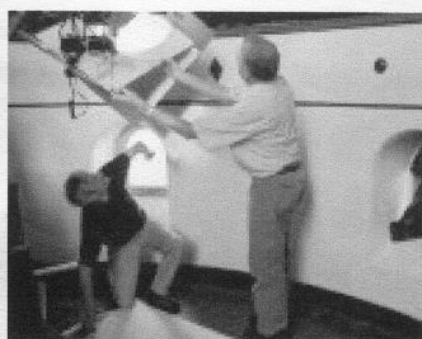


Figure 18.



Figure 19.



Figure 20.

4.8 Estimates Of The Length Of The Astronomical Unit (AU)

The OU (Open University) and BBC ran a good website at the url below supporting observations of the TOV:

http://www.open2.net/prog_pages/transit_of_venus.

The OU/BBC website provides a calculator for estimating the length of the AU based on observers timings of 3rd contact. The calculation is based on Delisle's method, and utilises an additional, unspecified timing of the TOV made far south of the UK in South Africa. The calculator on the OU/BBC website provided the following estimate of the length of the AU based on timings of 3rd contact by OASI observers using the Tomline Refractor:

Martin Cook (visual estimate from projection)	145,800,000 km
Martin Cook (analysis of video of projection)	152,600,000 km
James Appleton (visual estimate from projection)	149,700,000 km
Garry Coleman (analysis of video of projection)	148,900,000 km

It was also possible to apply the method of Jeremiah Horrocks, the first to observe a TOV, to estimate the length of the AU. Horrocks' method in essence is as follows:

1. Use the relative periods of the Earth and Venus to relate the angles subtended by the radius of Venus to heliocentric and topocentric observers during a TOV.
2. Assume that the Earth subtends the same angle to a heliocentric observer as does Venus. Clearly this is a false assumption, but in Horrocks' time there was no reason to doubt it, and it does hold very approximately for the terrestrial planets Mercury, Venus, Earth and Mars.
3. Calculate the length of the AU directly by definition of the angle subtended by the Earth to a heliocentric observer.

During his sketching of the position of Venus against the solar disk, Patrick Cook measured the diameters of the projected disks of Venus and the Sun as 15 mm and 511 mm respectively (taking a measurement of Venus' diameter not affected by the radial distortion of the eyepiece). Using Patrick's measurements and taking the following data as given:

Siderial period of Venus:	224.701 days
Siderial period of Earth:	365.256 days
Equatorial diameter of Earth:	12,757 km
Apparent solar diameter on 08 June 2004:	1890.8 arcsec

applying Horrocks' method yields an estimate for the length of the AU of 124,000,000 km (c.f. the current accepted value 149,597,870.66 km and Horrocks' estimate in November 1639 of 95,700,000 km). Note that Horrocks had to estimate the apparent solar diameter, and this undoubtedly contributed to the error of his estimate.

5 OBSERVATIONS FROM THE BALCONIES AT ORWELL PARK OBSERVATORY

Members of OASI observed the TOV using the following instruments on the balconies at Orwell Park Observatory:

- the 250mm Dobsonian reflector (stopped down to 180mm and fitted with a mylar solar filter),
- the Meade ETX125-EC fitted with metalised glass filter,
- Bill Barton's 50mm refractor fitted with Hydrogen-alpha filter.

The chief observers with the above instruments were Paddy O'Sullivan and Gerry Pilling (250mm Dobsonian) and Bill Barton (Hydrogen-alpha). However, in common with the observers using the Tomline Refractor, during the TOV many members of OASI, schoolchildren from Orwell Park and their parents and teachers called in at the balconies and witnessed the TOV through the telescopes there.

The telescopes on the balconies provided images that were very much smaller than the 0.5m achieved in the dome by projection, and the images were correspondingly much sharper and crisper.

Interestingly, observers using the 250mm Dobsonian and the Hydrogen-alpha instrument reported very little teardrop effect, in contrast with the observers using the Tomline Refractor. (There is no record of the degree of teardrop effect witnessed by observers using the Meade ETX.) The Hydrogen-alpha telescope revealed negligible solar corona.

The observers on the balconies recorded the following contact times, using a second radio-controlled Rugby time signal clock as reference. Note, where multiple times are shown it is because the observers were not always sure when the limb of Venus was precisely touching the solar limb! The term *definite* here means that the event has certainly occurred (so is probably after contact).

Contact	250mm Dobsonian (G Pilling and P J O'Sullivan)	50mm H-alpha Refractor (Bill Barton)
1 st	05:20:30	05:20:14 - think 05:20:28 - definitely
2 nd	05:39:20	05:39:20
3 rd	11:03:58 - think 11:04:08 - yes 11:04:16 - definite	Missed! (Looking after visitors.)
4 th	11:22:16 - maybe 11:22:52 - yes	11:22:53

Using the BBC/OU AU calculator, Gerry Pilling's timing of 11:03:58 yields an estimate for the AU of 149,200,000 km (c.f. the accepted value 149,597,870.66 km).

Figure 21 (by James Appleton) shows Bill Barton adjusting his Hydrogen-alpha telescope; figure 22 (by Neil Morley) shows Martin Cook observing with the Meade ETX125-EC; and figure 23 (also by Neil Morley) shows Paddy O'Sullivan with the 250mm Dobsonian.

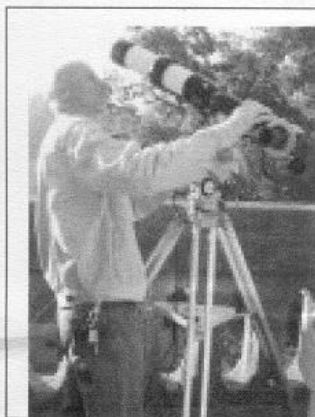


Figure 21

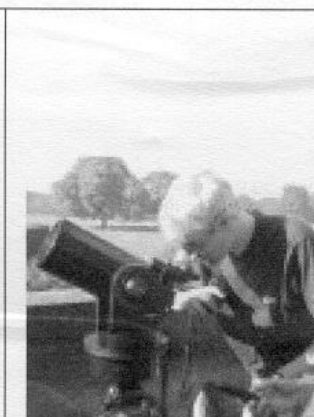


Figure 22

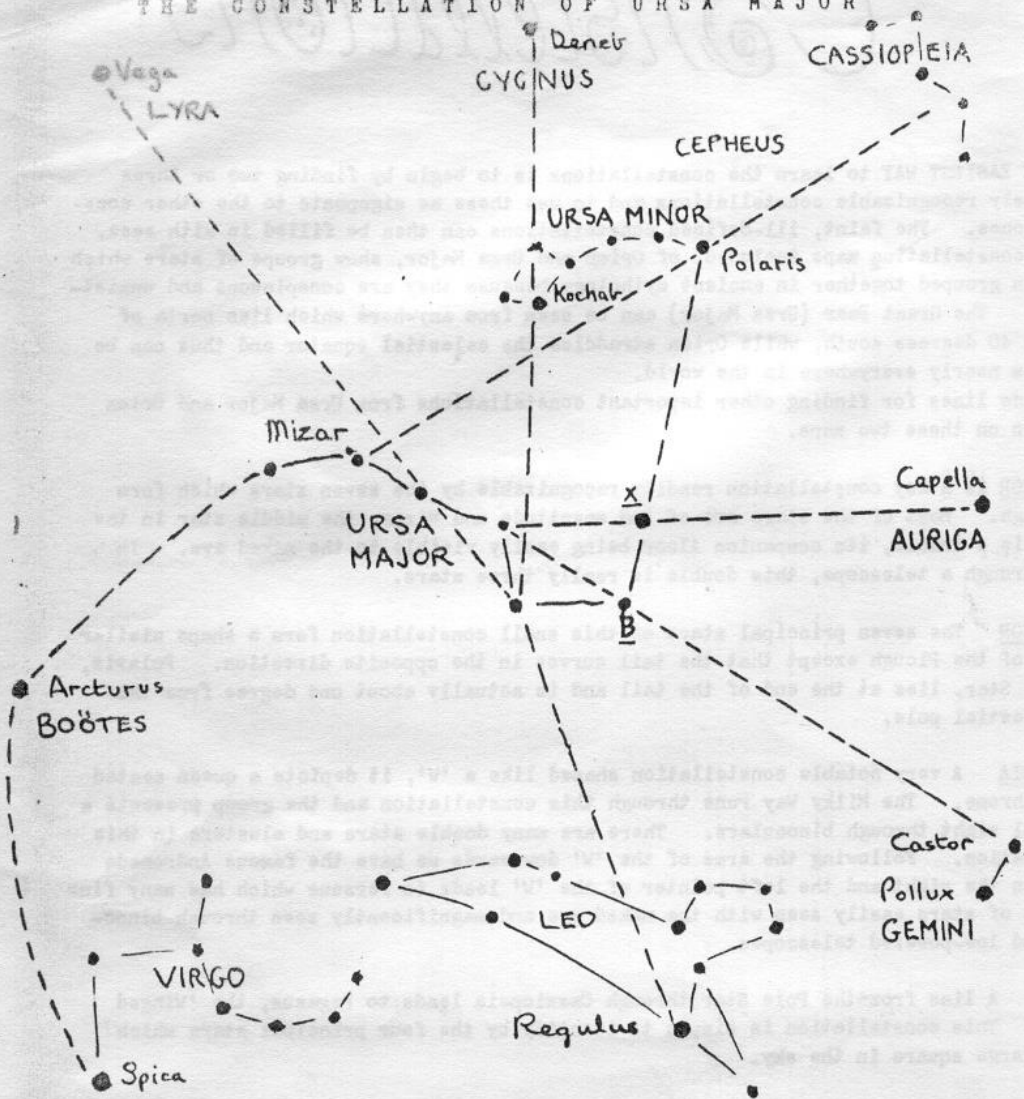


Figure 23

Next Month

Next month, part III of this article will cover observations by Nigel Evans and Paul Whiting of the TOV from Sharm El Sheikh in Egypt.

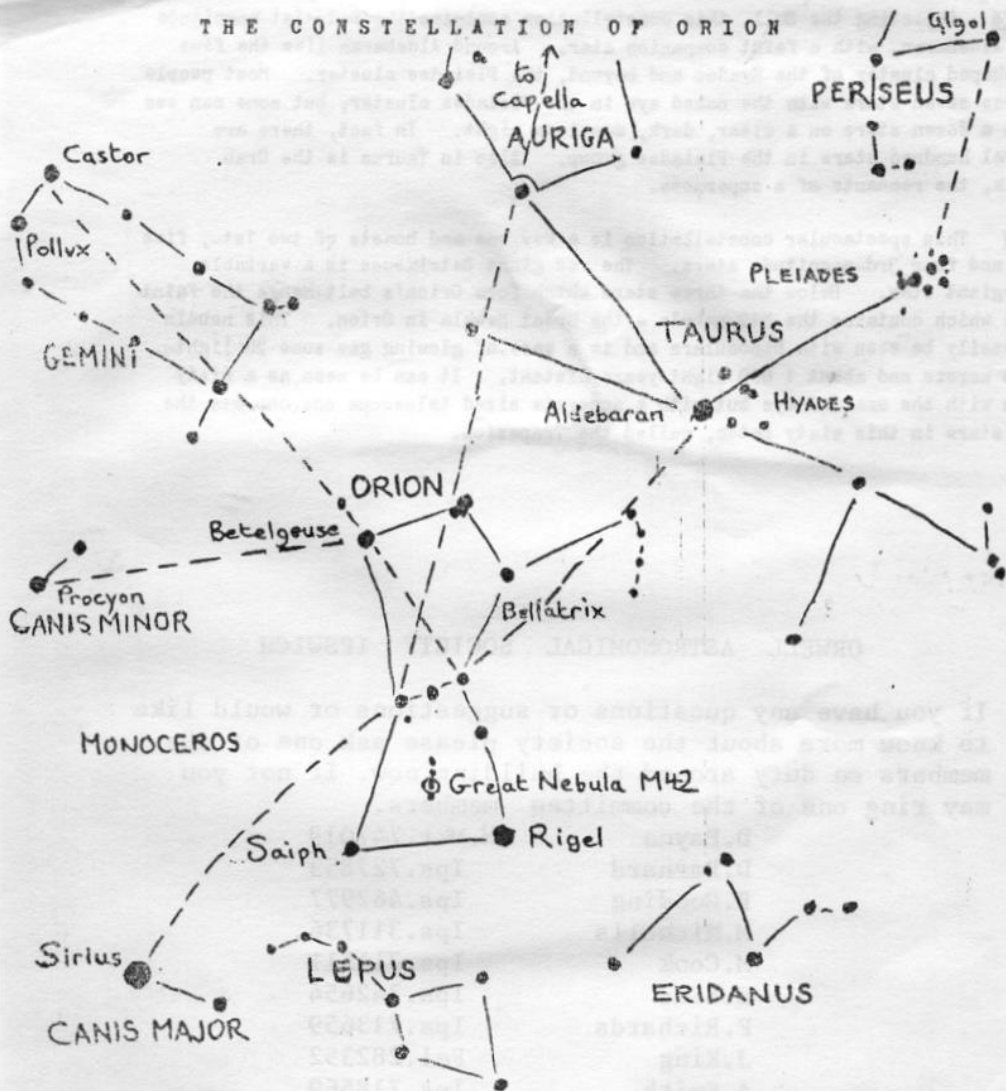
THE CONSTELLATION OF URSA MAJOR



THE GREAT BEAR (URSA MAJOR)

The seven brightest stars in this famous constellation form that part of the heavens known as the Plough or Big Dipper. A line through the stars B and x, known as the Pointers, leads to Polaris, the Pole Star, some 30 degrees of sky distant, pretty well on its own. Polaris lies at the tail end of the faint constellation of Ursa Minor. If we extend this line we come to Cepheus. A line down from Mizar through Polaris leads to Cassiopeia. Extending the curve of the tail of the Plough downwards leads to Arcturus, the brightest star in Boötes, and downwards again, we find Spica in Virgo. Other lines shown lead to Lyra, Cygnus, Auriga and Gemini.

THE CONSTELLATION OF ORION



ORION, THE HUNTER

Orion is possibly the most striking constellation in the heavens, its outline is easy to see, with the Hunter's sword hanging from the three stars which form his belt. Orion has two 1st-magnitude stars, the giant red star Betelgeuse and the blue-white star Rigel. A line through the belt leads to Aldebaran in Taurus, and then upwards again to the Pleiades star cluster. Downwards from the belt lies Sirius, which is the brightest star in the sky, and which is in the constellation of Canis Major. Procyon, in Canis Minor, follows the line to the left of the shoulders of Orion. A line from Rigel up through Bellatrix leads to the two stars Castor and Pollux in Gemini.

OCCULTATIONS DURING NOVEMBER

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.

D / R	Date & Time (UT)	Lunar Phase	Sun Alt (°)	Star Alt (°)	Star	Mag
D	17 Nov 17:02	0.33+	-9	13	ZC 3010	6.4
D	18 Nov 20:01	0.45+	-37	12	Hip 107111	7.0
D	18 Nov 20:49	0.45+	-44	8	ZC 3178	6.2
D	19 Nov 22:07	0.57+	-53	10	ZC 3323	7.5
R	20 Nov 16:43	0.66+	-7	20	95 Aqr, psi 3 Aqr	5.0
D	20 Nov 19:27	0.67+	-32	30	ZC 3446	6.7
D	21 Nov 18:22	0.76+	-22	32	Hip 803	6.8
D	23 Nov 00:56	0.86+	-55	21	77 Psc B	6.3
D	23 Nov 00:57	0.86+	-55	21	77 Psc A	7.3
D	23 Nov 02:42	0.86+	-43	6	80 Psc, e Psc	5.5
D	24 Nov 20:14	0.96+	-39	46	29 Ari	6.0

James Appleton

Books and Optics for Sale

Academic and amateur astronomy books, mirror blanks, optics and instruments for sale. Log on to the following web-site for full details:

<http://www.ousaps.com/MJH/sales.htm>

Mike Harlow

OASI COMMITTEE CONTACTS & RESPONSIBILITIES

Kenneth J Goward FRAS	Chairman	☎		Press Publicity with the Secretary. Open Weekend.
Roy Gooding	Secretary	☎		Main point of Society Contact. Press Publicity with the Chairman. Observatory Decoration. Visits by potential new members.
Garry Coleman	Treasurer	☎		Finance. Supervision of Grant Applications.
James Appleton	Committee	☎		Committee Meeting Minutes. Web site.
Martin Cook	Committee	☎		Membership. Tomline Refractor Maintenance.
Neil Morley	Committee	☎		Equipment Curator.
Ted Sampson	Committee	☎		Workshops. Tomline Refractor tutoring.
Eric Sims	Committee	☎		Newsletter
Mike Whybray	Committee	☎		Librarian.
Paul Whiting FRAS	Committee	☎		Visits by outside groups.
Monica Lustig	Committee	☎		Safety & Security
Peter Richards	Working under Committee direction but not Co-opted			Lecture Meetings.

DIARY FOR 2004 NOVEMBER

MONDAY	<u>SMALL TELESCOPES OBSERVING NIGHTS</u> 1 st Cassiopeia 15 th Cetus & Pisces ☎ Paddy O'Sullivan
WEDNESDAY	<u>OBSERVATORY CLUB NIGHTS</u> 3 rd , 10 th , 17 th , 24 th , From 8pm ☎ Martin Cook
WEDNESDAY Science Classroom	<u>ASTRONOMY WORKSHOP</u> 3 rd From 7.45pm 'LIGHT' Presented by Paddy O'Sullivan ☎ Ted Sampson
THURSDAY	<u>OBSERVATORY VISITS BY OUTSIDE GROUPS</u> 4 th 7pm 11 th Ipswich Scouts (II) 11 th 7.30pm 2 nd Ipswich Scouts 18 th 7pm 6 th Ipswich Scouts NB MORE VOLUNTEERS TO HELP WITH THESE SESSIONS WOULD BE GREATLY APPRECIATED – SEE NOTICEBOARD IN THE CLUBROOM ☎ Paul Whiting FRAS
FRIDAY 26th	<u>SCHOOL GOVERNOR'S VISIT TO THE OBSERVATORY</u> From 5pm – The Orwell Park School Governors will be visiting the Observatory to view the facilities and meet our members. Open to anyone who can find the time to come along! ☎ Ken Goward FRAS

SOCIETY PRIMARY CONTACTS

CHAIRMAN Kenneth J Goward FRAS ☎ (daytime & evenings)

SECRETARY Roy Gooding ☎ (daytime)
(evenings)

E-MAIL QUERIES ipswich@ast.cam.ac.uk

WEB SITE www.oasi.org.uk

Contact details for the full Committee may be found on the inside back page

Registered Charity No 271313

Society Trustees

Roy Adams David Brown David Payne

Hon President

Professor Allan Chapman D.Phil MA FRAS

NB. Have you booked your place for the OASI Christmas Meal on Wednesday 15th December yet? Contact Roy Gooding – URGENTLY!