

ORWELL ASTRONOMICAL

SOCIETY IPSWICH

Charity No 271313

JUNE 2002



Society News

1 Next Committee Meeting

The next committee meeting will be held on Saturday 25th May at 19:30 in the clubroom. This is an open meeting and any one who is interested is invited to attend.

2 Events for 2002

Event	Details	Date
Summer Barbecue	Ken Goward's garden Tuddenham	Saturday 13 th July
Summer Excursion	Provisional destination is Oxford	Provisional date Saturday 14 th September
BAA Exhibition Meeting	Cavendish Laboratory Cambridge	Saturday 21st September
FAS Convention	Venue: Rutherford Appleton Laboratory Oxfordshire	5 th October?
Open Weekend	Members help will be needed again this year to prepare the displays	Saturday 9 th and Sunday 10 th November
Equinox Star Party	Thetford Organiser Loughton A.S	6 th to 13 th September
Christmas Meal	Provisional date	11 th December

This events list, is updated monthly, so watch this space.

3 Telescope Review Articles (Old and New)

Society members own a verity of telescopes, both old and new. I would like to request a series of review articles, from members on their telescopes.

The eventual aim would be to product a booklet on member's equipment that can be given to prospective new members, who ask for advice on telescopes.

The first of these articles was recently written by Neil Morley. Neil reviewed his short focal length 80mm refractor.

Night Sky

All times GMT

Sun

The sun will be rising approximately 03:40
The sun will be setting approximately 20:20

Moon

3 rd Quarter	New Moon	1 st Quarter	Full Moon
3 rd	11 th	18 th	24 th

Mercury Mercury has moved back into the early morning sky this month. It will be at greatest western elongation on the 21st. Mercury will be in a bright twilight sky low down in the NE at the end of the month.

Venus Venus remains a prominent evening sky object this month. Shining at magnitude -4.0 in the NW sky. Venus will be setting at about 23:00 by the end of the month.

Mars Mars is also visible in the western evening sky this month. It will be setting about an hour after sunset. Magnitude 1.7.

Jupiter Jupiter remains visible in Gemini, this month, in the evening twilight sky. The planet will be setting about an hour after the sun. Magnitude -1.9

Saturn Saturn is in conjunction with the sun on the 9th. It will not be visible this month.

Uranus Uranus is in Aquarius, rising at about 22:30 at the end of the month. Magnitude 5.7

Neptune Neptune is in Capricornus, rising at about 22:00 at the end of the month. Magnitude 7.8

Meteor Showers

Meteor source is the BAA Handbook

Shower	Limits	Maximum	ZHR
Ophiuchids	May 19 th to July	June 9 th June 19 th	5

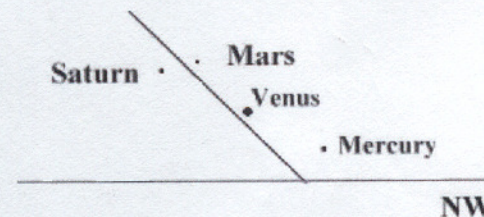
OCCULTATIONS DURING JUNE

The 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	Date & Time	Lunar	Sun	Star	Min	Star	Mag
R	(UT)	Phase	Alt	Alt	Dist		
			(°)	(°)	rad		
D	19 Jun 21:54	0.71+	-10	25	0.95S	74 Vir	4.7
D	23 Jun 22:28	0.99+	-12	13	0.10S	omicron Oph A	5.1

James Appleton

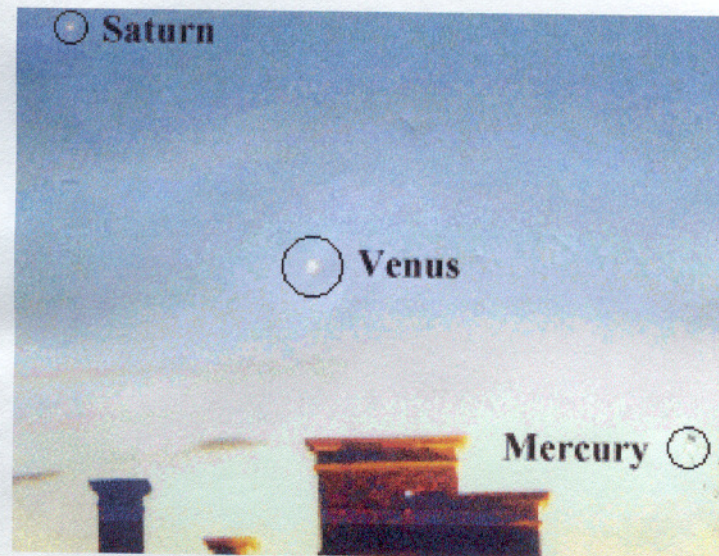
Planet Alignment in Early May (Roy Gooding)



On Wednesday 1st May I attempted to photograph the planetary alignment. The results were not very impressive. For some time my camera has had an intermittent fault. Occasionally it would not fully wind on a full frame, giving multiple exposures

However I was able to salvage a partial frame that showed 3 of the planets. I can not give any guidance on the exposure settings used, as I was trying many different ones, with the hope that one would achieve the desired result. The sky was still too bright to capture an image of Mars

Wednesday 1st May 2002



Millennium Telescope Project Team Required

During the last Committee Meeting on Wednesday 27th March, I agreed to lead a small group with the purpose of completing a feasibility study and mechanical design of the Millennium Telescope. The objective would be to present a design together with detailed parts listing and cost at a future Committee meeting to be arranged. This would then enable the Committee to assess the level of funding required to take the project onto its next phases, ideally completion.

A few members have already expressed interest in the concept. Therefore, I've arranged an initial planning meeting on 29th May 2002 in the School Science Room (where the Astronomy Workshops are held). The meeting starting at 8:15 pm is open to all members who are interested. I am looking for a dedicated team of a few people committed to seeing the project through to its logical end - more on that later!

A fundamental component of any Dobsonian telescope is optics and this soon leads to "aperture fever". To give you an idea of what I mean, here is a computer eyepiece simulation of the well-known Messier Object, M13 in Hercules, with primary mirror diameters varying between 15" to 30" compared to an 8".

M13 Comparison

Can Your 'Scope Do This?

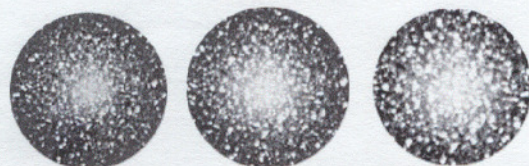
Eyepiece Simulation of Viewing M13



Typical 8" View

Obsession 15

Obsession 18



Obsession 20

Obsession 25

Obsession 30

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Returning to the Committee Meeting, Mike Harlow mentioned around 10-15 hours effort is required for completing the 19" primary mirror. This involves final figuring and polishing and is best achieved over a concentrated period to maintain continuity. With other commitments, Mike envisages it will be completed during 2003 and is fully committed to seeing it through. Mirror grinding is a slow, tedious and exacting process, there aren't many out there willing to take on such a large task. Completing the mirror does not preclude completing an initial feasibility assessment of storage/location and the mechanical design of the telescope. All that is required are rudimentary parameters governing the primary mirror. Having extra time means the quality of work can be maximised and surely this means everyone will benefit.

The OASI Library recently acquired a copy of David Kriege and Richard Berry's book entitled "The Dobsonian Telescope, A Practical Manual for Building Large Aperture Telescopes". The authors are responsible for design of the Obsession range of Dobsonians advertised in Sky & Telescope. They describe a standard design that can be dimensioned or scaled to accommodate any mirror diameter between 15" and 40" diameter! One major advantage for our Society is readily available hardware and tooling helping keep costs down. Much can be obtained locally in DIY hardware stores, perhaps as surplus and ideally for free!

The design represents the culmination of experiences constructing well over 100 Dobsonian telescopes. Once you start building telescopes much in excess of 10-12" or so, you run into some very significant engineering challenges including loading and flexing of materials (even the primary mirror!). The authors are to be congratulated in arriving at a tried and trusted design taking into account ease of assembly and disassembly. This is going to be a real plus point for our Society assuming resolution of the all-important storage and location/usage issues. The Authors also caution against taking on too much and sensibly include alternative plans for a smaller 8" Dobsonian as well.

To give you an idea of the design, here is a picture showing a completed Obsession 20" Dobsonian which will be fairly close in size to the OASI 19". Weight is minimised and strength maximised through an open truss-tube design assembly. The assembled telescope is around 7 ft tall requiring a ladder to gain access to the focuser. Side bearings are an Obsession-manufactured machined aluminium casting but there is no reason why wood could not be used instead.

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Project Planning Steps:

The following steps are required to complete the telescope.

- Resolve where to store and use telescope (requires rough dimensions and weights)
- Complete detailed design, component list, and costs with engineering drawings
- Present findings to Committee and assuming go-ahead...
 - ✓ Build the primary mirror cell
 - ✓ Build the secondary cage and resolve balance point
 - ✓ Build the mirror box
 - ✓ Purchase truss-pole tubing
 - ✓ Make the altitude bearings
 - ✓ Construct the rocker
 - ✓ Build the ground board
 - ✓ Make the mirror box dust cover and support handles
 - ✓ Make the truss pole connectors
 - ✓ Install the primary and secondary mirrors
 - ✓ Collimate, test and use!

An initial view of the telescope's dimensions (disassembled and assembled) should help towards resolving where to store the telescope. This is probably the hardest step to overcome given the dimensions and weight. The next stages would be dimensioning, listing and costing the various components of the telescope with engineering drawings as appropriate. In many cases, drawings and listings are already provided in the Kriege and Berry book. Basic maths and physics skills are required but the book provides plenty of assistance. Although not specifically mentioned, I can see spreadsheets and other planning tools will help in the planning phases. Later on, in the constructional phases, access to welding and woodworking tools (e.g. routers) will be required. This should not present a major problem provided the relevant parts are clearly marked for cutting.

This could be a really exciting development for the Society.

Neil Morley (Mr Aperture Fever)
10th April 2002

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How many astronomers does it take to decide there's a screw loose?

'Five' was the answer found to this riveting question at the small telescopes night on Monday April 8th. Not quite as daft as it sounds! The topic is the new ETX 125, or to be more precise, the 'electronic controller' handbox, which enables the telescope to be slewed in manual mode, (not the Autostar handbox) The handbox in question can be set to a default position such that :- 1. it is primed for the northern (or southern) hemisphere, and 2. that the right ascension/azimuth motor is driving at the sidereal rate when the handbox is connected and switched on. It was initially thought that this would be the most useful default mode, and the telescope was set accordingly – **by taking out a very small screw in the back of the handbox!** What great breakthrough will Meade come up with next I ask myself?

However, it was noticed by Paddy O'Sullivan (who is acting as equipment curator while Joe Walsh is consumed by work) that members like to use the ETX in alt/az mode rather than equatorial, and do not want the telescope to be driving.

The above mentioned fantastic five took the executive decision therefore to replace the screw, meaning that the telescope will not drive, **unless you activate the mode function.** This is achieved by using the **mode** and **speed** buttons on the front of the handbox. This gives a choice of several modes in which the telescope can be driven or not as wished. Because this adds another slight complication to what some obviously find is not a simple instrument to use, three members are offering themselves to act as tutors/encouragers to members to become more familiar with the ETX, and to enable it to be used to its full potential. The three are Paddy, Gerry, and Ted. This is not to say that we know! But we will make ourselves available to assist members to do what one does when all else fails – consult the instructions. Thus encouraged, we hope this new beast can be tamed. Ted Sampson.

Astronomy Workshops – another series??

The current series of Astronomy Workshops had its final meeting on Wednesday May 1st, with Paddy O'Sullivan giving a very informative and entertaining session on 'Computer Packages for astronomy'.

Interest in this series of workshops has kept at a good level, with fifteen to twenty members attending each session. A range of topics has been presented by members, who chose their own subject, with a commendably high standard of presentation and participation.

Should we have another series? Maybe we should not flog a good thing and take a break for a year. Maybe we should quit while we are ahead!

The answer to these questions can easily be found from the response to the recent method of a list, for members to give their opinion. The list, which will be on the notice board, (and has been available at the last two workshop), asks for a response as follows:-

Would you be interested in attending another series of workshops?

Would you like to present a topic of your own choosing?

If so, what is the title of the topic?

If a positive response is forthcoming, and early indications suggest it will be, the organizing group will meet to choose/confirm the topics for presentation, and seek main committee approval to go ahead – all very democratic!

My thanks to those who have presented a topic or given technical backup, and to all those who have supported the project either by attendance, or simply by encouraging words – or both! A date for the meeting of the organizing group will be set soon – probably late June. Any verbal comments or suggestions are also welcomed. Ted Sampson.

Millennium Telescope Project (19 inch)

Meeting – Wed May 29th: 8.0-9.0 pm.

Further to the article by Neil Morley elsewhere in this news letter, a meeting to consider all aspects of the project will be held as above in the school science classroom (the room used for the workshops). All members with any interest in the project, including the sceptical and the curious are invited/requested to attend. Ted Sampson.

Group Visits to the Observatory

Suddenly it's spring and another winter season of evening visits to the Observatory by outside groups has come to an end. This season there were 15 visits and in total we probably entertained/educated or at least wow'd about 200 children and adults.

Many thanks to those members who put in time and effort to make these visits possible.

Time flies by and in September when the dark evenings are back with us a new series of visits will start.

Each visit requires at least two hosts, preferably three, one, the lead host must be qualified to operate the Tomline telescope, the second, some experience of opening and closing the dome, and the third, perhaps a newcomer (or apprentice host) who would like to find out what goes on on these evenings, and eventually become a host in their own right.

Below is the list of visits already booked for the next session, so sign up early as a host!

Your society needs YOU!!

You sign up by putting your name against dates on lists in the Belvedere or by calling Garry Coleman on [redacted]. I'm waiting for your calls!!

Group	Date
24 th Ipswich Cubs	12 th September
24 th Ipswich Scouts	19 th September
Woodbridge Cubs	10 th October
St Mary's School	7 th November
Triangle Motorcycle Club	14 th November
1 st Orwell Cubs	21 st November
Bury St Edmonds Young Farmers	16 th January

2002 COMMITTEE

		Home Phone	Work Phone
CHAIRMAN	D Payne	[redacted]	[redacted]
SECRETARY & WORK PARTY ORGANISER	R Gooding	[redacted]	[redacted]
TREASURER & PUBLICITY	K Goward	[redacted]	[redacted]
MECHANICS	M Cook	[redacted]	[redacted]
NEWSLETTER CO-ORDINATOR	E Sims	[redacted]	[redacted]
BEGINNERS MEETING CO-ORD & VISIT CO-ORD	T Sampson	[redacted]	[redacted]
EQUIPMENT CURATOR	G Coleman	[redacted]	[redacted]
LIBRARIAN	J Walsh	[redacted]	[redacted]
	M Whybray	[redacted]	[redacted]
CO-OPTED MEMBER			
LECTURE CO-ORDINATOR & DARK SKIES	P Richards	[redacted]	[redacted]
JOURNAL ARTICLES TO CORRESPONDENCE ADDRESS	E Sims [redacted] Ipswich Suffolk IP1 4HA		
	R Gooding OASI Secretary		
	[redacted] Ipswich Suffolk IP1 6AE		
MEMBERSHIP	M. Cook [redacted] Ipswich IP4 5PZ		

Observing Programme For June

Dates	Observing Director	Activities
Monday		Nothing Booked
Tuesday		Nothing Booked
Wednesdays 5th 12th 19th 26th from 8.00	M Cook [redacted] D Payne [redacted]	Nebular & Faint Objects
Thursday		Group Visit
Friday		Nothing Booked

All members are welcome on any night, but on nights other than Wednesday please check with the appropriate director that the observatory will be open.

Special Events

1. COMMITTEE MEETING

The date for the next Committee Meeting has not yet been arranged but every body will be informed as soon as possible or in the next news letter,

Society Contact Details

		Home Phone	Work Phone
Chairman	D Payne	[redacted]	[redacted]
Secretary	R Gooding	[redacted]	[redacted]
Contact details for the full committee are inside the back page.			
e-mail queries:	ipswich@ast.cam.ac.uk		
WWW address:	http://www.ast.cam.ac.uk/~ipswich/		