



The Newsletter



of the

Orwell Astronomical Society (Ipswich)

2010

Registered charity no. 271313

DECEMBER

www.oasi.org.uk

No 458



This is a copy of a postcard of Orwell Park with the Observatory in the background to the left.

Martin Cook found this in his constant search for more information and facts about Orwell Park. No date was on it but it was probably taken in the early 1900s.

Society News (Roy Gooding)

1 AGM Saturday 29th January 2011

All members are invited to attend the AGM on Saturday 29th January
Start time 20:00. Venue Methodist Church Hall

Please note changed date!

(The date had to be changed to accommodate the Star Party dates in Christchurch Park, and the Church Hall not being available on 22nd)

2 **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. The gate code is on the back of your membership card

3 **Welcome to New Members**

Evelyn Romanus Peter Dunn Matthew Robertson

4 **Events Programme for 2010**

Meeting	Venue	Date
Geminid Meteor watch	The "Dip" Felixstowe	Saturday 11 th December
Christmas Meal	Arlingtons Museum street	Wednesday 15 th December 20:00

5 **Events Programme for 2011**

This provisional event list will be updated through out the year

Meeting	Venue	Date
AGM	Methodist Church Halls, in Blackhorse Lane	Saturday 29 th January 20:00
Astro Fest	Kensington Conference & Events Centre London	4 th & 5 th February
BAA one day meeting	UEA Norwich	Saturday 7 th May

6 Observational Out Reach Meetings 2011

Winter Star Party: Christchurch Park

Meeting	Venue	Date
Astronomy in the Park “Star Party” 1 st option	Christchurch Park On top of the hill	Saturday 8 th January 19:00 to 21:00
Astronomy in the Park “Star Party” 2 nd option if 1 st is cloudy	Christchurch Park On top of the hill	Saturday 15 th January 19:00 to 21:00
Astronomy in the Park “Star Party” 3 rd option if 2 nd is cloudy	Christchurch Park On top of the hill	Saturday 12 th February 19:00 to 21:00

If you are able to help either with or without a telescope please meet at the Westerfield Road entrance at 18:30

Spring Star Party: Orwell Country Park

Meeting	Venue	Date
Orwell Country Park “Star Party” 1 st Option	Orwell Country Park car park	Saturday 12 ^h March 19:00 to 21:00
Orwell Country Park “Star Party” 2 nd option if 1 st is cloudy	Orwell Country Park car park	Saturday 9 th April 20:00 to 22:00

The Orwell Country Park “Star Party” dates have not yet be confirmed

Astronomy in the Park: Spring Event

Meeting	Venue	Date
Astronomy in the Park “Observing the sun” 1 st option	Christchurch Park Reg Driver Centre	Saturday / Sunday 20 th / 21 st May 11:00 to 16:00
Astronomy in the Park “Observing the sun” 2 nd option if 1 st is cloudy	Christchurch Park Reg Driver Centre	Saturday / Sunday 27 th / 28 th May 11:00 to 16:00

Moon

New Moon	1 st Quarter	Full Moon	3 rd Quarter
5 th	13 th	21 st	28 th

Object	Date	Times		Mag	Notes
		Rise	Set		
Sun	1	07:50	15:57		
	31	08:13	16:02		
Mercury	1	09:53	16:59		Mercury is too close to the sun this month to see
	31	06:30	14:53		
Venus	1	04:02	04:11	-4,6	Venus is visible in the predawn sky
	31	04:09	13:34		
Mars	1	09:18	16:46		Mars is too close to the sun this month to see
	31	08:53	16:35		
Jupiter	1	13:18	00:49	-2.7	Jupiter is still well placed to observe in the evening sky
	31	11:24	23:04		
Saturn	1	02:37	14:06	0.9	Saturn is now in Virgo, and is well placed to observe if you are inclined to get up after midnight.
	31	00:51	12:12		
Uranus	1	13:19	01:08	5.9	Uranus is now in Pisces. Less than a degree above Jupiter at the end of the month.
	31	11:21	23:08		
Neptune	1	12:24	22:09	7.8	Neptune is in capricornus
	30	10:27	20:15		

Meteor Showers

Shower	Limits	Maximum	ZHR
Geminids	December 7 th to 16 th	December 14 th	100
Ursids	December 17 th to 25 th	December 22 nd	10

Meteor source is the BAA Handbook

Open Weekend 16th & 17th October 2010

Roy Gooding

This years public Open Weekend, in October, followed the well trodden formula of previous years. Our guidelines used for staging public Open Weekends is dependent on what we can show the public. Firstly it must be in the week of first quarter and secondary, at least one planet must be well placed to observe. On rare occasions, in the past, this criteria has not been followed, but there would have been a bright comet visible. This year we concentrated our efforts on observing the moon and Jupiter.

The weather during the Saturday, was very promising, with long clear periods. Members arrived at the school a little after 18:30, in order to set up the reception desk and the signs. Our official opening time was 19:30, but as is usually the 1st visiting party arrived before this time. The sky had remained clear, with the promise of a busy evening ahead. All the usual observing locations, the Tomline, the Balconies and the school playing field were preparing for the onslaught of visitors. Up to about 20:00 cars, were entering the school grounds in an almost a continuous stream.

Three telescopes were in operation on the school playing. I had taken my 120mm refractor, John Wainwright had his 16" Dobsonian light bucket, and James Appleton had his 10" Meade Schmidt Cassegrain telescope in use. All three locations were in full swing until a little after 20:30, when a bank of cloud slowly drifted across the sky, which soon put a stop to all observing activities. However during the 1st hour over 100 visitors arrived. The sky conditions did not improve during the evening, so with the lack of any more visitors, it was decided to close down the observations on the field by 21:30.

The weather on Sunday looked much more promising. On arrival at the school, were presented by the main school gates closed and locked. Luckily the school caretaker lives onsite. I phoned him and asked for the gate to be opened.

The number of visitors expected on a Sunday is always less than on a Saturday, even with better observing conditions. However, with smaller numbers we are able to give everyone a more personal introduction to the night sky.

We had 102 visitors Saturday and 77 on Sunday, with two families joining. Finally I would like to thank all members, who were able to help, in making this another successful Open Weekend

Astronomy Workshops

Doors open at 7:30pm.

Workshops START at 7:45pm

Venue: NACTON VILLAGE HALL IP10 0EU (Apart from January workshop which is in the observatory)

If you are a new OASI member, or haven't been to one of these workshops before – they are a mixture of events of different characters including beginners talks, interactive workshops, hands-on observing sessions, films etc., suitable for all. They are also a chance to chat with other members over a cup of tea and a biscuit, in a venue rather warmer than the observatory dome on a winter's night!

As ever, I need more volunteers to run these – you don't need to be an expert on your subject – just pick something interesting, read up about it, and come and run the event any way you like! Unless more people come forward, these will die out as an OASI activity.

Date	Event	Run by...
1 st December 2010	Let the Weather Decide! If the sky is clear: I'll move the Millennium Telescope (19" Dobsonian) from my dining room down to the hall for some deep sky observing. If the sky is cloudy: I'll play something I've recorded off the telly e.g. a recent Horizon programme on what was there before the Big Bang.	Mike Whybray
12 th January 2011 for 8:15 Start – <u>Orwell Park Observatory</u>	Introduction to using the Tomline Refractor This will allow new members to familiarise themselves with the telescope and observatory	Martin Cook and assistants
2 nd February 2011	Measuring the Speed of Light Historical methods including Ole Rømer's method, and more modern ones. Hoping to sort out some practical exercises!	Mike Whybray
9 th March	Offers welcome!	A Volunteer

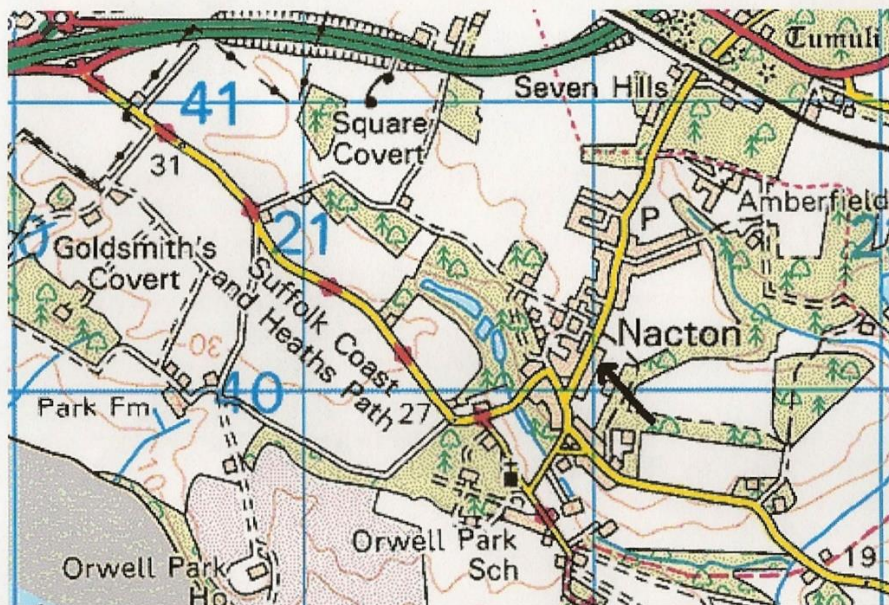
Mike Whybray Workshops organiser

(Mobile)

(Home)

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

Please park on the same side of the road as the hall, but avoid parking on the white lines which mark clear spaces for various driveways and passing places.



OCCULTATIONS DURING DECEMBER

The table lists lunar 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
13 Dec	17:06:48 18:16:40	D R	0.51+	-12 -22	38 39	4.9	kappa Psc
17 Dec	17:28:29	D	0.86+	-15	40	6.8	ZC 375
20 Dec	00:02:25	D	0.98+	-61	57	6.0	ZC 693
21 Dec	17:22:56 18:13:36	D R	1.00-	-14 -21	10 17	2.9	mu Gem

JOHN ISAAC PLUMMER – ANOTHER PIECE IN THE JIGSAW PUZZLE

Research by many members of OASI over the years has uncovered much about the life and work of John Isaac Plummer, who worked at Orwell Park Observatory from 1874 until 1890 as Colonel Tomline's professional astronomer. Plummer started his astronomical career as a computer (a person employed to analyse the results of observations) at Cambridge Observatory, then moved to the Royal Greenwich Observatory (RGO) in January 1864. He then moved to Glasgow Observatory and in November 1867 to Durham Observatory. He left Durham in February 1874 and in June of that year took up employment at Orwell Park.

Previously, almost nothing was known about the circumstances of Plummer's move to Glasgow; even the year when he started there was not known with certainty. During November, I spent some time in the RGO Archive hoping to learn something of Plummer's move to Glasgow and his work there. A reasonably clear picture of events has emerged, effectively putting in place another piece in the jigsaw of his life. Much of the new information comes primarily from the papers of G B Airy, who was seventh Astronomer Royal, working at the RGO from 1835 to 1881.

Glasgow Observatory is the oldest of the British University Observatories, being established in the late 1750s. Robert Dick, Professor of Natural Philosophy at Glasgow 1751 - 1757, instigated a committee of the University Senate to open an appeal to fund an observatory. The University donated £150 with which Dick bought a small mural quadrant. In 1755 he accepted a bequest of astronomical instruments from Alexander Macfarlane, a merchant in Jamaica, and the following year had them shipped to Glasgow. In 1757 the Senate donated £400 to build an observatory and then £500 to purchase a site on Dowan Hill, west of the city centre; the Town Council donated some adjacent land. In 1760, the Crown established the posts of Professor of Practical Astronomy and Astronomical Observer at the University of Glasgow; they were conjoined, being filled by the same individual. The Treasury paid a stipend of £50 *per annum* to the incumbent of the chair.

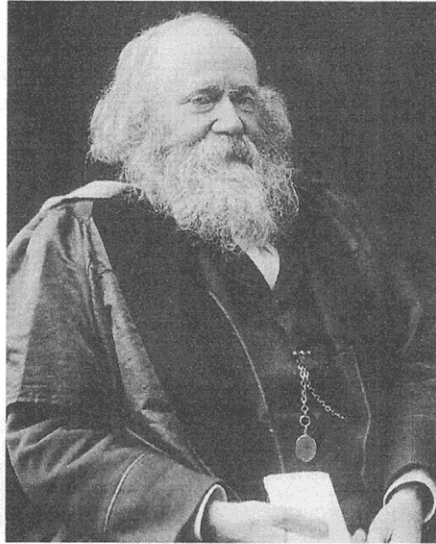
In 1860, Robert Grant (1814-92) was appointed Professor of Practical Astronomy and Astronomical Observer at the University. His main duties were to undertake astronomical observations, to deliver an annual course of lectures at the University and to provide a time signal for Glasgow and the neighbouring towns. However, in the early years of his tenure, he was also much involved in improving the equipment of the Observatory.

When Grant took up his post, the main instrument of the Observatory was a 150mm meridian circle by Ertel of Munich. Observers at Glasgow used this to make positional estimates of several minor planets, and published results in

Astronomische Nachrichten in 1861. Grant was very pleased with the meridian circle, writing in a letter to Airy on 08 February 1864:

[The meridian circle] is very good, the most powerful indeed of the kind in the British Isles with the exception of the Greenwich Circle...

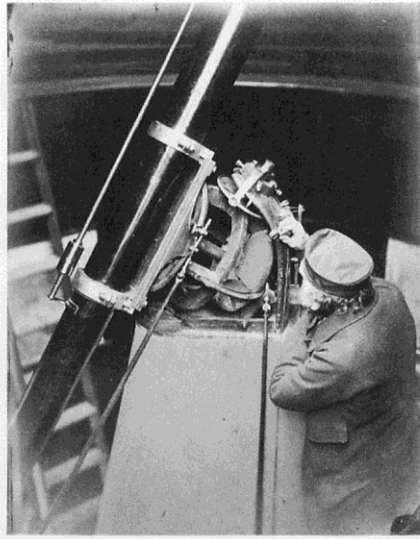
However, the instrument had no provision to illuminate its transit wires, and this limited its usefulness when the field of view was dark. In any case, Grant wanted an equatorial instrument so that he could increase the range of objects that he could observe and the type of study that he could undertake.



Robert Grant (1814-92)

Sir William Keith Murray of Ochtertyre (approximately 30km west of Perth in Scotland), died in 1861. He was an amateur astronomer and had in his possession a fine 230mm refractor constructed by Cooke of York in 1857. (At the time, the instrument was the largest refractor in Scotland.) On his deathbed, Sir William expressed to his son the wish that the telescope should be offered for sale to Glasgow University. His son duly obeyed and the University Senate convened a committee to consider the matter. In a statement to the Senate, the Committee expressed high praise for the instrument:

The object glass has been tested severely, and found to be one of the most perfect in existence. Altogether the instrument is one which, in point of dimensions and optical qualities, would reflect credit on any observatory in Europe.



The 230mm Cooke Refractor in Ochertyre Observatory.

The Committee estimated that it would cost £700 to purchase the telescope and install it in Glasgow Observatory. Unfortunately, as the University had already exhausted its funds on building the Observatory and equipping it, the Committee had no option but to raise funds by a public appeal. Grant personally led the appeal, which by 1862 had raised £1120, primarily by donations from a dozen or so wealthy citizens. In a letter to Airy on 07 May of that year, Grant expressed the intent to raise a total of £1400 so as to enable him to purchase also additional equipment for the Observatory. His comment about the need for a first class sidereal clock for the Observatory provides a telling comment on the unsuitability of Glasgow's climate for astronomy:

More especially I contemplate procuring a first class sidereal clock. This is such a horrid climate that without a clock of the most perfect construction, it is impossible to be assured with respect to the correct time.

Grant engaged John Honeyman Jnr of Glasgow as architect for new buildings inside the Observatory grounds. Honeyman built an octagonal tower with a low flat-roofed building on its west side. The tower housed the Cooke refractor, and the low building a 75mm Troughton and Simms transit circle, also obtained from the Ochertyre Observatory, together with a sidereal clock by Frodsham of London. (Charles Frodsham (1810-68) was one of the leading clock manufacturers of his time. He collaborated with Airy and constructed sidereal clocks for many observatories.) The Cooke refractor was inaugurated on 30 April 1863, at a ceremony to which were invited the main contributors towards its cost. Grant was

delighted with the new facilities, writing in a memo to the Treasury on 01 July 1863:

An Equatorially mounted Refracting Telescope of great power has been recently added to the Establishment...

A complete set of Astronomical Clocks, and a valuable collection of Instruments for educational purposes, have been acquired for the Observatory.

Grant found it impossible to work all the facilities at the Observatory unaided, in addition to discharging his lecturing duties and providing a time service¹. He already employed one assistant, whom he paid out of his salary (£50 *per annum* from the Treasury and a further £220 *per annum* from the University). However, he needed another assistant to operate the equatorial. He wrote to Airy on 28 November 1863 requesting him to recommend an assistant:

For determining the time and making astronomical observations with the meridian circle I have as an assistant a young lad of great activity and intelligence whom I have myself trained and who is becoming a most useful observer. But what with the necessity of attending to the meridian observations and lecturing at the College there is no time or at all events very little time left me for doing any work with the fine equatorial which we now possess. This circumstance combined with the prospective importance of our time determinations has suggested the necessity of a paid assistant being attached to the Observatory. There is at present a very fair prospect for an intelligent and zealous young man as an Assistant at our Establishment and you will do me a great favour indeed if you would kindly recommend me a young man for that purpose.

Grant subsequently met with Airy to discuss the matter, and in a second letter on 02 December 1863 provided further details of the post, which he said would suit

some person possessing the advantage of having been trained at the Royal Observatory. He would require to take part in the observations with the Meridian Circle and the Equatorial, and in the computations necessary in the reduction of the observations. Occasionally also in

¹ Grant's role in providing a time service for Glasgow and the surrounding towns is a fascinating story in its own right. The citizens of Glasgow were much concerned when the Astronomer Royal for Scotland, Charles Piazzi Smyth, working with the Universal Private Telegraph Company, began in late 1863 firing a time gun at Glasgow under electrical control from Edinburgh Observatory. The age old, intense rivalry between the two leading cities of Scotland was awakened, and the Glasgow press railed at the impertinence of the move.

the absence of the other assistant he would be asked to attend to the Meteorological Observations which are taken morning and evening.

The salary which I am prepared to offer a young man possessing the requisite qualifications is one hundred pounds a year.

Airy persuaded one of his computers, Mondeford Reginald “Augustus” Dolman, to move north, and he proved very satisfactory. Grant, writing of him to Airy on 08 February 1864 noted:

Mr Dolman, since he commenced his duties as Assistant here, has given me great satisfaction. He is most attentive and zealous and executes his work in the most unexceptional manner.

Unfortunately, the question of funding for Dolman appeared not to be resolved. On 01 July 1863 Grant prepared a memo for the Senate of the University and for the Treasury petitioning the latter for funding to support a paid assistant at the Observatory. On 28 November 1863, Thomas Barclay, DD, Principal of Glasgow University, wrote to the Treasury with a direct request for additional funding. Unfortunately, the Treasury declined the request.

At the end of January 1865, Dolman left Glasgow in order to take up the post of Astronomical Observer to the University of Durham. On 17 January 1865, Grant wrote to Airy with news of Dolman’s imminent departure and expressed an intent to offer the post to another former Greenwich computer, Charles Talmage (1840 - 1886), then working at the private observatory of Joseph Barclay at Twickenham. Talmage, it seems, did not accept Grant’s offer, and on 02 February 1865, the latter again wrote to Airy indicating that Plummer had approached him to offer his services for the vacancy, and that he had provided impressive testimonials from his time at Cambridge Observatory:

I have received a letter from Mr J Plummer, one of the supernumeraries at the Royal Observatory, containing an offer of his services as Assistant at this Observatory in the room of Mr Dolman. Mr Plummer has forwarded along with his letter excellent testimonials from Prof. Challis and Professor Adams; and if the step which he has taken is not inconsistent with any engagement which he may have formed with you, I should feel disposed to accept his services, presuming of course that he has given the same satisfaction at the Royal Observatory as he had previously given at Cambridge.

Airy replied the next day to Grant, with a useful appraisal of Plummer’s abilities and his duties at Greenwich:

We think very highly of J I Plummer, and are sorry that he thinks of leaving us: although, in accordance with my established policy, we will do everything possible to help him to a better position than that which he has here.

His work here has been principally that of a Computer, in which employment his work has been orderly and accurate. But he has also been employed as occasional Astronomical Observer, and has done very well in that character. At present, his certificate for observing with the Altazimuth has been duly signed and only awaits my sanction.

He is very quiet and perfectly well behaved, regular in conduct.

I do not think that he is actually as good a mathematician as Mr Dolman: though I believe that he is sound, and is able to master any thing required, in a short time.

On 07 February 1865, Grant wrote to Airy to tell him that he had offered the post to Plummer who, he hoped, would be able to start work at Glasgow in mid-February.

It is not at present clear precisely when Plummer took up his post at Glasgow Observatory. He is first mentioned in the literature by Grant in a paper published in *Monthly Notices of the Royal Astronomical Society (MNRAS)* describing work to establish the longitude of the Observatory by the use of the telegraph (*galvanic signalling*, as it was known at the time). For this project Grant collaborated with Airy at Greenwich. He obtained access to telegraph circuits linking the two Observatories, and arranged for observers at both locations to time transits of a group of 28 stars. When the cross hair of a transit instrument bisected a star, the observer pressed a button which recorded the time of the transit at both Observatories. Straightforward analysis of the data subsequently enabled Grant to estimate the lapse in time between a star being bisected by the cross hairs of the two transit telescopes, equivalent to the difference in longitude between the two Observatories. Unfortunately, the Glasgow weather was not favourable, and despite attempting observations from 28 April to 26 May, there were only four nights during which both Observatories recorded observations enabling analysis to be undertaken. Despite this, Grant's final estimate of the longitude of Glasgow Observatory was within a few seconds of arc of the modern accepted figure. Plummer undertook the observations at Glasgow.

In April 1866 the University Senate awarded an annual subsidy of £100 to Grant for all purposes, and this must at long last have provided some stability to the arrangements for funding Plummer's post.

During his time at Glasgow, Plummer published only one paper which was, in fact, his first publication. It appeared in *MNRAS* and dealt with observations made at Glasgow of the Leonid meteor shower of 13-14 November 1866. The paper was unremarkable, reporting observations of individual bright meteors and an estimate of the position of the radiant of the meteor shower.

Grant's most impressive endeavour at Glasgow Observatory was the preparation of the *Glasgow Star Catalogue*, published in 1883, containing positions of 6415 stars

observed during the period 1860 – 1881. It is likely that Plummer took observations of some of the stars in the catalogue, although no direct evidence has been found to date confirming this. Grant, in a paper in *MNRAS* in 1888 announcing an update to the Catalogue, referred to *errata* notified to him by Plummer in the original version.

Plummer stayed at Glasgow Observatory for only two and a half years and on 02 November 1867 began work at Durham Observatory, following once again in the footsteps of Dolman, who by that time had moved elsewhere.

There appears little prospect of finding additional material on Plummer's time at Glasgow in the RGO archive. However, I intend at some time during 2011 to visit Glasgow University to search the archive there for further material on Plummer and his time at Glasgow Observatory.

References

1. Papers of G B Airy, RGO Archive 6/146, 6/148, 6/615.
2. H Seeling (communicated by Professor Robert Grant), *Observations of Minor Planets made with the Meridian Circle at the Glasgow Observatory*, *Astronomische Nachrichten*, volume 54, p.365, 1861.
3. *The Glasgow Daily Herald*, 02 May 1863.
4. R Grant, *On the Determination of the Difference of Longitude between the Observatories of Greenwich and Glasgow by Galvanic Signals*, *MNRAS*, vol. 26, pp. 37-44, 1865.
5. J Plummer, *Observations of the Meteors of November 13-14, 1866, made at Glasgow Observatory by Mr John Plummer, Assistant*, *MNRAS*, vol. 27, pp. 31-34, 1867.
6. *Catalogue of 6415 Stars for the Epoch 1870 Deduced from Observations Made at the Glasgow University Observatory During the Years 1860 to 1881*, James MacLehose & Sons, Glasgow, 1883.
7. OASI Newsletter December 2003.
8. Roger Hutchins, *British University Observatories 1772-1939*, Ashgate Publishing Ltd, 2008.

James Appleton
15 November 2010

Library Update

by Tina Hammond

Further to my last report, I am now happy to advise that there are a number of Patrick Moore Yearbooks for sale.

Although these are obviously similar each year, there are a number of members who do collect them and who may be missing the odd older copy (or need one in better condition).

I can currently offer the following:

Year	Format	Condition
1973	p	Good
1974	p	Fair
1978	h	Fair: ex-library
1979	p	Good
1980	p	As New
1981	p	Good
1981	p	Good/Fair
1982	p	Good/Fair
1983	p	Good/Fair
1983	p	Fair
1984	p	Good
1984	p	As New
1985	p	Very Good
1985	p	As New
1986	p	Good/Fair

Please contact me on 07825 699 539 or [REDACTED] if you are interested in any of these. I would suggest a donation of £1 per book is not unreasonable.

DIARY for DECEMBER

<p>Monday 6th - 20th STONs</p>	<p>SMALL TELESCOPES OBSERVING NIGHTS AT THE OBSERVATORY Main observing targets: Pisces, Andromeda, Aries, Triangulum, Perseus and associated Messier objects.</p> <p>☎ Paddy O'Sullivan [REDACTED] ☎ Gerry Pilling [REDACTED]</p>
<p>Wednesdays From 8.00pm No Meeting 15th</p>	<p>OBSERVATORY CLUB NIGHTS Observing with the Tomline Refractor and other telescopes if skies are clear.</p> <p>☎ Martin Cook [REDACTED], mobile [REDACTED] ☎ Roy Gooding [REDACTED], mobile [REDACTED]</p>
<p>Wednesday 1st Doors open 7.30pm, workshop starts 7.45pm</p>	<p>OASI WORKSHOP Nacton village Hall. Let the weather decide! Millennium Telescope or Pre Recorded Programme</p> <p>☎ Mike Whybray [REDACTED]</p>
<p>Thursday 2nd December 8:00pm 9th December 7.30pm</p>	<p>OBSERVATORY VISITS BY LOCAL COMMUNITY GROUP Westbourne Sports College 32nd Ipswich Cub Scouts ☎ Paul Whiting FRAS [REDACTED]</p>
<p>Saturday 29th January 2011 8:00pm</p>	<p>ANNUAL GENERAL MEETING Methodist Church Hall Black Horse Lane Ipswich</p>

Society Contact Details

Observatory tel. no. (meeting nights only): [REDACTED]
 Secretary: Roy Gooding [REDACTED] (day) [REDACTED] (evening)
 E-mail queries: ipswich@ast.cam.ac.uk
 Chairman: Neil Morley [REDACTED]