

ORWELL ASTRONOMICAL

SOCIETY IPSWICH

Charity No 271313

MAY 2001



Society News

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Events for 2001

Event	Details	Date
Astronomy Workshop	The Sun, our star School science room 19:45 to 21:00	Wednesday 9 th May
Lecture meeting	Dr Allan Chapman Lecture on Sir G.B.Airy, 7th Astronomer Royal at Orwell Park School, followed by the official re-naming ceremony of the Orwell Pack telescope	Friday 18th May 20:00 start
BAA Exhibition Meeting	London Guildhall University	July Date not yet fixed
Summer Barbecue		Date to be fixed.
Summer Excursion	Space Centre Leicester	Date to be fixed for a Saturday in September
Open Weekend	Members help will be needed again this year to prepare the displays	24 th and 25 th November
Equinox Star Party	Thetford Organiser, Loughton A.S	14 th to 23 rd September
Visit to Cambridge AS and Braintree AS	These were proposed at the AGM	Nothing arranged yet
North Essex Astronomical Society	They have recently opened a new observatory. A visit will be arranged	Nothing arranged yet
Christmas Meal		Provisional dates 12 th or 19 th December

Additional events will be added through out the year

The Alan Chapman Talk

This talk is scheduled to start at 20:00. Enter the School by the main front door. There will be signs pointing to the lecture venue in the entrance hall. If you have requested a ticket, it is included with this Newsletter. There are still a few seats available. If you still wish to attend please contact Pete Richards.

Night Sky

All times GMT

Sun

The sun will be rising approximately between 04:30 to 03:40
The sun will be setting approximately between 19:30 to 20:10

Moon

Full Moon	3 rd Quarter	New Moon	1 st Quarter
7 th	15 th	23 rd	29 th

THE ALLAN CHAPMAN LECTURE
AND
DEDICATION OF THE TOMLINE REFRACTOR

- Mercury** This month is Mercury's best apparition of the year. It is visible in the early evening sky after sunset. Greatest eastern elongation occurs on the 22nd (22°) Mercury sets about 2 hours after sunset in mid month.
- Venus** Venus remains a bright morning object visible in the twilight sky throughout the month. It will be at greatest brightness of magnitude of - 4.5 on the 4th.
- Mars** Mars will be rising by 22:00 at the end of the month. It will at magnitude -2.0.
- Jupiter** Jupiter will be in the evening twilight sky this month. it will be setting by 21:00 at the end of the month. Magnitude - 1.9
- Saturn** Saturn is in conjunction with the sun on the 25th.
- Uranus** Uranus will be rising at about 00:00 by the end of the month. Magnitude 5.7
- Neptune** Neptune will be rising at about 00:00 by the end of the month. Magnitude 7.8

Meteor Showers

Meteor source is the BAA Handbook

Shower	Limits	Maximum	ZHR
η Aquarids	April 24 th to May 20 th	May 4 th	40
α Scorpiids	April 20 th to May 19 th	April 27 th May 12 th	5
Ophiuchids	May 19 th to July	June 9 th June 19 th	5

OCCULTATIONS DURING MAY

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 or R	Date & Time (UT)	Lunar Phase	Sun Alt (°)	Star Alt (°)	Min Dist (rad)	Star	Mag
D	05 May 20:22	0.96+	-8	26	0.02N	80 Vir	5.7
D	25 May 20:49	0.09+	-7	14	0.78N	ZC 1033	6.8

James Appleton

This long looked forward event is scheduled for Friday 18th May at the Orwell Park School. If you have not yet booked tickets – **you MUST do so now as demand has been high and only those in possession of tickets will be allowed into the lecture.**



Dr Allan Chapman of Wadham College, Oxford, will give a talk on the life of Sir G B Airy. As you will doubtless be aware, Airy was very much a product of Ipswich and his links with the locality and our observatory were legion. After his talk and some refreshments, Allan will name and dedicate our historic 10" Refractor in honour of Colonel Tomline.

Allan's unique style and manner of presentation has endeared him to the amateur astronomical community for a number of years now. We are fortunate to have him, insofar as he will be breaking off from a busy filming schedule for a forthcoming Channel 4 Documentary series¹ to fly home from Athens immediately before the talk and fly back out to Cairo on the Sunday morning. Also in attendance will be James and Elizabeth Airy², along with Nicole Swengley³ who have kindly agreed to unveil portraits of John MacVicar Anderson and Wilfrid Airy, which will permanently hang on the walls of the spiral stairs.

Schedule for the Evening

- 8PM to approx 9PM Lecture – Enter School through main front doors.**
9PM to Approx 9.30/45PM Cheese & Wine Reception.
9.30PM/9.45PM. Dedication Ceremony at the Observatory.

Ken Goward & Peter Richards

¹ Allan is narrating and appearing in these programmes – a series of three due for screening in the autumn - which will explore early astronomy and its relationship to religious beliefs.

² Nephew and Niece of Wilfrid Airy.

³ G B Airy's Gt Gt Granddaughter.

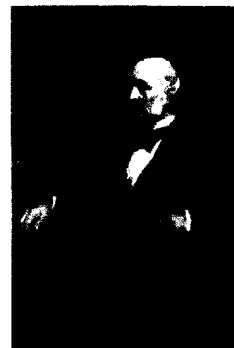
THE FOUNDING OF THE ORWELL PARK OBSERVATORY

Part 3

In the latter 1860s Colonel Tomline resolved to expand the accommodation for his many guests at Orwell Park by the provision of self contained 'state' style apartments and to add a fashionable¹ Turkish Bath suite, Muniment room for his papers and other valuables and last – but by no means least – his own Astronomical Observatory. He stipulated that these refinements should be incorporated within the mansion and that the observatory should be part of the house too. It goes without saying, perhaps, that the convention for private observatories on country estates was to site them on high ground away from the main house. Satisfied with the earlier alterations to the mansion carried out by the eminent architect William Burn, he engaged his firm for the new project. Burn had passed away and his partner and successor, John MacVicar Anderson, took personal charge. The observatory would very obviously pose significant engineering problems and local engineer, Wilfrid Airy, was engaged to design the telescope and its equipment. Whilst there is not (yet) any documentary proof of an association between Tomline and the Airy family, it is certainly a plausible notion that they were closely acquainted and that Tomline was calling upon the experience of the Astronomer Royal through his son.

John MacVicar Anderson FRIBA (1835 – 1915)

A Glaswegian by birth, MacVicar Anderson was a nephew of W Burn and following a local education and upon graduating from Glasgow University, went to work in his uncle's prestigious London Architectural practice. In the course of his career² he designed a number of mansions in England and Scotland and Ireland, including; Althorp (Hants), Brampton & Blankney Hall (Lincs), Cheswardine Hall (Shrops), Iden Manor and Wilderness (Kent), Powercourt (Ireland).



John MacVicar Anderson
1835 – 1915
*RIBA Presidential Portrait
by the artist
Charles W Furse RA*

He was responsible for some impressive commercial buildings, too, including a number of banks in the City of London and Coutts Bank in the Strand³ (the royal family bankers). Other works of his included the Carlton Club (amongst a number of private London clubs), many private homes of the rich and the Royal Scottish Hospital and Royal Caledonian Asylum. He served as Secretary to the Royal Institute of British Architects from 1881 to 1889 and President from 1891 to 1894. His very successful career brought wealth and fame and he lived in one of London's most exclusive areas – Stratton Street, Mayfair.

Wilfrid Airy (1836 – 1925)

Wilfrid was the fourth of nine children born to Sir G B Airy (7th Astronomer Royal) and his wife Richarda⁴. The first three children died in childhood and Wilfrid became the eldest 'survivor'. How big a role the science of Astronomy was in his life I cannot yet say⁵, but he was born at the Royal Observatory just a year after his father had taken office there. He cannot but have been influenced by his surroundings and, indeed, some of his experience of the minutiae of the workings of the observatory helped to shape his ideas for Orwell Park – as we shall see further on.



Wilfrid Airy 1836 - 1925
*Photo by kind permission of the Airy
family*

He must have helped and accompanied his father on the many official trips abroad that he made and, for instance, Wilfrid was a member – along with his parents and one of his sisters - of Warren De La Rue's 1860 British Himalaya Expedition to Spain (expedition named after the ship they chartered) to observe a total solar eclipse⁶. However, Wilfrid moved away from a purely scientific career path and qualified as an Engineer. It would not be going too far to say that his father brought about the meeting of Wilfrid with his future bride. Airy senior maintained excellent links with the scientific establishment on mainland Europe and he and Richarda were particular friends of Professor Listing at the Gottingen Observatory. Wilfrid married Professor Listing's younger daughter, Anna, in 1881.

Sadly, the marriage was cut short just a year later when his wife died giving birth to daughter Anna. Wilfrid was left to bring up their daughter alone and settled at the family home in Playford. He died there in 1925 and left the house to her. She became a renowned artist and lived at Playford until her death in 1964 and is still remembered by the older residents there for her quirky ways and her indomitable spirit. However, we seem to have digressed...



Anna Airy (1882 – 1964)
Photo by kind permission of
Mr B Seward

Design considerations for the Orwell Park Observatory

The excellent research work previously undertaken by our Secretary, Roy Gooding, was touched upon in the first of this series of articles. His *tour de force* however was the unearthing the minutes of a paper read before the Royal Institute of British Architects by John MacVicar Anderson and Wilfrid Airy on 1874, November 16th. The subject of that talk was the design of the Orwell Park Observatory, a successful co-operation between architect & engineer. Shortly before that paper was read, Wilfrid Airy had written an account of the engineering aspects of the project, which was published in 'Engineering', 1874, October 2nd and we have Roy to thank for unearthing that too.

I'll close this section of the series by quoting from both documents on the requirements of design and the actual building works will be covered in the final part.

MacVicar Anderson began with these words;

'To design an Observatory cannot fail to be, I should think, under any circumstances, a work of considerable interest, calling for the exercise of great care and no small amount of ingenuity; but when, as was the case at Orwell Park, the Observatory had to be connected with an existing edifice, so connected as to admit of faculty of access, and to combine with the somewhat complicated domestic arrangements of a country mansion, and yet so isolated, as to secure complete privacy and perfect quiet to the astronomical observer, the difficulties, I apprehend, are intensified to no small extent. As the Observatory, of which I am now about to give some

account, formed only a portion of other works which I was called upon to design at the same time in connection with the house at Orwell Park'.

He went on to say;

'The original house consisted of a square block, to which had, at various times, been added the several adjuncts you see on the large plan, such as the picture gallery, billiard room, and conservatory to the west, and an entirely new wing to the east, embracing the whole of the domestic offices, &c. In connection with these additions the main block of the mansion had, so far as the south front is concerned, been refaced, and made to assume the architectural garb it now possesses. These operations had, at different periods, been carried out by the late Mr. Burn. Such was the subject for treatment. The requirements of the proprietor were, one or two suites of first class bedrooms, in which the house was deemed to be deficient, forming state apartments, a Turkish bath, and, though last not least, an Observatory, with other minor and subsidiary wants not necessary to specify. The main building, comprising the principal apartments, was complete in itself, and answered every purpose required of it. The east wing, comprising the domestic offices, was excellently arranged in point of comfort and convenience, and of a substantial character. It was clear, therefore, that neither one nor the other could be materially altered without disturbing arrangements which were good, and incurring a large and unnecessary outlay. Accordingly I resolved to adopt an arrangement which possessed the merit of retaining the whole of the existing buildings intact, with some unimportant exceptions – while it extended to more than double its then length the principal architectural front of the building, and obviated the inconvenience of the servants' offices overlooking the private grounds. This was done by building up the whole of the windows of the offices which looked to the south, and (by the sacrifice of one or two servants' bedrooms only, which were obtained elsewhere) lighting and thoroughly ventilating from the roof the offices which had previously looked to the south,. An operation which proved perfectly successful and satisfactory. This simple expedient solved all difficulty, for the whole space to the south of the east wing was thus made available for the erection of an entirely new wing, comprising the additional accommodation that was required, shutting out from view the ugly and unfinished appearance of the old east wing, and completing the architectural façade of the building to the south. This new wing consisted of a handsome suite of apartments on each floor, so arranged that the rooms might be used together or separately, as occasion required, accessible on both floors by means of a corridor 176 feet in length; in connection with which was provided a new principal staircase, a feature of

which the house was in want. At the extreme easterly end of this new wing I placed the Observatory, thereby providing a handsome and convenient access from either floor, by means of the corridors already mentioned, and at the same time securing that complete isolation that the peculiar circumstances of the case called for. The rooms on the principal floor were arranged so that they might be used as a complete suite of family apartments, the proprietor's business room being at the east end of the suite, in close proximity to which – but properly shut off – were the Turkish bath chambers, and in immediate communication with which was the observatory above, by means of a private staircase'.

Wilfrid Airy comments;

'The first consideration is the situation of the observatory. The most favourable position is on the top of a low hill or rise of ground, so as to command the horizon all round without the necessity of raising the observatory. For ordinary observations a clear view of the horizon is not extremely important, as the observations are much affected by refraction, but for extraordinary observations such, for example, for the observation of a comet when near the sun, it is of great importance ; and it must be borne in mind that the chief use as well as enjoyment of a private observatory consists in the careful examination of extraordinary objects. Again, if the observatory be near a river, an elevation of 100 ft, or 150 ft is often necessary in order to keep above the river fogs ; these fogs commonly occur on cold nights in the winter when the sky is beautifully clear, and unless the observatory were above the fog the night would be lost. The writer has frequently seen a dense fog extending as high as 100 ft above the Thames at Greenwich, while at the Royal Observatory, 150 ft above the river, the air was perfectly clear and the stars brilliant. In the case of the Orwell Park Observatory it was desired that the observatory should be attached to the mansion (which itself stands on a lofty bank overlooking the river Orwell), and since of necessity the observatory had to be raised so as to clear the house and surrounding trees, the conditions as to elevation were amply secured. But, as might be expected, much expense and difficulty in construction, were caused by the great height of the observatory, which will be referred to immediately. As a subsidiary matter of some importance, it may be mentioned that it requires some skill to secure a good architectural effect in an observatory attached to a mansion in the manner referred to ; in the present instance, however, this matter received the most skilful attention from the architect'.

Evidence straight away, then, of the usefulness of Wilfrid's experiences at Greenwich.

MacVicar Anderson;

'At Orwell Park the Observatory, although standing on high ground, had necessarily to be of considerable height, in order to surmount the adjacent buildings and lofty trees in the vicinity. It was stipulated by Mr. Airy that the floor of the equatorial room should be 6 feet below the top of the highest chimney in the mansion adjoining, a stipulation which involved a height of 53 feet from the ground level, and of 72 feet to the top of the dome, the total height from the bed of the foundations to the top of the dome being 86 feet. In selecting the site of an Observatory, it is important that the situation should be dry and free from moisture, and it is to be further noted that when it is in the vicinity of a river, The Observatory should be placed at such an elevation as to be above the reach of fogs, for such may prevail when the sky above is clear and well adapted for astronomical observations'.

Wilfrid Airy;

'For the proper support of an astronomical instrument it is essential that the column or columns should be carried up from the ground without contact of any sort from the walls, floors, or other parts of the building. If this were not carefully attended to, such is the delicacy of the instrument that the effect of a person walking about any parts of the building adjacent would be rendered immediately perceptible at the instrument by a tremor very annoying to an observer'.

To be continued.....

Ken Goward

¹ And what wealthy Victorian gentleman would be without one...

² Obituary in 'The Builder' 1915, June 18th.

³ About ten or so years back the whole of Coutts Bank was knocked down during the remodelling of the Charing Cross area. MacVicar Anderson's stylish facade, however, was retained and fronts an entirely new commercial complex.

⁴ Richarda also suffered a number of miscarriages.

⁵ At the time of writing (mid April) I am awaiting delivery on loan Wilfrid's personal scrapbook, which came to light just recently from Kenya, and which the Airy family have kindly agreed to loan me because, "It contains many references to Wilfred's work, including the Orwell Park Observatory". The intention is to write a follow on article detailing Wilfrid's life when that valuable archive has been studied in detail. Watch this space....

⁶ 'The first Photographic Eclipse?' Peter D Hingley. Astronomy & Geophysics 2001 February p, 1.18 to 1.22. This expedition is thought to be the first to successfully photograph the phenomena and which, according to Hingley is 'suggested to have led to the first definite scientific result to be found from astrophotography' – it settled the question of what caused the so called 'Bailey's beads'.

NEW OASI WEBMASTER

OASI has maintained an Internet Web site since early 1995. Anyone with Internet connectivity can access the Web site at the following url:

www.ast.cam.ac.uk:80/~ipswich/

Society member Mike Harlow was instrumental in establishing the Web site and has done sterling work since 1995 to maintain it and to ensure that it contains material of interest to members of the astronomical community worldwide. OASI owes a *big thank* you to Mike!

Alas, all good things come to an end, and so it is that Mike, due to pressure of other commitments, has decided to relinquish control of the OASI Web site. I have taken over the running from Mike.

The Web site needs a constant supply of new material in order to keep it up-to-date and interesting for visitors via the Internet. If you have produced any material for the newsletter, or have any other material that may be of interest to a general astronomical audience (e.g. reports or sketches of astronomical observations that you have made, astro-photographs, views or arguments on any topic of current astronomical interest, etc.), please make it available for incorporation in the Web site. Also please contact me if you have any ideas for improving the Web site in terms of format, layout, organisation, etc. You can email me at the address below, or via the Web site.

James Appleton
[Redacted]

2001 COMMITTEE

CHAIRMAN	D Payne
SECRETARY & WORK PARTY ORGANISER	R Gooding
TREASURER & PUBLICITY	M Cook
MECHANICS	E Sims
NEWSLETTER CO-ORDINATOR	T Sampson
BEGINNERS MEETING CO-ORD & VISIT CO-ORD	G Coleman
EQUIPMENT CURATOR	J Walsh
LIBRARIAN	J Appleton

CO-OPTED MEMBER	
LECTURE CO-ORDINATOR & DARK SKIES	P Richards

JOURNAL ARTICLES TO	E Sims	[Redacted]	Ipswich Suffolk IP1 4HA
CORRESPONDENCE ADDRESS	R Gooding	OASI Secretary	[Redacted]

MEMBERSHIP	M. Cook	[Redacted]	Ipswich IP4 5PZ
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Home Phone Work Phone



Observing Programme For May

Dates	Observing Director	Activities
Monday 14th from 7.30pm	T Sampson G Coleman	Small Telescope Night
Monday 28th from 7.30pm	G Coleman	Group Visit
Wednesdays 2nd 9th 16th 23rd 30th from 8.00pm	M Cook D Payne	Nebular & Faint Objects
Thursday 3rd	G Coleman	Group Visit
Fridays		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 it will be advertised as soon as possible.

2. LECTURE MEETING May 18th

A lecture is to be given on the 18th May at Orwell Park School by Dr Allan Chapman on Sir G.B.Airy, 7th Astronomer Royal. Followed by the official re-naming ceremony of the Orwell Park Telescope.

3. ASTRONOMY WORKSHOP May 9th

The next astronomy workshop is to be held on Wednesday 9th April at 7.45pm. The subject is "The Sun - Our Sun"

Society Contact Details

		<u>Home Phone</u>	<u>Work Phone</u>
Chairman	D Payne	[Redacted]	[Redacted]
Secretary	R Gooding	[Redacted]	[Redacted]

Contact details for the full committee are inside the back page.

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