

Orwell Astronomical Society (Ipswich)

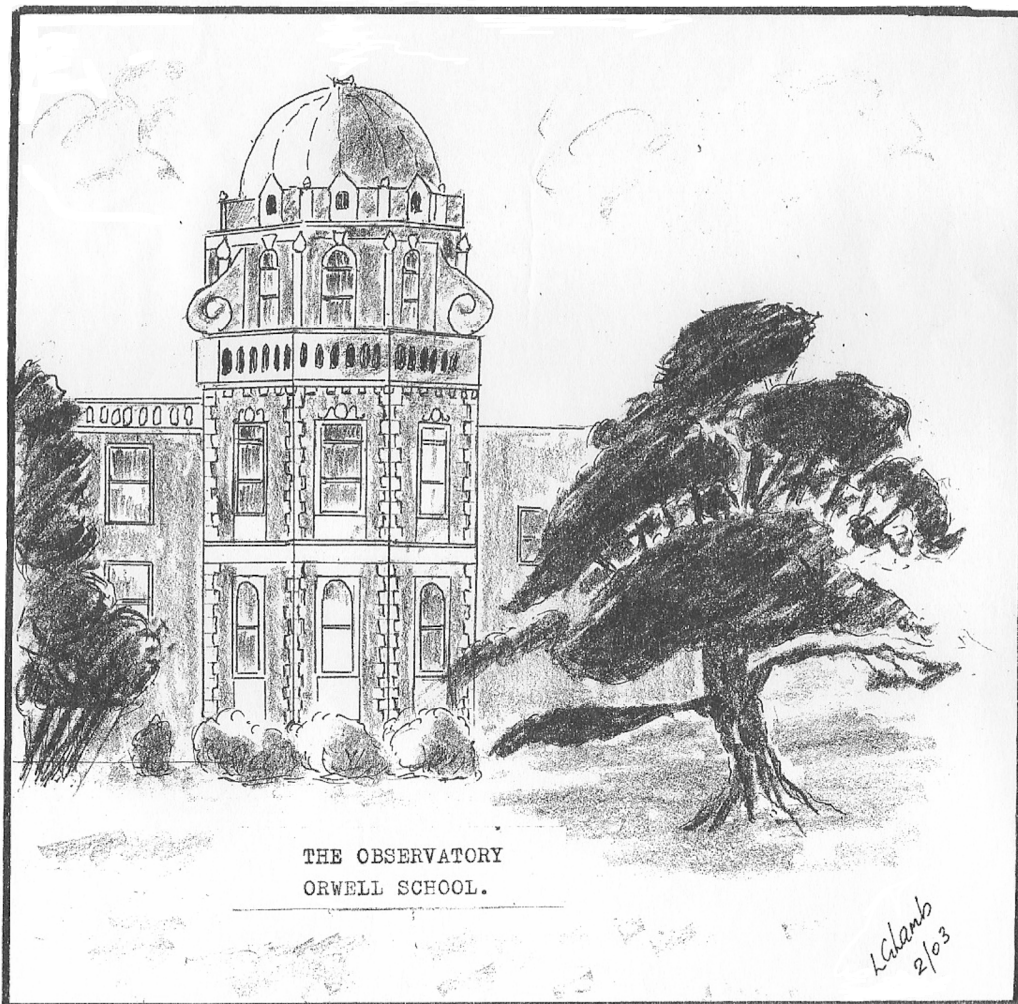
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NEWSLETTER June 2006

No.409



Society News (Roy Gooding)

1 Committee Meeting Saturday 17th June

The next Committee meeting will be held on Saturday 17th June, at the Methodist Church Hall, from 20:00. This is an open meeting and any one who is interested is invited to attend

2 Events for 2006

Meeting	Venue	Date
Norwich Observatory visit	Norwich AS observatory at Seething See below	Saturday 10 th June
BAA Exhibition Meeting	The Cavendish Laboratory Madingley Road Cambridge	Saturday 24 th June 11:00 to 18:00
Society Barbecue At Mike and Sue's garden	Newbourn Bucklesham Ipswich	Saturday 15 th July From around 14:00
Society Excursion to Herstmonceux	Excursion in May has been cancelled New date in September http://www.the-observatory.org/	New dates: Either Saturday 16 th or 23 rd September
Open Weekend		Provisional date Saturday and Sunday 30 th September, 1 st October
New series of Astronomy Workshop meetings	Not yet in the planning stage	
Christmas Meal	Levington Ship	Wednesday 13 th December

This event list will be updated through out the year

3 Access into the School Grounds an Observatory Tower

The gate code is [redacted]. 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)

4 2006 Excursion to Herstmonceux

New dates for the excursion to Herstmonceux

- Either Saturday 16th or 23rd, depending on interest.
- So far the 16th is the most popular date
- The closing date for the trip will be the 31st July. After July there will be a single Newsletter to cover August and September. October's Newsletter will not be published until after the excursion date, thus making it difficult to communicate to most members.

The excursion will be on the most popular date. As before the minimum number will be set to 30, however ideally this should be raised to between 40 and 50. Attendance is open to all and is not restricted to members only.

I have scraped the old list, and will be starting a new one for these dates. If you would like to come on please contact me. As before, I will only book a coach if there is sufficient interest. Entrance payment will be left to individual members upon our arrival

5 Society's 40th Anniversary Year 2007
Some random thoughts open for discussion.

2007 will be the 40th anniversary year for the Orwell Astronomical Society. A number of events will be held throughout the year to celebrate this. At present, any plans are at a very preliminary stage

- A joint meeting with the BAA in January is in the preliminary planning stage.
- All events could be prefixed with "40th Anniversary"
- A society meal could be held during the year.
- A formal Astronomical Convention could be held.
- A more informal exhibition meeting could be held that is aimed more for the general public.

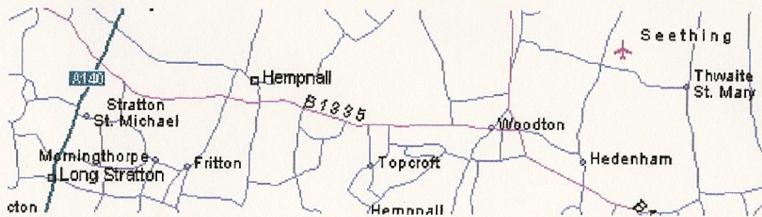
If you have any ideas that can be considered please contact me.

6 Visit to Norwich Astronomical Society's Observatory at Seething

Directions to the Observatory

- Leaving Ipswich along the A140
- Turn left on the B1135 for Bungay
- Turn right at Woodton to the B1332
- Turn 1st right
- Turn 1st right again. This lane should be Harveys Lane. It is sign posted to SEETHING OBSERVATORY, SEETHING INDUSTRIAL ESTATE.
- Continue down this twisty and rather narrow road for just over 1 mile. You come to a cross roads. Go straight over, into Toad Lane.

You will pass the old USAF Airfield control tower on the left. The observatory is about 200 yards further on the left.



The visit will be on Saturday 10th June. Paul Whiting is organising this visit to the Norwich AS observatory. Please contact Paul for more information.

7 Society Email Distribution list

Society information is often distributed at an earlier date than can be achieved by the monthly Newsletter. If you would like to be received society emails, please forward your name and email address to

8 Welcome to New Members

Rod Slade has joined since the last Newsletter was published

9 Observing Projects form 2006

Many years ago meteor watching field trips were very popular. After a recent Wednesday evening discussion, it was decided to reintroduce a meteor watch later this year. One of the best Meteor displays to watch are the December Geminids

Night Sky (June)

All times GMT

Sun

The sun will be rising approximately 03:40
 The sun will be setting approximately 20:15

Moon

1 st Quarter	Full Moon	3 rd Quarter	New Moon
3 rd	11 th	18 th	25 th

Mercury Mercury will be at greatest eastern elongation on the 25th. It will be visible low down in the NW sky after sunset. At the beginning of the month, Mercury will be setting about 2 hours after sunset.

Venus Venus remains a prominent object, low down, in the pre-sunrise morning sky. Magnitude -3.9

Mars Mars is in Cancer this month, and passes in of front of Praesepe in mid month. will be setting at about 22:00 towards the end of the month. Magnitude is 1.8

Jupiter Jupiter is in Libra, it will be setting at about 01:00at the end of the month. Magnitude -2.4

- Saturn** Saturn will also be passing in front of Praesepe this month. It will be setting at about 22:00 at the end of the month. Magnitude 0.4
- Uranus** Uranus is on Aquarius, and will be rising at about 23:00 at the end of the month. Magnitude 5.7
- Neptune** Neptune is in Capricornus, and will be rising at about 22:00 at the end of the month. Magnitude 7.8

Meteor Showers

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

Meteor source is the BAA Handbook

The Work of John Isaac Plummer at Orwell Park Observatory 1874 - 1890

Paul Whiting *FRAS*

This paper builds on the excellent collection on the Orwell Astronomical Society's website "John Isaac Plummer", compiled by James Appleton from earlier articles by Charles Radley, Roy Gooding, Ken Goward and Paul Whiting. It takes the form of a critique of Plummer's published articles in the *Monthly Notices of the Royal Astronomical Society* (MNRAS), as listed in the above compilation of work [1] undertaken at Orwell Park: 1874 - 1890. During this time Plummer also had several papers published in other journals such as *Nature* and *The Observatory*, but these are the subject of future research.

John Isaac Plummer was employed by Colonel George Tomline as a professional astronomer to operate and make use of the new 10" refracting telescope and observatory building that Tomline had just had built at his country house at Orwell Park, near Ipswich, which was completed in 1874.

1874

John Isaac Plummer joined *Colonel Tomline's Observatory*, the phrase he was to use to describe his employ in his annual report to the RAS, in June 1874. In fact in his first report [3], he proudly listed the equipment in the new observatory and set out his manifesto to "employ this fine instrument [the Tomline Refractor] chiefly for the observation of comets, both periodical and occasional".

His first paper noted the preponderance of the zodiacal light during the autumn of 1874, during observations of Coggia's comet. He suggested that there may be a periodic enhancement of the strength of the phenomena over some 8 years, based on previous observations whilst in Durham. [2]

For the rest of his first year at Orwell Park, Plummer spent time setting up the observatory – battling with the opticians setting up the 10 inch lens, and trying to

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.

Date	Time (UT)	D /R	Lunar Phase	Sun Alt (d)	Star Alt (d)	Mag	Star
01 Jun	21:23:33	D	0.31+	-9	26	8.3	Hip 46349
01 Jun	22:43:33	D	0.31+	-14	14	7.3	ZC 1402
03 Jun	21:13:43	D	0.49+	-8	31	8.3	Hip 53440
03 Jun	22:13:26	D	0.49+	-12	22	7.4	Hip 53486
03 Jun	23:25:03	D	0.50+	-15	12	8.2	ZC 1595
23 Jun	02:42:29	R	0.07-	-6	10	5.4	ZC 556
29 Jun	21:03:16	D	0.17+	-6	14	7.4	ZC 1459

James Appleton

estimate the exact Longitude of the observatory using “a small transit instrument and an excellent clock by Dent”. Initial estimates were 52°0’33”N 4’55.8”E. [3]

1875

As noted in [1], Plummer’s main work at Orwell Park was the measurement of cometary orbits, and his first published results concerned Coggia’s Comet (V 1874) in *Astronomische Nachrichten* [4].

Not a lot else happened this year, for as Plummer noted work suffered because of the “prevalence of unusually cloudy weather for so many months”. This was not going to be the last time he mentioned cloud cover preventing observations at Nacton [5] and the paucity of comets. Other work started was an interest in estimating the diameters of Venus and the Moon and their respective brightnesses.

1876

This year saw Plummer start his photoelectric experiments, measuring the brightness of Venus, comparing shadows cast by the planet and a standard candle at known distances [7]. This was primarily because there were still no comets around for him to observe [9]. The result was that he found the brightness of the “mean full Moon” to be 799.5 times that of Venus at greatest brilliancy. Unfortunately there was not a lot of similar work with which to prove or disprove his findings.

Plummer also had a moan about the accuracy of the British Association catalogue of stars, noting ever increasing differences between current observations of prominent stars and those historic observations of Bradley. [6]

Also this year Plummer had the bright idea of proposing a new numbering system for the host of new minor planets (or planetoids as he called them) being discovered around this time [8]. Unfortunately he wasn’t to know the huge number of bits of rock out there that would need numbering, but his peers must have had some idea, as his suggestions were rejected, as were his ideas for renumbering stars within their constellations.

1877

This year Plummer continued his apparent luminosity work by trying to measure the brightness of the totally eclipsed moon of 23rd August, but with the return of a number of comets, he concentrated on the “proper” work of the Observatory [10]. However he did publish a paper on an effect he had noticed of regular annual fluctuations of the accuracy of the transit instrument, while obtaining true time. He put this down to the thermal influences from “the mass of brickwork” that was the support of the “Equatoreal (sic) Telescope” (the Tomline Refractor) [11].

1878

Not a lot happening this year so Plummer took the advantage of catching up his mathematical reductions of the cometary and stellar observations, publishing them in the *Astronomische Nachrichten*. Other items of note this year were the initial calculation of the observatory longitude (4’ 57.75” E), disagreeing with the Ordnance Survey, and the observation of the transit of Mercury (May 6th) – with the quote “[it] was very fairly observed, and afforded gratifying proof of the excellence of definition of the object glass.” However, in September of this year the telescope had to be dismantled to remove particles of rust from the declination axis bearing. A Mr Simms performed the work, after which the instrument “has been quite satisfactory” [12].

1879

A good comet year: Comets Brorsen, Tempel, Swift, Hartwig and Palisa. He lamented that observations on the latter two comets would have been better “if intelligence of their discovery had reached the observatory at an earlier date.” [13]. One can only wonder whether this was a general moan or a specific dig at someone in particular. After 5 years Plummer also completed his determination of the observatory’s geographic co-ordinates.

1880

Another good year for comets – especially Schäberle, Hartwig and Pechüle. This obviously kept Plummer busy as he made a resolution to complete the “considerable arrears of cometary work which have not been fully reduced”. He did however publish his results for comet Brorsen (1879) in *Astronomische Nachrichten*. This year also saw a new departure in the work of the observatory. Plummer became interested in lunar occultations, in the hope of “detecting and elucidating the phenomena of projection on the limb” [14]. This is possibly a reference to the diffraction effects on an occulted star caused by the edge of the Moon.

1881

So much for lunar occultations, this year was exclusively taken up by comet observations and fulfilling the resolution of last year to remove the backlog of orbit reductions. However he did mention that his work was hampered by unfavourable weather conditions, and, more mysteriously, “other causes” [15]. Continuing his melancholy mood he laments the fact that his cometary reductions depend upon out-of-date star catalogues for the positions of the reference stars and the fact that the observatory lacked a meridian instrument for the positioning of these comparison stars.

Plummer also took this opportunity to announce that he had obtained permission from Colonel Tomline to volunteer to assist Airy (the Astronomer Royal) during the forthcoming transit of Venus.

1882-1883

This report [16] is very much a catch-up account of the observatory activities, given Plummer was sent to Bermuda for 4 months to observe the transit of Venus during 1882.

Four new comets were observed (I 1882, III 1882, I 1883 and Pons 1812), plus many orbit reductions completed from previous observations. His main complaint is still the difficulty he still has accurately positioning the reference stars.

1884-1886

Another catch-up report [17], as Plummer was ill during this time. Work was completed and published in *Astronomische Nachrichten* on the following comets: 1884 III Wolf, 1885 I Encke, 1885 II Barnard, 1886 I Fabry, 1886 II Barnard and 1886 V Brooks I. Two further comets were in the reduction process: Barnard-Hartwig and Finlay.

1887

Five more comets in this year's report [18]: Brooks, Barnard I, II & III, and Olbers. However a notable change this year, Plummer started to publish his results in the Monthly Notices of the RAS (MNRAS) [19].

There is also an admission that comet tracking is what Plummer and the observatory do best, so that is what they are going to concentrate on in the future.

1888

Bad weather and bad seeing conditions were the hallmark of this year's report [20]. Four comets were observed satisfactorily (Sawerthal I 1888, Brooks III 1888, Barnard e & f 1888) and results published [21]. Faye's comet was searched for but the conclusion was drawn that a 10" aperture was not enough to be able to see it. Preparations were made to observe the occultations of small stars during the total eclipse of the moon (28th Jan), but "were rendered futile by cloudy weather".

1889

Plummer's final report from the observatory [22], in which he reported: "on August 25, after an illness of eight months, Colonel Tomline died at his residence in London". He said that the observatory was being closed up and it was unclear whether funding (or "the means") would be available for Plummer to complete the publishing of the backlog of cometary data for the year.

As an omen to Tomline's death, the declination axis of the telescope became immovable several weeks before. The telescope was dismantled on August 19th, and the axis ground to the bearing by Mr Simms (presumably of Ransome and Simms,

who had provided the telescope mounting). After this attention the axis was "entirely satisfactory".

The outstanding comets that remained unpublished were: Barnard 1889, Brooks 1889, Brooks 1889 II, Davidson 1889, Swift 1889 and Borrelly 1889.

1890 onwards

It may have been a coincidence, but the report following Plummer's in the MNRAS for both his final two years at the Observatory was from the Hong Kong Observatory, and indeed it was to here that Plummer's career took him, to take up the post of First Assistant. However this is where Plummer's association with Orwell Park observatory ended.

References

- [1] "John Isaac Plummer"
J Appleton et al, Orwell Astronomical Society website, www.oasi.org.uk
- [2] "Note on the Zodiacal Light"
J. Plummer, MNRAS, 1874 Vol. 35
- [3] "Colonel Tomline's Observatory, Orwell Park, Ipswich"
Annual Report to RAS, J. Plummer, MNRAS, 1875 Vol. 35
- [4] "Observations of Comet V, 1874 (Coggia's) made at the Orwell Park Observatory"
J. Plummer, *Astronomische Nachrichten*, 1875 Vol. 85
- [5] "Colonel Tomline's Observatory, Orwell Park, Ipswich"
Annual Report to RAS, J. Plummer, MNRAS, 1876 Vol. 36
- [6] "On the Proper Motion of Bradley's Stars"
J. Plummer, MNRAS, 1876 Vol. 36
- [7] "Photoelectric Experiments on the Light of Venus"
J. Plummer, MNRAS, 1876 Vol. 36
- [8] "Astronomical Nomenclature"
J. Plummer, MNRAS, 1876 Vol. 36
- [9] "Colonel Tomline's Observatory, Orwell Park, Ipswich"
Annual Report to RAS, J. Plummer, MNRAS, 1877 Vol. 37
- [10] "Colonel Tomline's Observatory"
Annual Report to RAS, J. Plummer, MNRAS, 1878 Vol. 38
- [11] "On the Supposed Influence of a Mass of Brickwork upon the Errors of a Transit Instrument in its Neighbourhood"
J. Plummer, MNRAS, 1878 Vol. 38
- [12] "Colonel Tomline's Observatory, Orwell Park"
Annual Report to RAS, J. Plummer, MNRAS, 1879 Vol. 39
- [13] "Colonel Tomline's Observatory, Orwell Park, near Ipswich"
Annual Report to RAS, J. Plummer, MNRAS, 1880 Vol. 40
- [14] "Colonel Tomline's Observatory, Orwell Park"
Annual Report to RAS, J. Plummer, MNRAS, 1881 Vol. 41
- [15] "Colonel Tomline's Observatory, Orwell Park, Ipswich"
Annual Report to RAS, J. Plummer, MNRAS, 1882 Vol. 42
- [16] "Colonel Tomline's Observatory"
Annual Report to RAS, J. Plummer, MNRAS, 1884 Vol. 44
- [17] "Colonel Tomline's Observatory"
Annual Report to RAS, J. Plummer, MNRAS, 1887 Vol. 47
- [18] "Colonel Tomline's Observatory, Orwell Park, Ipswich"
Annual Report to RAS, J. Plummer, MNRAS, 1888 Vol. 48
- [19] "Mr Plummer, Observations of Comets at Orwell Park Observatory"
J. Plummer, MNRAS, 1888 Vol. 48
- [20] "Colonel Tomline's Observatory, Orwell Park"
Annual Report to RAS, J. Plummer, MNRAS, 1889 Vol. 49
- [21] "Mr Plummer, Observations of Comets at Orwell Park Observatory"
J. Plummer, MNRAS, 1889 Vol. 49
- [22] "Colonel Tomline's Observatory"
Annual Report to RAS, J. Plummer, MNRAS, 1890 Vol. 50

Diary for June

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	☎		Tomline Refractor tutoring. Social Activities.
Eric Sims	Committee	☎		Newsletter
Mike Whybray	Committee	☎		Librarian. Workshops
Paul Whiting FRAS	Committee	☎		Visits by outside groups.
Bill Barton FRAS	Committee	☎		Safety & Security
Peter Richards	Co-opted	☎		Lecture Meetings School Lighting liaison Email Distribution Lists

Monday	Small Telescope Observing Evenings Further meetings by arrangement only ☎ Paddy O'Sullivan		
Wednesday	Observatory Club Nights (Nebulae & Faint Objects Section) 7 th , 14 th , 21 st , 28 th		
	☎	Home	Mobile
	Martin Cook		
	Roy Gooding		

Society Primary Contacts				
	☎	Day	Evening	Mobile
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Secretary	Roy Gooding			
Email Queries Ipswich@ast.cam.ac.uk				
Contact details for the full Committee may be found on the inside back cover				

Society Trustees
 Roy Adams David Brown David Payne
Hon. President
 Professor Alan Chapman D.Phil MA FRAS

☎ Observatory Meeting evenings only