



**ORWELL ASTRONOMICAL
SOCIETY (IPSWICH)**

Registered Charity No 271313
www.oasi.org.uk

NEWSLETTER 2005 NOVEMBER

No 402



Dr W H Steavenson's Observatory in the back garden of his Norwood, Southeast London home in the 1920s. The Instrument, a 6" Wray Refractor of 9.5' focal length, was housed inside a shed, which by the addition of removable rails was run-off to one side. In 1930 this instrument was replaced with an equatorially mounted 20.5" Reflector by J H Hindle.

See inside – *Dr Steavenson's report on the condition of the Orwell Park 10" Object Glass.*

Image from the collection of Ken Goward

SOCIETY NEWS FROM THE SECRETARY

Roy Gooding

1 Next Committee Meeting Saturday 19th November 2005

NOTE CHANGE of DATE

The next committee meeting will be held on Saturday 19th November 20:00 at the observatory. This is an open meeting and any one who is interested is invited to attend. If there is any problem with this date please contact me.

2 **Events for 2005**

Meeting	Venue	Date
Astronomy workshop Design, construction and use of the 19" Millennium Telescope. Neil Morley Paddy O'Sullivan Martin Cook Mike Harlow	Venue: the class room under the fire escape in the small car park area (School side entrance)	Wednesday 9 th November 20:00
Lecture Eddington: Man, Myth and Mystic By Mark Hurn	Museum Street Methodist Church Hall Blackhorse Lane, Ipswich See below	Friday 25 th November 20:00
Astronomy Workshop Filters for Astronomy Presented by Pete Richards	Venue: the class room under the fire escape in the small car park area (School side entrance)	Wednesday 7 th December 20:00
Christmas Meal	Oyster Reach Restaurant	Wednesday 14 th December

3. **Events for 2006**

Meeting	Venue	Date
AGM	To be fixed	To be fixed
Astronomy Workshop Elementary Imaging Processing (No hard sums) Presented by Nigel Stubbington	Venue: the class room under the fire escape in the small car park area (School side entrance)	Wednesday 8 th February 20:00

4 New Lecture Meeting Venue

The last lecture meeting we held in Ipswich was in a room at Methodist Church in Blackhorse Lane. Every one who attended this meeting agreed that it was a better venue than the Friends Meeting House

The church has a car park, bigger enough to take about 30 cars in Black Horse Lane. Alternatively there is a Park & Display car park at the top of Black Horse Lane, next to the Town Council Offices. This is about 100 yards from the church.

Black Horse Lane has only one entrance, which is from Elm Street. This is just past the Police Station, if you are arriving from Civic Drive. The church car park is on the right, just past the Black Horse pub.

Meeting starts at 20:00, doors open at 19:30

5 Society Equipment Inventory

I would like to compile an inventory of society member's astronomical equipment. If you would like to participate please supply me with a list of what observational equipment you have. This inventory list with the relevant names will remain with in the society. Though the total numbers of each class of instrument maybe added to the Society Web site.

6 Welcome to New Members

John and Yvonne Everett have joined since the last Newsletter was published.

7 Astronomy Workshops 2005 / 2006 Season

The new season of workshop meetings is in the planning stage. Ted Sampson has handed over the co-ordination of these meetings to Mick Whybray. Any questions you may have about the new season please contact Mick. If you would like to volunteer to be a principle speaker for any of these meetings please also contact Mike

8 New Session of Night Sky Section Meetings



If there is sufficient interest again I will restart meetings of the Night Sky Section this autumn. These will follow the same format as last year. The venue will again be on Nacton shores. No formal dates will be set, as meetings will take place on an ad hoc basis on

Wednesdays. All you have to do is to ask me, and we can go down to Nacton shores for an observing session.

I would recommend bringing along a pair of binoculars, a torch and suitable footwear for walking down a potentially muddy path.

For those who are new to the society, here is a little background for the reason I implemented these meetings last year.

New members have often mentioned that they are interested in Astronomy, but being beginners, they have only limited knowledge. One of their reasons to join us was to find like-minded people, with a greater knowledge than they have. Finding their way around the night sky held a high priority.

At our public Open Weekends I usually take visitors outside to show them the night sky, and identifying the principle constellations. All that is required for this is the naked eye and binoculars.

If any one is interested in doing this, please contact me (Roy Gooding)

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

New Moon	1 st Quarter	Full Moon	3 rd Quarter
2 nd	19 ^h	16 th	23 rd

- Mercury** Mercury will be at greatest eastern elongation on the 3rd (24°). It will be at inferior conjunction on the 24th
- Venus** Venus will be at greatest eastern elongation on the 3rd (47°)
Magnitude -4.4
- Mars** Mars will be at opposition on the 7th. Magnitude -2.3
- Jupiter** Jupiter will be rising at about 05:00 by the end of the month.
Magnitude -1.7
- Saturn** Saturn has moved into Cancer and will be rising at about 20:30 by the end of the month. Magnitude 0.3
- Uranus** Uranus is presently in Aquarius. It will be setting at about 23:00 at the end of the month. Magnitude 5.7
- Neptune** Neptune is presently in Capricornus. It will be setting at about 21:00 at 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 16:00	November 15 th to 20 th	+100?

Meteor source is the BAA Handbook

Further progress in our understanding of the History of the Orwell Park Observatory

Kenneth J Goward FRAS

In the past few weeks we have received two interesting letters that shed further light upon the history of our Observatory and what became of Col Tomline's astronomer, J I Plummer.

The first letter was from Mr Jim Hysom FRAS, a well-known amateur astronomer and retired telescope maker from Cambridge who recently found a copy of a **1936 report on the condition of the Object Glass of the Tomline Refractor**. The report was by Dr W H Steavenson and makes fascinating reading:

'Report on 10" Merz Objective of the Orwell Park School Observatory Telescope, tested 3rd July 1936.

General Condition.

The material of the components is of good quality having regard to their age. (Made 1872 or slightly earlier.)

They are free from chips, scratches, and harmful striae, and are of good polish, apart from some deterioration of the polish on the second surface (near surface of the crown lens) due to long exposure to damp. This slight cloudiness, which cannot be removed by cleaning, has no appreciable effect on performance. I have cleaned all four surfaces.

The three tin-foil spacers were found to be too thin, allowing of central contact of the components. They have been replaced by three spacers of adequate thickness. The cell is satisfactory except for the arrangement of double springs for maintaining centration of the components. This is a harmful system, no longer employed by the best makers, as it performs its function only by keeping the lenses under constant pressure. The springs have therefore been loosened, and the centration maintained by the insertion of paste-board packing.

Results of tests on artificial star:

Colour Correction: This is satisfactory, but has been carried further than is usual in more modern objectives. It could be improved by an increase in the separation of the components.

Spherical Correction: This satisfactory in general, but see under "zonal aberration". Zonal Abberation: This is present in rather a marked degree. There are zones of short focus at

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	Date & Time		Lunar	Sun	Star	Star	Mag
R	(UT)		Phase	Alt (°)	Alt (°)		
D	09 Nov	19:11	0.58+	-28	21	29 Aqr (double)	6.4
D	12 Nov	20:21	0.88+	-39	40	ZC 81	6.4
D	12 Nov	21:05	0.88+	-45	41	Hip 3086	7.3
D	15 Nov	21:24	1.00+	-48	51	58 Ari	4.9

James Appleton

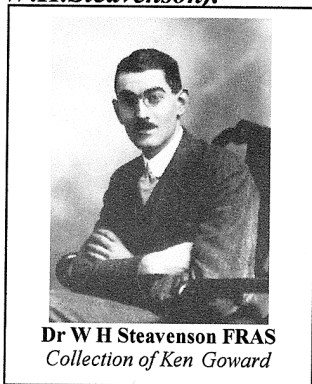
radii of 1", 2" (the worst), 3" and 4". Also a central point of short focus.

Astigmatism: *When the OG was first tested, as received, this was present in amerced degree, as had been noted by Orwell Park in 1930. On removing the lenses from their cells, they were found to be properly spaced, according to the makers' own marks, and I think it almost certain that this astigmatism arose from a permanent distortion of the lenses produced by long pressure of the spring side-support. Unfortunately one lens (the flint), is much more affected than the other so that complete balancing out by rotation is impossible. But a considerable improvement has been obtained by rotating the flint through 40°, and new marks (signed W.H.S.) have been made at the edges. The old marks have been labelled but not removed. Some slight astigmatism still remains, but it is not serious enough to impair performance for general purposes.*

General Conclusions:

This is a serviceable old objective, though not one of the highest excellence. It gives excellent results with powers up to 150, and satisfactory with medium powers (up to 300). But it is not capable of the most delicate work that a first class objective of its size should do. The aberrant zones throw too much light into the diffraction rings, and this would affect work on close unequal stars and would destroy contrast in fine planetary details. The glass is therefore unsuited to the more exacting work (research), but would do admirably for general demonstrations and instructional work, in some school or institution, where the extreme limits of performance under high powers were not called for.' (Signed W.H.Steavenson).

Dr William Herbert Steavenson was born in 1894, the son of a Vicar in the Cotswolds. In his professional life he was a General Practitioner and a Surgeon at Guys Hospital, retiring first to Cambridge and latterly back to the Cotswolds before his death in 1975 in Wiltshire.



Dr W H Steavenson FRAS
Collection of Ken Goward

His life-long love was astronomy, first becoming involved in 1907 when he received a 1.75" refractor for Christmas. In 1911 September he independently discovered a Mag 6.8 Comet (Quenisset) having taken a hand-guided series of photographic images of Mag 2 Comet

Brooks and noticed a suspicious object on one of the resultant plates, which he confirmed as another comet a few days later. Unfortunately for him, French professional astronomer, Ferdinand Quenisset, working from Camille Flamarrion's observatory at Juvisy-sur-Orge a few days earlier, had seen the new object. This comet remained visible until 1912 January, although Brooks and another Comet – Mag 1 Comet Beljowsky - was the main object of observer's attention, affording a rare opportunity with two bright comets in the sky at the same time. At just 17 years of age Steavenson's observation was described to the Royal Astronomical Society and made such an impression that the Astronomer Royal, Sir Frank Dyson, proposed him for Fellowship of the RAS and he was elected two months later. Steavenson became known worldwide for his observing skills and for his expertise in optics. He was mentioned in my article on Will Hay in the April edition of this newsletter, for many years living near to Hay in SE London and having his own observatory there (see cover page illustration). His optical skills were called upon many times by both amateurs and professionals, not least when in 1930 he spent six months in South Africa at the request of Trustees of the Radcliffe Observatory (Oxford) to assist them in relocating that Observatory to Pretoria. He served as President of the BAA from 1926 to 1928 and President RAS from 1957 to 1959.

I would suggest that Steavenson – *probably* - was asked by the newly on site Orwell Park School to report on the condition of our OG on recommendation from Edward Collinson (see biographical article on Collinson in the December 1999 and February 2000 editions of this newsletter – or via our web site). The report came to Jim Hysom many years ago from the late Horace Dall, who did some refiguring of the OG in the 1970s. When next the glass is removed for cleaning, we shall certainly look for Dr Steavenson's initials on the edges...

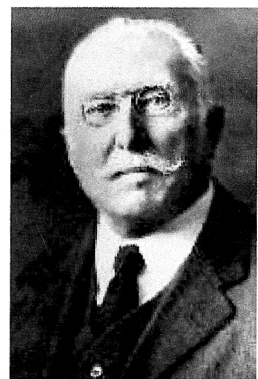
Sources:

- *Obituary of W H Steavenson, Quarterly Journal of the RAS (QJRAS) (1977)*
- *Obituary of W H Steavenson, Journal of the British Astronomical Association (JBAA) (1976) Vol 86, 5.*
- *Various further articles and papers from JBAA.*
- *Cometary details kindly supplied by Martin Mobberley.*

The second communication came from Professor Kevin MacKeown at the University of Hong Kong, who is writing a paper on William Doberck (1852-1941). Doberck, readers may recall from previous articles, was **John Isaac Plummer's** boss at the **Hong Kong Observatory** after he left Orwell Park.

It seems that Doberck and Plummer were not a match made in heaven, as they say, and within a few months of his appointment (01.05.1891) things had begun to sour between them. It wasn't helped when within days of taking up his post Plummer wrote a memo to Doberck complaining about his being required to clean the time ball apparatus – wonderfully non PC by today's standards - Plummer wrote, '*...a disgustingly dirty job even for a Chinese Coolie and in consequence I must decline to undertake the cleaning myself...*' By the time Doberck went on extended leave from the Observatory in 1893 relations had cooled to the point where Plummer's assistant was put forward to take temporary charge over him and Doberck wrote detailed – nit picking – instructions for Plummer to follow in the role of 'underling'. That is NOT to say that Doberck had no regard for the quality of Plummer's Observational work, which he always asserted to be 'excellent'. However, the Hong Kong Governor overruled Doberck, slapping him down with a mild rebuke about his presumption in demoting a Government appointed Officer (Plummer). Doberck even tried to go over the Governor's head by writing to the Secretary of State for the Colonies, '*...the Governor thinks that Mr Plummer... is the proper person to act for me, although I declare him unfitted for such duty.*' Again, he didn't get his way and Plummer became Acting Director of the Observatory in Doberck's absence.

We must understand here that Doberck was beginning to change the role of the Hong Kong Observatory from Astronomical towards Meteorological work, which was necessitated by an ever-increasing maritime trade threatened increasingly by Typhoons. Doberck's preferred choice that Plummer was appointed by the Governor in front of, Frederick Figg was experienced in Metrological observations and Plummer was not. Professor MacKeown has done much work on this frosty relationship, but I'll curtail the story here by saying that Doberck eventually got his way after cutting short his leave because he thought Plummer was not fully up to the job in his eyes – even though Plummer was able to refute Doberck's main criticisms.



Dr William Doberck

Image courtesy of
Professor MacKeown,
University of Hong Kong.

Figg was made Director of the Observatory when Doberck retired back to England in 1907.

Until now, we have (to my knowledge) never seen Plummer's handwriting. This despite the copious amount of Observational work he undertook at Orwell Park, none of his original notes and handwritten papers survived - unless anyone knows otherwise...? An example of Plummer's hand has been sent to us in the form of a memo to Doberck penned in December 1891. The document serves to illustrate just how vulnerable or insecure Plummer must have felt regarding his boss and, not least, it has to be the mother and father of all excuses for lateness to work!

*Hammer House
Howland
Dec 29th 1891*

Dr Doberck,

*I must ask you to
excuse my early attendance at
the Observatory this morning.
My cook and houseboy have
been arrested this morning on
a charge of attempted murder
or something very like it and I
have to appear before Mr Wain
this morning at 10 o'clock. I
will report myself at the Obs
as soon as possible*

*Yours very truly
John S Plummer*

*Stanmore House
Kowloon
Dec 29th 1891*

Dr Doberck,

I must ask you to excuse my early attendance at the observatory this morning. My cook and houseboy have been arrested this morning on a charge of attempted murder or something very like it and I have to appear before Mr Wise this morning at 10 o'clock. I will present myself at the obs as soon as possible.

*Yours truly
John I Plummer*

There really isn't anything one could add to top that (!), except to say that Professor MacKeown has also kindly supplied a list of papers published by Plummer, a number of which we were hitherto unaware. The revised list has been merged with our own and now shows (presently) some 87 scientific papers directly attributable to Plummer over a 43-year period, 1867 to 1910. The list has been loaded onto our J.I.Plummer biography on the OASI web site.

See www.oasi.org.uk/Observatory/Plummer.htm

K J G

Annular Eclipse 3rd October 2005 - Spain

Paul Whiting FRAS

After a couple of years without an accessible eclipse (that is not counting Antarctica and the hybrid in the south Pacific - both ruled out on cost grounds!), the annular eclipse that crossed Europe made for a reasonably cheap and straightforward practice run for the Libyan total eclipse next year.

The eclipse track crossed the Iberian peninsular and marched on across north eastern Africa, so the obvious venue (to us anyway) was the Costa Blanca coast of Spain. We did consider inland Spain, possibly around Madrid, but weather considerations suggested the eastern coastal fringes would, on average, give a better chance of visibility. Also accommodation would be plentiful and cheap on the coast around this time of the year.

Now depending on who you are talking to we ended up just south of Valencia (posh) or a couple of miles south of Benidorm (not so posh).

So we arrived on the Friday before the Monday eclipse, picked up the hire car at Alicante airport and (eventually) found our apartment in the village of La Vila Joisa. The map we had was old and showed the way along a dirt track and rough unmade road. When we arrived we noticed the new highway going along side the apartments leading to the new motorway - ho hum. Never mind the sky was clear and Mars was shining down on us like a red beacon.

Saturday was spent shivering by the pool (it was a cold wind), and Sunday we thought we would visit the observation site at the Cap de la Nau, near Javea. It looked quite close on the map, but after 90 minutes of negotiating ever winding roads and noticing the weather closing in on us the further north we went, we started to formulate plan B. Still the Restaurant at the Cap was open and provided an excellent paella.

Plan B was to stay at home by our private pool and make the observation overlooking the Med. This was our intention until we got up on the morning of the

eclipse to see threatening cloud banks welling up to the south and beginning to move towards us. We needed a plan C - quick.

Plan C was to head inland up one of the small nearby mountains, just a bit east of the village of Finestrat (38° 34' N, 12' W), here we found a big layby on the mountain road, which, of course, suddenly became busier than the M25 at rush hour just as we got the kit set up. At least the sky was clear -ish. There were some small wisps, but nothing that became a problem (despite threatening to get thicker once or twice).

The "kit" consisted of the solarscope, well tried and tested during the transit of Venus last year. This rested on the purpose built mounting, otherwise known as the bonnet of our Mondeo. Two deck chairs and two pairs of eclipse viewers completed the equipment register.

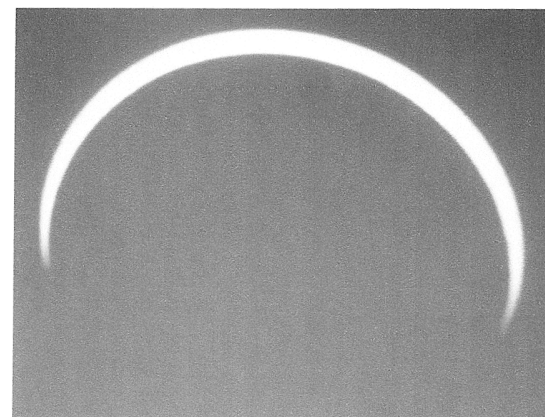
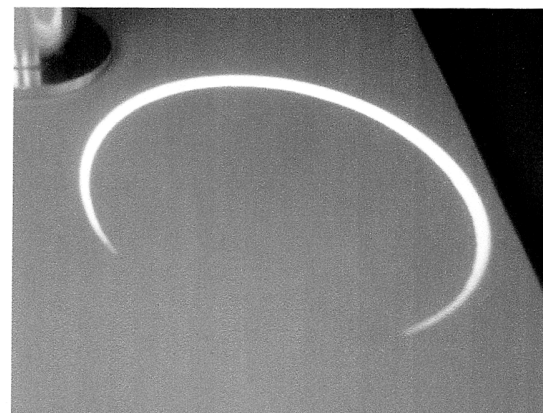
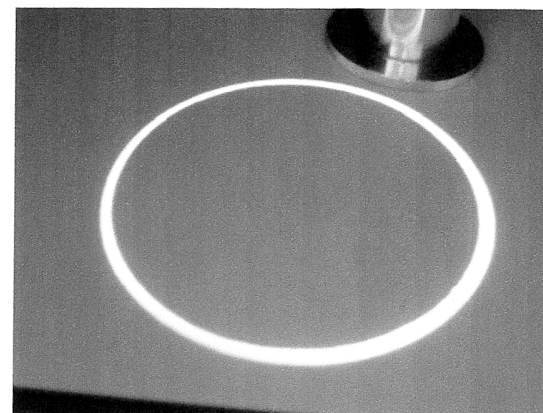
As we sat there a family came past walking their dog and started talking to us in Spanish. I replied eruditely "Inglés!", they replied "Español!" and walked off muttering to themselves. That was the end of the fraternisation with the natives.

The eclipse itself was quite satisfying somehow. As the Moon ingressed over the solar disc from the bottom towards the top, it gave a perfect smile in the inverted image of the Solarscope. The Annular phase was quite long - just over 4 minutes - as we were only a few miles south of the central line - the Moon covering 90.4% of the Solar image. Despite the 10% still shining, there was the usual eerie eclipse darkening effect and the birds did stop twittering, at least until a dog started barking in the distance. Flowers started to close up too. There was too much ambient wind to notice the mid-eclipse zephyr that usually occurs.

Another experiment we tried was to get some fronds and set them up to produce lots of mini eclipse images (along the lines of the colinder), although this did not work as well as it could have done, it was still quite interesting to see the "pin-hole" images.

All too quickly it was over, and the now upside down grin re-appeared. Time to pack up and go to the local Carrefour to pick up supplies. Another holiday excuse is over - until the next time.

Going, going, not quite gone



SEEING THE LIGHT BY CUTTING THE LIGHT POLLUTION

This year the Clean Neighbourhoods Act was passed by Parliament and, among other things, certain types of light pollution became a *statutory nuisance*. Any lighting which causes a nuisance which might slip through a loophole should, by the way, still be caught by civil law which already recognises lighting as a potential nuisance. This law will help, but there are many other things which could and should be done to control and reduce light pollution.

Many people are aware of the high profile campaigns that Astronomers and conservationists have run: the UK leading amateur astronomy organisation - the BAA - and the leading organisation protecting the natural beauty and tranquillity of the countryside - the CPRE - initiated the formal campaigns to reduce light pollution. The men and women who are the local officers of the Campaign for Dark Skies do sterling work in this area. The loss of visibility of the night sky and the loss of rural tranquillity and the spoiling, urbanising, effect of light pollution on natural environments are fairly obvious. It is, however, important to note that many other people who are not astronomers or conservationists and other organisations have contributed to efforts to reduce light pollution. Most of the large number complaints about the high levels of light pollution come from members of the general public who are not conservationists or astronomers. This fact is some times played down because of vested interests or a lack of willingness to tackle yet another problem by those whose job it is to address such concerns. There are hopeful signs that this will change in the future if everyone concerned keeps up the pressure.

Many people are aware of the benefits of the natural cycles of night and day on health, well-being and higher quality of life which results from avoiding light pollution. Bright sunny days and dark un-light-polluted nights are good for you!

Ecosystems suffer from the damaging effects of artificial lighting and it is now widely understood that both nocturnal animals (whose habitat is the dark environment) and diurnal animals (whose behaviour is guided by light level changes) need the natural cycle of night and day. Wildlife conservationists have raised their concerns and some organisations and groups have successfully campaigned against sources of light pollution.

Some safety and crime prevention experts and members of the public have begun to raise concerns about light pollution and light in the wrong place when it's an aid to the criminal or a hazard to safety or security. Sky-glow is a particular problem because it can make things easier for criminals in areas which would be otherwise difficult to negotiate. If the criminal is concerned about being seen, a light polluted sky makes them more difficult to see on the ground by any potential witness in the distance. Glare from badly directed or overly bright lights also helps hide criminal activity. Sometimes a light which only comes on when it's triggered has more of a deterrent effect. In many situations lighting simply helps the criminal see the property or person that is the target of their crime more clearly.

It is obvious that badly directed or over-bright light can be a serious safety hazard, but it was only recently recognised in law. Now the precedent has been set, let's hope that this particular form of light pollution disappears. Where lighting is used the less the glare the safer it is. Modern road lighting is **usually** better at reducing glare than older fittings although some modern luminaries create too much glare.

Sometimes the presence of lighting has little or no effect either way on safety or security. The issue then is that the money and effort used to provide the lighting could be better used.

New technologies are offering alternative and more effective means of providing security. A system of active monitoring by night vision CCTV keeps the criminal in the dark and disadvantaged but visible to security people at the same time. [In a number of places it has been found that simply turning off all the lights reduces the crime rate to zero.]

Perhaps one of the most high profile points at the present time is that reducing light pollution reduces energy waste which in turn benefits the global environment. If we are going to use more intermittent renewable energy sources like solar electric and wind power it is even more important to reduce wastage and cut light pollution. In the foreseeable future we are still going to be using generation methods which damage the environment for a significant proportion of our energy needs and any savings will translate directly into reduced local and global environmental damage. Cutting light pollution is in itself a crucial prerequisite of a sustainable environment.

What is the solution to the problem of light pollution? In part it's new thinking about whether alternatives to lighting are more appropriate or more effective in some cases; in part it's turning off lights at times during the night when they're not needed; in some cases it's using less light but using it more effectively; and most importantly in using the best design of lighting which creates less overspill and sky-glow. Something *not a lot of people know* is that to create a little sky-glow you need a lot of light which is dispersed, generally wasted or goes straight up never seen by human eye! More light pollution means it's darker where you do need some light.

If you are concerned the best thing to do is to act yourself. It's always worth **you** contacting your MPs, councillors and polluters and potential polluters to make sure that light pollution reduction is addressed wherever possible. If you have ideas for reducing light pollution, share them with those who need to know. If there are issues of concern or interest to OASI members or the committee, let them know: the committee of the Orwell Astronomical Society (Ipswich) members include light pollution issues in their meeting agendas.

By reducing light pollution benefits we not only protect the outstanding natural beauty of the night sky, but we all gain many other benefits.

C.D.S



Articles For Newsletter

Every month I am looking for articles for the newsletter. If you can help in any way it would be very much appreciated. What we need are any items of astronomical interest that you have had while observing, events you have attended and things you have planned for the future or even what you would like to do no matter how impossible it might seem at the moment.

Building your own telescope Building an observatory or improving on the equipment that you already have or just getting more use out of what you already have.

Meeting your hero's in the astronomical world. They can be inventors, scientists, astronauts or any one of thousands of people who have contributed to our knowledge and interest in things astronomical.

Now we are in the third Millennium if you think about it almost any thing is possible. Holidays abroad could be any where in the universe. The only thing holding you back now is your imagination.

As you can see we need more members to help keep the newsletter in articles. The more of you that make a contribution the easier it gets for the few who produce articles every month.

Now I hope to hear from a lot more of you in the future which will make the newsletter much more interesting and my job easier.

All entries need to be in A5 format which will save me having to retype any articles and stop me making any mistakes or misinterpretations of things I don't understand.

Newsletter Co-ordinator
E Sims

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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.
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 Email Distribution Lists

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DIARY FOR NOVEMBER

MONDAY 7th and 21st	<u>SMALL TELESCOPES OBSERVING NIGHT</u> CASSIOPEIA ☎ Paddy O'Sullivan [REDACTED]
WEDNESDAY	<u>OBSERVATORY CLUB NIGHTS</u> 1st, 9th, 16th, 23rd, 30th ☎ Martin Cook [REDACTED]
WEDNESDAY 9th Science Classroom from 7.45pm	<u>OASI WORKSHOP</u> <i>'The Design, Construction and use of the OASI</i> <i>48CM Millennium Telescope'</i> By Neil Morley, Paddy O'Sullivan, Martin Cook & Mike Harlow ☎ Mike Whybray [REDACTED]
THURSDAY	<u>OBSERVATORY VISIT BY OUTSIDE GROUP</u> 3 rd from 7.30pm – 1 st Capel Cubs 10 th from 8pm – University of the Third Age 24 th from 8pm – Wesley Guild ☎ Paul Whiting FRAS [REDACTED]
FRIDAY 25th 8pm Methodist Church Hall, Museum Street, Ipswich	<u>***LECTURE MEETING***</u> <i>"Sir Arthur Eddington:</i> <i>Man, Myth and Mystic"</i> Presented by Mark Hurn FRAS Departmental Librarian to The Institute of Astronomy, University of Cambridge & Council member of the Society for the History of Astronomy ☎ Peter Richards [REDACTED]
SATURDAY 19th from 8pm	<u>OASI COMMITTEE MEETING</u> Classroom at base of Observatory tower. Open to all members ☎ Ken Goward [REDACTED]

SOCIETY PRIMARY CONTACTS

CHAIRMAN Kenneth J Goward FRAS ☎ [REDACTED] (daytime & evenings)
 SECRETARY Roy Gooding ☎ [REDACTED] (daytime) [REDACTED] (evenings)
E-MAIL QUERIES ipswich@ast.cam.ac.uk
Contact details for the full Committee may be found on the inside back page

Society Trustees
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Hon President
 Professor Allan Chapman D.Phil MA FRAS