



# Federation of Astronomical Societies

issue number 1.

June 1984

## A NIGHT AT THE TEMPLE OBSERVATORY

By Rob Moseley

(Coventry and Warwickshire A.S.)

It is one of those British rarities - a starlit night that's going to stay clear. A couple of phone calls and it's all fixed. Tonight I shall be observing with one of the finest refractors ever made.

I throw my observing gear into the back of the car and set off gleefully towards Rugby. It is an October midnight and already frosty. As I head East from Coventry the last quarter Moon hangs over the road ahead, sliding steadily higher in the sky.

During my short drive I ponder on the past of the Temple Observatory and its 8 1/4 inch Clark refractor. During a progressive phase in the late 1860s Rugby School acquired both, due largely to the benefaction of Bishop Temple, onetime headmaster. The object glass is an early masterpiece by Alvan Clark Sr., figured in Massachusetts on the eve of the American Civil War. Put simply - Clark made the finest lenses of his day. In fact, of any day! Perhaps only the great Fraunhofer can be said to vie with him. From its maker the glass crossed the Atlantic and into the possession of the Rev. William (Eagle-Eye) Dawes, one of the greatest observers of the nineteenth century and especially remembered for his work on the theoretical resolving power of telescopes. The "Dawes Limit" is still an everyday expression in astronomy.

In its heyday the Temple refractor was used by the eminent amateurs Seabroke and Wilson to compile a catalogue of over 3000 double stars. Using a Dollond micrometer they were able to divide and measure many difficult binaries. Seabroke gave this understated praise: "We have every reason to be content with its performance. On very fine nights, which are unhappily of very rare occurrence, it divides down to half a second or thereabouts. . . ." But it isn't double stars that I will be observing tonight. I glance up at the Moon. Is it getting hazier? No, just a smear on the windscreen. . . . Times have certainly changed in Rugby since Seabroke's day. I see the sickly yellow glow of a sodium vapour Disneyland reaching up to envelope the Moon - but the effect disappears within the town. I pull up at the gates of the observatory. Its green conical dome looms in the moonlight behind the gatehouse.

Mr. McMenemy, who looks after the starsplitter, is expecting me. He unlocks the door and flings it wide open allowing the chill air to pour into the building and start the necessary process of temperature equalization. We walk into the stone floored library and equipment store, past the disused transit room, and up three steps into the telescope chamber. The high shutters are opened with long poles to reveal a

slit of eastern sky. We both stand and look for a moment. Above the Moon the Twins, Castor and Pollux sparkle. After handing me a set of modern orthoscopic eyepieces my companion leaves telling me he will look in again after two hours.

I uncup the telescope and peer at Mr Clark's handiwork. The lens shines softly in the reflected moonlight. But I lose no more time. After fitting a low power ocular I swing the towering tube onto the Moon.

I focus in carefully . . . and there it is. I have never seen the Moon like this before. Even at x175 Plato reaches out to shake hands. There is so much to see. Mount Piton stands on the terminator, dazzling white, but resolvable into three main masses - a serpentine ridge stretching to the craterlet Piton A. The central peak of Tycho can be plainly seen as triple - the third peak classed by Wilkins and Moore as "difficult".

And these views are obtained with terrible seeing! As I had feared by the look of the sky, the air is very unsteady. I settle down to wait. As a more critical test I can't resist turning the telescope on the famous binary star, Castor. Its separation at the moment is around 2.5 arc seconds and slowly widening - so it is an easy job for an 8" Clark! Yet the split is not "clean". The two images shimmer and blur into splotches of light, and I am denied the sight of perfect diffraction rings.

Well - you can't have everything! I turn back to the Moon and commence my programme of work. The particular object of interest to me is lying innocuously to the South of the Mare Nubium - the crater Kies A. It is a small feature, only around 12 miles across - but it is a rare type of banded crater. It has a single E-W band. On the West wall the band actually seems to breach the rampart, and this gap causes interesting shadow effects under a rising sun. Under a setting sun very little is known about the East wall. Orbiter shots are inconclusive. This isn't my first view under local sunset conditions, but it is the first where I have a chance of coming up with anything new.

The seeing refuses to improve. I have to carry on regardless, my full concentration geared for the odd second or two when the air calms down. After a while I move from Kies A to Aristarchus, to Plato, to Piton, to Tycho - and back to Kies A. An hour goes by in five minutes. My pad begins to fill with notes and sketches. As the drive isn't operating I must give the tube the merest touch to watch the lunar landscape cruise through the field over and over again. Even with the lowest power only about a third of the half moon will fit into the field. When I adjust the Declination axis the telescope tracks N-S, and four lunar heavyweights near the terminator succeed each other in increasing splendour. Plato gives way to Archimedes,

Archimedes to Maginus, and Maginus to the tremendous Clavius. All these vast enclosures are in high relief, about to be swallowed by the long lunar night.

But my night is almost over. It is 2.30 - and as the Moon rises further the eye-end of the telescope falls, and I have gradually got into one of those 'in-between' positions - which are a real pain in the neck! It's a good time to break off. Out comes the flask and sandwiches. As I drop my concentration I suddenly feel how cold it is. Mr. McMenemy returns, happy in his insomnia, and we close up the observatory.

I start up my car for the return journey - praying that the heater will work. It does!

ASTROCALENDAR 1985 hopefully will be available in time for Herstonmouex 84. We aim to keep prices stable, so at 50p it is excellent value. It gives the monthly star/planet charts for 1985 and comes in the form of a booklet.

## Letter



Dear Sir,

I fear I cannot allow comments attributed to me in the April 1984 Journal to go unchallenged. In the Society Round-up section under Brighton A.S. (p 4) I am referred to as being "not altogether convinced of the accuracy of the conclusions" of an Astrologer using my horoscope as an example to explain his ideas. This comment is the complete reverse of the truth. I stated unequivocally at the meeting concerned that I was very greatly impressed by the accuracy of the astrologer's account of my character, as far as I could tell myself.

While there is severe doubt as to the 'scientific respectability' of astrology in statistical terms, as one of the humane disciplines with a far longer historical pedigree than any notion of 'exact' science, it deserves better respect than the howling abuse of blinkered astronomers.

Before condemning metaphysical systems we had better realise that there is little comfort to be had from the implacable mathematics of the universe without some system of belief.

Yours faithfully,  
Chris Green

This publication is intended to bring the F.A.S. to the attention of ordinary members of local societies. Future issues depend on your reaction. If you have enjoyed reading the articles or if you have any comments, for or against, please write to the Editor with your views.

# NEWS ROUND-UP

Many thanks to Ken Marcus for standing in for me for the last round-up. I was otherwise engaged in the Sheffield A.S. 50th Anniversary celebrations. They were a resounding success which made all the hard work in preparation so much more worthwhile. The work of the committee and members of the society was a credit to the amateur astronomer. For me personally, as President, I was proud to have been involved with the society during part of its history. To those 'young' societies - work hard to build traditions into the society and work harder to maintain them.

**AYLESBURY AS:** There was a record attendance at the March meeting, about 35 people altogether, including some visitors. This crowd prompted mention of a plan to join the meeting hut and the Barlow Building to increase room further. The materials were to hand - all that was lacking was someone to do the work!

Work on repairing the shutters on the observatory is progressing slowly. Some younger members have been busy painting window frames and the next job for them will be to coat the meeting hut with old engine oil. Nice dirty job for them!

Good weather during the May meeting enabled views of the Orion Nebula, Pleiades, Beehive and other objects through the 6-inch. Less energetic members watched video tapes of 'Sky at Night'.

**CLEVELAND AS:** According to the March issue of 'Polaris', section members have been active. A photo by David McClean, taken with a 50mm lens, shows the Andromeda Galaxy but amazingly also shows the Pinwheel Galaxy, M33, in Triangulum. The photo, according to John Nichol, shows well the size of the Galaxy, about 1° in diameter. David used colour film which was home processed although the report does not say which film he used.

During December 1983, two teams, one from Cleveland and one from Darlington, met at the Darlington Arts Centre to do battle for the Thomas Wright Trophy. Darlington were the winners. Thomas Wright was a telescope maker with North-East connections, who, in 1750 got fairly close to describing the structure of the Milky Way system long before Herschel.

The 10 inch Cassegrain reflector on loan from Teeside Poly. is now available for members to use. However, at the moment they do not have any eyepieces and members are requested to bring their own.

**COVENTRY & WARWICKSHIRE AS:** During March some members travelled to Northampton to the Northants Natural History Society (Astro. Section) for a talk by Patrick Moore.

Member Rob Moseley reports a fireball sighting on April 17th. He says, "01.18 UT, on looking up from the telescope - a brilliant fireball, magnitude - 6 (or greater), difficult to judge with Moon just past full. Slow moving, West to East through S.Hercules and Lyra, extinction just North of Deneb. Greenish white, flaring vivid red with 'Sparks' on extinction. No train left."

Blanked out by continuous cloud during March and the arrival of B.S.T. meant that observing at the College Observatory ended until September. During the summer work on the clock drive, dome and shutters will be carried out.

**EASTBOURNE AS:** March 15th saw a display stand at the activities exhibition at Bishop Bell School. Interest was shown in the society. A further display was held at the Central Library during April.

A members evening in March was highly successful. A Mr. Whistler, gave a brief description of the Brightling Observatory which he has recently purchased as a home. Like the nearby Brightling needle this was originally the work of one 'Mad Jack Fuller' and had several observing rooms, including a transit telescope. Now only the dome contains a telescope as the remainder of the building has been converted as a residence. Sounds most interesting Eastbourne, tell us more.

Updated publicity posters have been produced by Catherine Ross. A visit is to be organised to Henry Hatfield's observatory.

**HUDDESFIELD:** According to the latest newsletter 'Omega', the society has been rather quiet. A successful jumble sale raised over £20 for funds. Not so successful, however, were the events of January 6th when the evenings lecture didn't materialise due to 'temporary loss of contact with the speaker'!

There is to be another annual open week at the observatory during the summer.

The 1984 photographic competition had a high standard of work but unfortunately this was not matched by the attendance. There was only one member present. The winner of the best aesthetic photo was Chris Devoy with a shot of Orion rising over the Atlantic Ocean. The winner for the best technical photo was by Mark Sykes and Mike Henderson. A x800 through the 16 inch of the Moon showing Aristarchus and Herodotus and the celebrated Schroters valley. Exposure was 1/4 - second, eyepiece projection.

**NEWCHAPEL OBSERVATORIES:** Talk about planning ahead - an exhibition is to be held on March 31st 1986 in Hanley's award winning City Museum & Art Gallery. British Aerospace has already offered its full support. It will run for three months and will be entitled 'The New Universe'. The last major exhibition 'Man & The Stars' which was opened by Reg Turnhill in 1980, attracted over 26,000 visitors! Good news on the observatory front in that the electricity supply was restored following gale damage to three supply poles.

The 22 foot diameter dome of the Planetarium is to receive a new inner skin for next winter. The smooth interior of the dome is to be covered with very fine expanded polystyrene, this will then be figured to the same accuracy as the original surface and will not therefore effect the projected image.

May was the 20th Anniversary of the first foundations of the Newchapel Observatories complex. The complex is owned by four amateurs and is operated independent of any astronomical society. It is well worth a visit. Ring 07816 5205.

**ORWELL AS:** A 4 inch guide telescope for the 10 inch refractor has been completed. It has been constructed to allow a certain amount of independent adjustment in its position on the 10 inch. The idea being that when photographing faint nebulous objects one could guarantee that there would be no convenient star close enough to the centre of the field of view in the guide scope. It is attached to the tube by two extendable linkages and gives coverage of about 20 square about the centre of the field of view of the 10 inch. Hopefully a suitable

guide star will be found somewhere in the area around the object being photographed. A visit is to be made to the Cambridge University optical and Millard Radio Observatories in May.

**SHEFFIELD AS:** Dominating the activities of the society were the 50th Anniversary celebrations. They commenced with a Civic Reception on April 6th in the Town Hall, Sheffield. It was a superb 'do', with a spread of food and drink to 'Royal' standards. The Lord Mayor was presented with a painting from the society to the people of Sheffield to commemorate the occasion of the anniversary. It was painted by Curator Kim Lindley and was entitled 'Halley's Comet & The Pleiades Star Cluster - November 1985'.

The very next day was the Anniversary symposium - 170 people attended from as far south as Kent. A slight hitch when Patrick Moore 'rang in sick' on Thursday afternoon was overcome by our friend Professor George Cole from University of Hull who agreed to replace him. (Professor Cole will be at Herstmonceux this year.) The day ran incredibly smoothly, was very enjoyable, the committee and guest speakers were treated to a beautifully prepared lunch by Shirley Bower wife of Vice-President Gerry Bower.

The most important guest of the day was undoubtedly the wife of our founder, Mrs Liv Cox. Her presence made the day just that much more important. She was presented with a bouquet of flowers by Janet Bower.

Honorary Secretary, Mrs Nora Betts was overcome when we presented her with a certificate of Life Membership for her tireless and dedicated work. An honour so thoroughly deserved.

The exhibition 'A Golden Age of Astronomy & Space' at the City Museum was yet another success.

It was certainly a memorable part of the society's history and its success will be remembered in years to come.

The observatory is once again in operation following the construction of a new cell for the 12 1/2 inch.

**SOUTH WEST HERTS AS:** At the meeting in April, Dr. Henry King continued to inform and entertain members with a talk entitled "The Invention and Early Development of Astronomical Telescopes." He related his own attempt, as a boy, to construct a refractor, using a simple object glass, whose chromatic and spherical aberrations vividly reproduced the conditions under which the early astronomers had to observe, he admitted that the idea of overcoming these difficulties by employing long focal lengths never presented itself to him.

Allan Swan has constructed an 'elegant and accurate' planisphere. His computing efforts have led to the conversion of G.M.T. to sidereal time and to determine the rising and setting times of celestial bodies.

**WEST OF LONDON AS:** The June meeting is to be devoted entirely to WOLAS members and their gadgets. No talks, no theory - just telescopes, binoculars, computers astro things to buy and sell, etc. Members rights are usually good evenings and it is a good opportunity to invite the public.

The May meeting had John Murray as guest speaker. John has observed with telescopes ranging from an amateur reflector in the middle of Croydon to the splendid 1-m telescope at Pic du Midi.

The same meeting was to announce the winner of the month's heat of the observing contest for the Geoff Smith Trophy. The contest is for all observations, whether telescopic or not.

**WEST MIDLANDS AA:** Advertisement in the March issue of 'Nova' - 'Following the sad death of his Sinclair ZX81, John Randall offers for sale its MEMOPACK 32K. Although the computer has died its memory lives on . . . ' Phone 021 472 4617. Offers around £30.

A link has been established with a Spanish astronomical group. It would seem they do most of the things WMAA do except writing their magazine in English. Translators get in touch!

Chairman, Alan Wells, reports on the continued decline in the membership which he attributes to the current economic disaster that we all live in? That is his own personal view. His fellow member and Editor of 'Nova', Steven Lagoes seems to think otherwise in his Editorial of the March issue, 'Astronomy is THE cheapest hobby: there is no admission fee to look at the night sky, and the most valuable piece of equipment imaginable is also free - your eyes.'

STUART LONSDALE

Material for the next 'Round-up' should be sent to 16 Joan Lane, Hooten Levitt, Nr Rotherham, S Yorkshire S66 8PH

#### FEDERATION NOTICES

SUBSCRIPTIONS remain at £7.50 per society, but the subscription year which would have ended 30th April 1984 has been extended to 31st August 1984. The next subscription will therefore be £7.50 due on 1st September. Those societies with fewer than 25 members will pay £4.00. Of course subs can be paid now.

Items 13, 15, 17, and 18 of the constitution were amended at the AGM on May 6th to allow this change. The Federation's accounting year remains the same.

OFFICERS ELECTED FOR 1984/85 were:

President	Alan Drummond
Vice-President	Tony Balfour
Secretary	Rosemary Naylor
Treasurer	Ken Marcus
Editor	George Bolland
Publications	
Secretary	Brian Jones
Meetings Organiser	Michael Pace
Publicity Officer	Bob Owens
Education Officer	Dave Powell
Society New Editor	Stuart Lonsdale

These make up the Council together with

the regional representatives, these being: SAGAS Representative, Mike Haggood  
Yorkshire " Philip Heppenstall  
Chilterns " David White  
Addresses for Council members can be found in the end cover of the April 1984 FAS magazine, except for the newcomers.  
Bob Owens, 3 Duxford Close, Llandaff, Cardiff CF5 2PR  
David White, 54 Burr Street, Dunstable Bedfordshire LU6 3AG

COMPETITION WINNERS at the Convention of 12th May were:

Cotswold AS for the photographic competition, judged by Alan Dowdell. Kim Lindley for the astro-art competition.

HANDBOOK 1984/85 will be available in the Autumn. The change of publication date parallels with the extension of the subscription year.

FAS TENTH ANNIVERSARY:

I am ashamed to say that I was well aware that the FAS is now ten years old, but kept quiet about the fact because I was too taken up with removing myself lock, stock and telescope to Todmorden. However, the anniversary was remembered at the AGM, and it was suggested that we put on a display of early FAS material at the RGO on Saturday 6th October.

If you have any early photographs or other memorabilia of those early days, (when we all looked younger), please do send them to the secretary. They will be returned after Remembrance.

SECRETARY'S NEWS:

I am no longer able to produce free circulars, having left my previous office job. My lack of access to duplicating machines means I shall be dependent on others to produce society news - letters. Happily, George Bolland is vibrating with ideas and the desire to communicate, so I look for an improved news service to members via FAS publications.

My change of circumstances has been brought about by my move to Caldersdale, West Yorkshire, where I have taken up residence in order to be close to the Amateur Astronomy Centre. My house is one mile from the AAC site, so I shall expect to see some of you there. My new address is:

Rosemary Naylor, 256 Bacup Road, Todmorden, Lancashire OL14 7HJ.  
(The postal address is Lancashire, though the county boundary puts me in Yorkshire.)

One member society has recently resigned from the FAS on the grounds that as they cannot attend either of the two Federation meetings, there is nothing in it for them. Meanwhile, having toyed with the idea of holding more meetings for FAS members in a variety of locations, I am now coming to the realisation that more and more local societies are themselves organising meetings which could almost be described as national meetings.

The S E Essex AS and the Derby & District AS to my knowledge, have recently held meetings which have been supported in larger numbers than the Federation's own meetings. Perhaps, and I am thinking aloud here, this is a positive development which would relieve the need of the FAS to cater for all parts of the country. What do members think? Certainly it is difficult finding a Saturday free of astronomical meetings and frequently they clash. Have we reached saturation point?

Rosemary Naylor Secretary FAS

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## COMPETITIONS

The competitions will be open to all members regardless of whether or not they attend, but those not attending should please send the material in to George Bolland, 25 Deneside, East Dean, Eastbourne BN20 0HY, ensuring that they include sufficient stamps for return postage. Items will be accepted on the day or by prior posting to the above address. All material submitted must be the work of the person or society in whose name it is entered and competitions are only open to members of the FAS so please make sure that your society has paid the appropriate subscription.

Prizes will be awarded at the sole discretion of the FAS Council and judges' decisions will be final.

Could you please ensure that each item entered for any of the competitions is clearly marked with the name, address and the Society of the person entering and also, in the case of photographic and art competitions, a title or description of the item and the photographers name.

1. **MAGAZINES** Entries must consist of two different issues only, each to have been published in the year ending October 1984. Each copy should be marked with the Society name, Editors' name and date of issue, and it would considerably help if these could be posted to the organisers before the event at the above address.

2. **ASTRO ART** Paintings, sculpture, pottery, pencil or ink drawings, in fact, any art form Limited to six items per person.

3. **TELESCOPES** All instruments must be amateur constructed (apart from the optics). There is no limit on the number of instrument per person.

4. **BLACK AND WHITE PHOTOGRAPHIC PRINTS** Any size, mounted on card ready for display with title, photographer's address and Societ Maximum six prints per person.

5. **COLOUR PHOTOGRAPHIC PRINTS** Arrangements as for black and white prints.

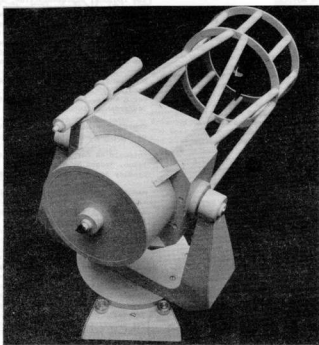
6. **COLOUR TRANSPARENCIES** Maximum six slides per person. Please mark each slide with name and title and include a list giving details of the objects shown in the slides.

G. BOLLAND

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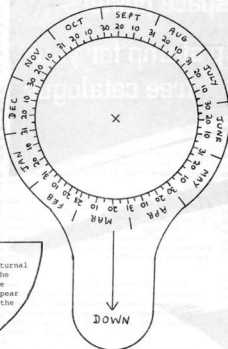
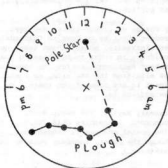
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A 1/10 scale model of the proposed 40 inch reflector for the AMATEUR ASTRONOMY CENTRE on the Yorkshire/Lancashire border. Further information on the project can be obtained by sending a S.A.E. to the A.A.C., 111 Todmorden Road, Bacup, Lancs.

A STAR CLOCK OR NOCTURNAL

By C.M. Lowne Esq



INSTRUCTIONS

Facing toward the North, hold the Nocturnal with the arrow pointing down. Set the inner disc so that the drawing of the Plough matches the way the stars appear in the sky. Read off the time on the inner disc which is against today's date on the outer disc. Add one hour if Summer Time is in force.

HOW TO MAKE THE NOCTURNAL:

1. Paste a photocopy of the diagrams on, to thin card.
2. Cut out carefully around the thick lines.
3. Push a drawing pin through the centres of the discs (Marked X) so that the small one rotates on the larger one.
4. To hold the drawing pin firmly, it can be pushed into a small piece of wood at the back of the large disc.
5. Stick the instructions on the back.