



Federation of Astronomical Societies

issue number 13

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SOCIETY NEWS ROUND-UP

by Martin and Pam Chick

Thanks to all the societies who have sent us information and newsletters. This time there are 34 societies mentioned. It is difficult to write the same amount about each society as some have had major events in the period, but some newsletters, whilst having excellent articles about supernovae etc., have very little information about what the society as a group has been doing.

We do enjoy reading all the information and newsletters you send and we look forward to receiving the next lot. What are the other FAS members doing?

AYLESBURY AS: Horace Dall's observatory has been dismantled and the observatory and telescope have been given to the Luton College, Putteridge Park. His other telescopes and experimental instruments have gone to the Science Museum.

The society has had many talks and a quiz based on the board game Trivial Pursuits. A talk from Phillip Robinson gave details of his old society - West Yorkshire AS - and he followed this by an account of his trip to a Palma which included a look round the observatories and a night observing on the instrument.

In January, one of the society's oldest members died. Bert Pedel was nearly 94 and saw Halley's Comet twice in his lifetime.

BIRMINGHAM AS: Most members of the society had a good view of the lunar eclipse until 11.00 o'clock when cloud finally caught up with them. Paul Stephens would have had some good photographs if he had remembered to take the cap off his 6inch RFT. Peter Prego and Derek Buckley both obtained good photographs.

The keen observers of the society observed Mars right through its apparition and opposition. The drawings made during this period have been used to make the society's own map of Mars. They have also produced a detailed map of Jupiter.

Two telescopes have recently been purchased or members to borrow; a Criterion 4000 Schmidt-Cassegrain and a Zeiss Telemeter.

BOSTON ASTRONOMERS: This enthusiastic group are holding their second conference on 1st August 1987, entitled "From Newton to the Space Age". A first class programme of speakers is planned. Their first conference was much enjoyed and this promises to be as good. For more information contact the chairman, Mark Dunn, on Boston 50999.

BRADFORD AS: Neville Kidger completed a marathon lecture by talking for 28 hours about man's exploits in space, and earned himself a place in the Guinness Book of Records. The event was held to raise money for charity and for the society. Work has already started on the Christmas draw with shops and business contributing prizes.

During the year, a number of exhibitions are planned at various locations in the city centre.

BRAINTREE, HALSTEAD & DISTRICT AS: Steve Hedy gave a lecture on "Major Observatories

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of the World" last Autumn. Work has been started on the society observatory. A farewell meeting for Bill O'Shaughnessy was held in December. Bill has now moved to Devon.



From the back left:
Nigel Huxford and Heather Couper with
Bill O'Shaughnessy and family at Bill's
farewell party: BRAINTREE & HALSTEAD &
DISTRICT AS

BRIDGEND AS: The society hold regular talks on various subjects ranging from noisy meteors to eruptive variables. Regular observing sessions are held, weather permitting, at Steve Lubbock's observatory in St Brides. The Christmas meeting was a quiz where one team did rather better than the other.

BRITISH AEROSPACE (BOLTON) AS: Dr Allan Chapman gave a lecture about the scientific revolution in the 17th century. He has invited the society to a museum at the Centre for Medieval and Renaissance Studies where he lectures in Oxford.

David Kettlewell of Bolton AS gave a talk on astrophotography and a few members have now taken up this hobby.

The observatory site has been made safe and work should have started, to be completed by the end of the year.

BRITISH METEOR SOCIETY: This national and international society is for observers. A reduced subscription is offered to anyone who submits more than 300 hours of observations in one year. (Do we have that much clear sky in this country!!) Recently published are the RMS Radiant Catalogue 1986 and the RMS Handbook of Meteor Computation.

CARDIFF AS: Since Christmas, the society has had many meetings with lecturers from the society and from neighbouring societies. Fourteen members went on the society trip to the Weather Centre at Bracknell, for talks, videos and a look at the work done there. The most interesting part was meeting the retired naval officer responsible in the storm tide warning centre which operates from late August until April, covering the worst of the weather. Unfortunately he could not say whether a good summer is likely.

COTSWOLDS AS: The Messier league has passed the 1000 observations mark with Richard Warden in the lead having observed 10 Messier objects. We were fortunate to have invitations to two of the Cotswolds meetings in May. The first was a star party held at John Fletcher's home where 40 people crowded into his sitting room to hear many talks. The day's events started at 2pm and the talks went on until 11pm with plenty of breaks for coffee. There were opportunities to get to know other visitors from Bristol, Bridgend and Worcester societies. After meals gathered at the local fish and chip shop or the Chinese take-away we talked until midnight, full of information, enthusiasm and admiration for this hard working group of astronomers.

The following week we went to a fascinating talk by Brian Manning on prime focus astrophotography. This included details of how he built his observatory and telescope in the war years, and the work he has done since by producing some amazing photographs. The talk included some practical demonstrations involving water and electricity which must have made our host, Tony Ireland, slightly nervous about what might happen to this immaculate lounge.

DERWENTSIDE AS: The society held their first social evening in December, consisting of a quiz followed by a buffet. Work has continued on the 6inch Dobsonian; the cell tube and cell box are now complete.

GUILDFORD AS: The society hosted the SAGAS convention in June. Events included talks, trade stands, film and slide shows, quizzes and competitions.

HAMPSHIRE A GROUP: The Cranfield 20inch telescope mirror has been removed and replaced by a new 15inch mirror courtesy Robin Gorman. This new mirror, although smaller, is of a higher optical quality than the 20inch, so better results are expected. The 16inch telescope saw "first light" in January and this event was followed by four nights of clear skies, which must be a good omen.

AS OF HARINGAY: This society, whose patron is Arthur C Clarke held a public showing of the films 2001 and 1010, in conjunction with the North London Cinema Society. The films were supported by a space age exhibition. The event was to help raise money to create a Space Centre for Education at Alexandra Palace, and to install a dome on the north west tower to house the society's telescope.

HUDDERSFIELD AS: This society has started running a 26 week telescope making course for members of the public, with automatic membership of the society included. The cost varies from £100 to £185 depending on the choice of telescope to be made. The price includes all the materials and the tuition. Huddersfield have an active group of juniors and their exploits include playing Treasure Island using the cross-staffs they have made to simulate navigating at sea.

LEEDS AS: This society meets once a month and so far this year talks have included "Astronomy in York" and a Computer Evening. This year's trip was to Jodrell Bank.

SPACE AND ASTRONOMY CLUB: The club open to the public from April onwards, and in 1986 with observing as the main interest, the group plans all night observing sessions including observations of Comet on.

LONDON AS: Stephen Karpel gave a talk this holiday to the 18th century observatory of Maharaja Samaj Jai Singh II, Jaipur in India. The Maharaja commenced building the observatory when he was only 13 and it was completed in 1734. The observatory was restored in 1900 and enjoys fine weather except in the monsoon season. At another meeting Eric Zuckerman gave a lecture called "100 years of nothing - 1937". The subject turned out to be relevant.

DAY SCHOOL OBSERVING SOCIETY: The society was formed in September 1985 and now have approaching 50 members with many regular observers. Colin Goodman of Chester lectured in June 1986 on "Dust and Light in the Solar System" and returns with a lecture on "Life off Earth". Trips to Jodrell Bank, the London Planetarium and Cambridge are planned for this year. On September 14 Rick Moore will give a talk on "Voyager the Outer Planets" and members of the society are invited by ticket. Anyone interested in these lectures and visits can contact the secretary; address in the FAS book.

NOTTINGHAM AS: Over 30 members of the society enjoyed a talk on variable stars by their own member Owen Brazell. John Mason recently gave an illustrated lecture on "Comet Halley" at one of the regular monthly meetings held on Thursdays at Newstead Wood, Orpington. Regular observing sessions are planned during the coming year. A new style society magazine is in the final editorial stage. New members will be attracted, and money raised, at the Bromley Carnival in August. Contact for the society Miss L. Jones, 263 Crescent Drive, Petts Wood, Kent BR5 1AY

ORWELL AS: Several members went to the University of Essex to hear a lecture on "Comets, Comet Halley and Glott" by Dr Susan Anna-Lawler of St Patrick's College, Drogheda. For six months, the society has dates fixed for a visit to the Norwich Astronomical Observatory, but bad weather and previous engagements had thwarted every attempt. Finally in February a date with other societies was found and several members set off in the direction of Norwich. As they arrived at the 30inch telescope site, a heavy layer of haze was present but this did not stop observations of Messier objects for a period of over two hours. After some observing with the 10inch they adjourned to the club house.

At the March meeting, Alan Smith and Ray Gosman gave a talk on their trip to Australia in April 1986.

ORWELL AS: Observing sessions have been held at members' homes despite the weather's attempts to cloud them out. They have had interesting talks including one on meteor observing and the use of a convex mirror to take a wide angle lens. George Talbot, who was a navigator with Shell tankers, talked about using the stars, sextant, chronometer and tables to navigate. The society had a trip to the Orwell Observatory managed to see Jupiter and the Moon when the weather forced them to adjourn to the

NOTTINGHAM AS: Dr A Chapman gave the Christmas lecture about Tycho Brahe and the social atmosphere was at the Hope Hospital Staff

last year, the society gained 20 members, most of whom have been keen observers. The trips this year will be to the Millard Space Science Laboratory at U C London and to Newchapel Observatory.

SCOTTISH ASTRONOMERS GROUP: An Astronomy Day was held in Inverness last September when Fiona Vincent and Roger Stapleton took over an empty gallery at the Museum and Art Gallery and set up display material and an inflatable planetarium. Moray Firth Radio covered the event with live broadcasts as part of their breakfast show. Planetarium shows and slide shows ran all day and there were two talks. Observing was planned for the evening but the cloud won again. Over 700 people visited the astronomy gallery during the day.

SHEFFIELD AS: At the Christmas meeting, the usual astronomical auction was held and £90 raised. Ted Bailey raised £70 from his sponsored Geminid meteor watch. A motor drive has now been fitted to the 12inch Cox telescope (named after the society's founder). The telescope is 31 years old and housed in an observatory at Norton, Sheffield. Stephen Drinkall and Wilf Naylor made the motor and the electronics. The new drive fits onto the old gears formerly manually hand cranked.

SOLENT AMATEUR ASTRONOMERS: The Toothill Observatory will be re-opened in early June by Ron Arbour. The club now has 30 members and it is hoped that observing will boost the membership. The sky at the site is dark and this should be of benefit to observers from Southampton and the surrounding area.

S W HERTS AS: Allan Shaw demonstrated some problems involved in lens making and the methods he is developing to deal with them. Bob Garner and Clive Jackson showed slides of the conjunction of Mars and Jupiter. Frank Phillips gave a talk on his trip to La Palma. Another talk has been on Sir William Herschel.

SOUTHERN AREA GROUP OF AS: BRIGHTON AS held a Spring social evening with an oriental theme, with Chinese food and tea being served. At the Brighton Festival four evening observing sessions were planned to be held on the new front.

MID-KENT AS: Now have their insurance money for the damage and loss from a break-in last Summer. This money has been used to purchase an Amstrad PC, BBC Master, disc drives, printer, monitor, slide projector and an overhead projector. The club hut now has an alarm system. Weather satellite equipment is now running using a 1 metre dish and a dipole.

SOUTH DOWNS AS: have had a good year for members but most observing has been clouded out. The winter astrocamp was extremely wet, by day but the nights were usually dry. A barbecue on December 31 was a success to celebrate the New Year and on that night 12 people managed to sleep at the camp. There is talk of an Easter camp next year.

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<p>FOR SALE</p> <p>HEAVY DUTY TELESCOPE FORKS, made from 3 inch square box section steel. Inside measurements 15.25 inches gap x 24.5 inches deep. 2 inches diameter solid steel ground shaft 15.25 inches long. Complete with two 2 inches Plummer Block and two 1 inch Plummer block self centering bearings. As new condition with no rust.</p> <p>Cost £285 new but will accept £110.</p> <p>Phone Tony Gliclman on 061-969-9272 (Sale, Cheshire).</p>

WELLINGBOROUGH 6 DISTRICT AS: At the meeting there were three audio-visual presentations by Kettering member Freville; in April there was a demonstration of black and white photography. In May group visited Leicester University, and a clear sky they were able to observe at 16inch Newtonian-Cassegrain.

observatory demonstration was given by Fitzsimmons. Report sheets were distributed to cover meteor, solar and planetary, 1 and deep sky observing. The society has joined the Chiltern group and looks forward to links with the other societies. A visit is planned to the Science Museum in June.

WEST OF LONDON AS: Their weekend observing this year was in Emsay during April just a few days before New Moon. Observing sessions are planned on a regular basis including the Aquarid Meteor Shower. A Lawrence from GQC who studies active galaxies, spoke about them in May. This includes a practical demonstration of making by Norman Fisher.

WEST MIDLANDS AS: The temporary editor John Randall thanked Steve Lago for his years producing the magazine Nova. Steve is now working on some new projects for and perhaps for other societies also. He has introduced as a feature a selection of scientific news cuttings but would someone else to take over the magazine. Contact is maintained with a Spanish AS and problems are arising over translating.

WEST YORKSHIRE AS: This society has lost Pluto using the 18inch telescope on April 16. There is an observatory test to be passed before members can use the telescope without supervision. The group attend to hold many star parties including the FAS at the AAC, a weekend in November. Glaisdale near Whithby, and in December Blakey Ridge. Pete Lunn wrote an article observing and the weather February 86 January 87. The words cloud, rain, drizzle and fog feature strongly in the reports. Tating computer is now in use in the observatory.

WORCESTER AS: The March meeting was a series of short talks by members covering the subjects "Halley's Comet from S Africa", "Apollo missions to the Moon", Ken Sheldrake slides of constellations and clusters taken from his backyard, and Arthur Wilks showed slides which illustrated the effectiveness of his new lens design.

NEWSLETTERS FOR INCLUSION IN THE NEWS ROUND-UP TO BE RECEIVED BY THE EDITOR SEPTEMBER PLEASE.

Martin and Pam Chick, 25 Calderton Hill, Gwyn Miskin, Near Porypridd, Mid Glam. ZLL

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<p>SECONDHAND AND OUT OF PRINT BOOKS</p> <p>astronomy, space and related subjects for sale (and purchased).</p> <p>Send 9x4 S.A.E. for current list details. Please quote Ref FAS/N.</p> <p>IAN HOWARD-DUFF Highfield Fairview Road Headley Down Hampshire GU35 8HQ</p>
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CONTRIBUTIONS are invited to what hopefully will become a regular feature describing our observations, preferably but not necessarily, team efforts. While in no way wanting to suggest that routine observations are boring, or of no consequence, this column is intended for reports of a less common nature.

THE GRAZING OCCULTATION OF 1986 December 6 was observed by BRISTOL ASTRONOMICAL SOCIETY information supplied by Maurice Brain

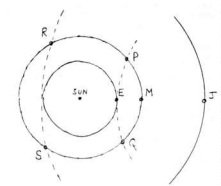
The Bristol AS have for many years carried out observations of lunar occultations. Nevertheless they admit their observations last December were not as good as they could have wished. Grazing occultations, as seen in any particular region, are not common events. Their importance lies in the opportunity given to a team of observers to draw up the lunar profile as the grazing occultation progresses at whichever polar region is involved. Although the lower lunar latitudes have been well mapped by manned and unmanned spacecraft, the poles are still poorly surveyed. 12 years ago, the Bristol team discovered a new mountain on the moon during a graze.

They were back in action again on Saturday December 6 last year, when the path of the grazing occultation lay on a line from South Devon to Lincolnshire. A site in the Cotswolds was selected and detailed locations were drawn up. The time was early evening, the weather was perfect, and the Moon was 2 days short of first quarter. 36 members with their 17 telescopes ranging from a 4 inch refractor to 6 inch instruments dispersed themselves according to plan along a minor road on a hill top near Dursley. 16 stations were designated across the width of the predicted track.

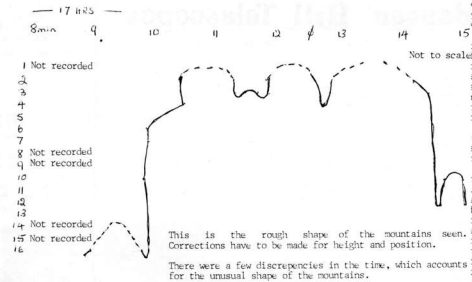
As the Moon moved across the starfield in the constellation of Capricornus, the star in question, 6.14 mag δ Capricornus, alternately disappeared and reappeared as the mountains of the south coast intermittently blocked its light. For some observers the disappearance happened four times and one member reported five disappearances as the rugged limb of the Moon made its way eastwards.

ANDERSON'S THOUGHTS FOR CLOUDY NIGHTS

Sham Young, of Dundee AS, a member of the Scottish Group, asks that the following argument should be considered.



Let E be the Earth. Let M be a superior planet, eg Mars. Let J be another superior planet, further out, eg Jupiter. Can it be shown that, although the orbit of Mars is closer to Jupiter than the orbit of Earth, on average the Earth is closer to Jupiter



In order to time successive disappearances and reappearances, each station recorded their observations on tape over a background sound of a radio broadcast. At the same time, one member recorded the Rugby time signal against the same broadcast. This way it was possible, at a later date, to fix a time to each event recorded at each station. Maurice Brain reports that after listening to all the tapes he was heartily sick of the background broadcast, from the film 'The Third Man' but this method of recording was simpler than each station having to receive the Rugby signals independently.

The derived profile of the Moon is shown.

Information on grazing occultations can be obtained from the International Lunar Occultation Centre in Japan. (The IOO handed over responsibility for this work five years ago) The address is:

Geodesy and Geophysics Division,
Hydrographic Dept.
Tsukiji - 5 Chuo-ku
Tokyo 104 Japan.

Consider the diagram. For simplification we can reduce Jupiter to rest (and hence Earth would have an apparent period of 13 months etc) The dotted arc RS represents an equi-distance from Jupiter equal to the maximum distance the Earth can attain from Jupiter. The dotted arc PQ represents the equi-distance from Jupiter equal to the minimum distance at which the Earth can approach Jupiter. If we now consider the arcs of Mars' orbit between P and Q and between R and S, we see that the length RS is greater than the length PQ. Hence Mars spends more time between R and S than between P and Q. If Mars was between P and R or Q and S it would seem that on average, Mars would be at an equal distance from Jupiter as is the Earth from Jupiter. Would it seem then, that on average, as seen from Jupiter, Earth is closer than Mars? Similarly, would Earth be closer to Saturn than Jupiter or Mars, on average, over a long enough period?

Of any three planets, A, B and C in that order out from the Sun, A spends more time closer to C than B does. On average over many centuries, the planet that is least distant from Neptune is Mercury out of the other eight. This remains near enough constant, plus or minus Mercury's relatively small distance from the Sun. This phenomenon has no relation to the one about which planet passes closest to Pluto, ie Uranus (and not Neptune as most people would think) due to a combination of Pluto's eccentricity and a resonance in the periods of the three outermost planets.

IN THE SKY
I am always mistrustful of bright lights that suddenly impinge on my vision whilst driving at night on the motorways. With all the possibilities for reflections in the windscreen, reports of lights in the sky must be treated with caution. However, the following is confirmed by a second witness. Can anyone else confirm?

A REPORT OF A RECENT FIREBALL

by Robert Townsend; Stevenage & District AS

The object was sighted on the morning of 1987 March 29 at 02h 45m (Sunday morning) by myself and John Horne whilst I was driving a car eastwards along the M25 London orbital motorway. John was in the front passenger seat. The fireball appeared directly in front of the windscreen, at an altitude of about 30 degrees, so we both had a grandstand view, and could not fail to see it. I first noticed something unusual when I glanced at a rather odd looking 'blob' of bright deep orange light towards the upper right of the windscreen. My first thoughts were that it must be Mars or perhaps a bright orange star such as Arcturus. Then I realised that it was slowly moving, an artificial satellite or an aeroplane perhaps? It was definitely moving, too slowly for a normal sporadic meteor. It was moving almost directly downwards and slightly to the left. Then to my amazement it turned a brilliant white and enlarged into a comet-like streak of light. It attained a magnitude of about -4 to -5. It picked up speed a little, became thinner and then faded as it first turned yellow, then orange, then deep orange, red and deep red. By now about 2 or 3 seconds had elapsed. John had seen all these events as well. But the best was yet to come! The object brightened again to around magnitude -5, grew much bigger and turned into a very lovely green colour. This lasted for another couple of seconds until it vanished long before reaching the horizon. John agreed with me that it was a fantastic display, there was the possibility that it was a firework rocket since it displayed such a range of colours. But why over the M25 at 2.45 am on a Sunday morning in March? And the object did not explode into a cascade or fountain of glistening particles at the end of its trail, as fireworks usually do. It appeared to be something burning up in the atmosphere, either a piece of meteorite or a man-made object. I have seen fireballs before, white ones, orange ones, deep red ones, and even a blue one once, but never before a multicoloured one ending in bright green. I believe, from

At the Annual General Meeting, held in Coventry on May 9, the Council elected were:-

President	Bob Owens
Vice-President	Tony Balfour
Secretary	Dave Powell
Treasurer	Ken Marcus
Editor	Rosemary Naylor
Editor Council Newsletter	Bill O'Shaughnessy
Handbook Editor	Brian Jones
Education Secretary	Eric Zucker
Society News Editor	Martin Chick
Assistant	Pam Chick

Philip Heppenstall has stepped down from the Council, due to pressure of other commitments. Like-wise, Tony Balfour was unable to give as much time as he would have wished and retired from the presidential office. Otherwise there is little change. Bob Owen, already working hard for the FAS has become president.

The Federation balance sheet continues to do just that and the treasurer was agreeable to holding the subscription rates yet again at their previous level. Subscriptions become due in September at the two rates £7.50 and £4.00 concessionary.

There was some discussion on light pollution. If societies have any comments to make on this subject, they should write to the editor.

It was suggested at the AGM that we might hold a meeting at Jodrell Bank in March, this being the month on offer to us from that establishment. After Easter the public are admitted and we should not be able to take over the premises necessary. However, subsequent to the AGM it has become apparent that the rooms at Jodrell Bank would only be available for the period before early afternoon as winter opening to the public begins at 2pm.

We must now look for an alternative venue if we are to hold a northern meeting. It was felt that we should not meet again at the Amateur Astronomy Centre until the basic facilities had improved.

Here again your views should be addressed to the editor or to the Council.

***** EDITORIAL *****

In the last issue, I wondered how many readers had located their current local astronomical society via the good offices of the secretary of the FAS. Having, during my term, directed 250 people to a society, I confidently expected a two-figure number to reply to my appeal. Your response was underwhelming! There was one positive reply in the post and one verbal acknowledgement at the AGM.

In the April issue of "POPULAR ASTRONOMY", the house magazine of the Junior Astronomical Society, an address list of local societies was published, as supplied by the FAS. The circulation of PA is over 2000. Our thanks to the editor, Ian Ridpath, for this free publicity.

Not many people can be unaware that there is now a new British astronomical magazine in the newsgroups. This is "ASTRONOMY NOW". The first two quarterly issues have been well received and the magazine will shortly go monthly. Many of its readers will have had no contact with local groups. The editors of Astronomy Now invite local societies to write in with news for publication on their Societies Page. This is an opportunity not to be missed. Your news could be read by over 20 000 people. The address to write to is:
The Editor, Astronomy Now, Intra Press, 16 Garway Road, London W2 6NH

We should acknowledge, with gratitude, that it was Ian Ridpath who first introduced the idea of publishing local society activities in the JAS magazine some 14 years ago - a feature which has run continuously under the title Amateur Scene since then.



The photograph shows Tony Ward having received his prize from the president; Bob Owens.
Photographer: Geoffrey Johnstone

At the convention following the AGM, prizes were awarded in the photographic competitions as follows:-
First prize: Tony Ward of Bristol AS for a set of black and white prints of excellent astronomical quality.
Second prize: Bernard Abrams of Cotswolds AS for a set of black and white prints showing excellent exposure and guiding.
Third prize: Robin Scagellor West of London AS for a selection of colour prints.

PUBLISH YOUR SOCIETY ANNOUNCEMENTS FREE IN SOCIETIES NOTICEBOARD

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The WELLINGBOROUGH & DISTRICT ASTRONOMICAL SOCIETY is looking for articles/observations for publication in the society newsletter. Please send contributions to:
Stephen Williams, 120 Brickhill Road, Wellingborough, Northants, or to
Alex Lovell, 6 Red Hill Crescent, Wollaston, Wellingborough, Northants

THE YORKSHIRE GROUP ANNUAL ASTRONOMICAL COMPETITION will be held on Saturday, 1987 October 17 at the Rosse Observatory, Pontefract; 2.15 to 5.30 pm.

Contestants compete for the Radio Leeds Cup.

All societies in Yorkshire will be circulated, but if you haven't been contacted yet, details from:

DEREK HUFTON, 36 Eastwell Croft, Moor Lane, Carleton, Pontefract, West Yorkshire WF8 3RZ
Tel: 0977 794377

HORNCASTLE ASTRONOMY WEEKEND 1987

The 15th Horncastle Astronomy Weekend will be held on 1987 September 18 to 20 at the Residential College, Horncastle, Lincolnshire.

A full weekend of lectures will include such topics as Lunar Geology, Molecular Clouds, Stonehenge, The Scale of the Universe, The Orion Nebula, Time, and current progress at the Amateur Astronomy Centre.

Places on the course are limited in number so bookings should be made as early as possible to avoid disappointment.

The cost of the weekend is:
Single room preference £46.50
Willing to share £43.00
Non residential £32.00

A non-returnable deposit of £10.00 will secure a place on this well established course. For details send s.a.e. to:
'Course Organiser'
P L Money, Valley Cottage, Winceby, Horncastle, Lincs LN9 6PB
or telephone 065 888 296 after 7pm.

ASTROCAMP 1987

The 7th Summer Astro-Camp will take place from August 8 to 22.
Location is again: Bernard Sunley Activity Centre, Hindleap Warren, Forest Row, Sussex

Camp fees are £1.25 per person per night. Campers provide their own tents etc but the organisers provide a whole range of activities (in addition to Perseid spotting) including Fancy Dress barbecues, swimming, sports, team quiz, orienteering etc. Also visits to local places of interest including the RGO.

Full fact sheets can be obtained from the organisers: NORMAN and MARGARET FISHER, 1 Dagmar Road, South Norwood, LONDON SE25 6HZ (enclose s.a.e. please) Tel: 01 771 0477

ASTROPHOTOGRAPHY

by Geoffrey Johnstone, Tudor Cottage,
Stoneleigh Road, Blackdown,
Leamington Spa CV32 6QR

Photographing Clusters

Galactic clusters, together with their big brothers the globulars are always a good target for the visual observer and the photographer. The beauty is that there is usually no doubt when you have found one as they are mostly quite bright. From the photographer's point of view, particularly with the galaxies, there is no problem in finding a guide star, in fact you are spoilt for choice. Exposures do not have to be very long, particularly with modern fast films. Typically one minute with an ISO 1000 film will record many stars in the larger clusters. A few newsletters ago I mentioned how I had been using 3M 1000 slide film very successfully but had received an excellent report of Agfa Professional slide film. I have been using this film since September and agree that it is superb.

The two photographs, one of M35 and the other M36, were taken using Agfa 1000 and then copied onto Kodak 2415 monochrome negative film using a slide copier. The negatives were then printed onto Ilford Multigrade paper with a number five filter. Although the Agfa 1000 is a coarse grained film, this does not show in these prints as they are only white dots on a black background.

I have also used this film for photographing Jupiter and Venus, again with pleasing results. With a film of this speed, Venus requires only a short exposure even with a considerable image amplification. Detail on Jupiter was quite interesting with the Red Spot hollow noticeably orange in colour.

As the nights and mornings are getting lighter, there is less opportunity for astronomical photography. Now is the time to prepare for the Autumn and I would suggest that you identify those objects that interest you and are best placed for observation and photography. To me, September is the start of the astronomical season, and the two best objects to turn your telescope to at this time will undoubtedly be M13 and M92; the two marvellous globular clusters in Hercules. I would be most interested to see any successful photos of these objects. I will publish mine in the next newsletter unless I receive some from you that are better.

FUTURE DATES

Saturday October 3: Annual Convention at the Royal Greenwich Observatory - a full day of speakers, events, visits, trade stands, competitions. Perhaps the best date in the FAS calendar. If you plan to attend, entrance will cost £2.50 per person. Write to Ken Marcus for details. At this stage the programme is still being formulated, and arrangements for the evening meal still to be discussed in Council.

RATES FOR DISPLAY ADVERTISEMENTS

Full Page	£65
Half Page	£35
Quarter Page	£19

Smaller advertisements are charged at £1 per single column cm with a minimum



ABOVE:

M35 1987 Feb 18
Agfa 1000 slide : 10 min : converted to 2415
: 254mm : P.F.

BELOW:

M36 1987 Feb 18
details as for M35



LETTER TO THE EDITOR

67 Thornbridge Road, Deal, Kent
22-2-87

Madam, In May 1986 the SE Kent AS received a circular from the USA advertising a new journal called "UNIVERSE". We decided to take up their offer of a three month trial subscription, and paid £11.00, but nothing happened, no journal, no refund. Have other societies had a similar experience and managed to get their money back? We have written to the publishers; McGraw Publishing Corporation but to date have received no reply. Yours, Mrs Sue Buckman

PS at 20.6.87 we have still had no reply.

VIDEOS

Societies can now buy two Space Videos, ea over 1 hour long, as follows:

"Spacewatch" - 70 mins - an encyclopedia of space from Big Bang to manned space exploration. It is divided into 6 modules for study.
"Race to the Stars" - 2 complete 30 mins programmes. The first from Sputnik 1 Shuttle; the second a guide to constellations, nebulae etc.

These are available from SPACEPRINTS, 11' High Street, Norton, Stockton-on-Tees Cleveland, TS20 1AA, who will supply more information on request.

The FAS has not been offered sight of these but Spaceprints claim they are produced to broadcast standards. If any society should buy either or both, (at £13 plus VAT each) the editor would be grateful for a report.

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Rosemary Naylor, 256 Bacup Road, TODMORDEN, Lancashire OL14 7HU

BOOK REVIEWS

HISTORY OF ROCKETS AND ASTRONAUTICS
R Gargill hall; Editor
AAS History Series Vol. 7 1986

This two-part volume published by the American Astronautical Society contains papers tracing some aspects of world astronautics history as presented at four symposia between 1969 and 1972.

The volume, published as two parts, contains four distinct sections covering early solid-propellant rockets, concepts, theories and analyses after 1880, the development of liquid- and solid-propellant rockets from 1880 to 1945 and rocketry and astronautics after 1945.

Much of the early part of the volume describes the development and uses of solid-propellant rockets in, for example, Sweden and Hungary as well as other areas. There is much to interest in this section.

In Section 2 the theories of the Soviet pioneer Konstantin Tsiolkovskiy are described in two papers from the USSR and the study of the Sanger "Shuttle" performed by Eugene Sanger is described by his wife. Several papers throughout the volume take the form of personal memoirs and this reviewer finds these the most interesting papers. (It is also of interest that the Germans are again studying an aerospace plane - to be called Sanger)

In Section 3 there are more interesting Soviet papers and Section 4 contains mostly US papers taking the form, in the main, of memoirs of some aspects of the time leading to the Mercury programme.

Although many of the papers are fairly technical, many are less so and provide interesting glimpses into the activities and ideas of many of the pioneers of astronautics.

If there is one flaw in the book, it is that some of the illustrations have not reproduced well on the typescript pages. Also, although published in 1986, the NASA has already been published as NASA Conference Publication 2014 in 1977 and perhaps more detail could now be added to the papers.

BOOK REVIEWS

Nevertheless this is a nice volume to either dip into for a short read of one paper or to spend more time with. The papers are arranged in a chronological order, especially in Section 4.

Neville Kidger FBIS

THE QUEST FOR SS433

by David H Clark
Adam Hilger pp206 f9.95 hardback

SS433 would appear to be a bizarre object,

deep in space, and one suggestion as to what the system might look like is shown on the dustcover of this book. One globe of gas, presumably a star, interacts with a second, producing long jets of gas apparently escaping from the system. So if this is the answer to the enigma of SS433, why trouble to read the book when we have the answer on the cover?

But this book is not just a detective story to explain the intense radiation across most of the spectrum, it is a study of how working astronomers conduct their lives. Jet-setting stars have their counterparts on Earth. Jet-setting astronomers fly between observatories and convention centres, meeting often by chance, and exchanging data and ideas.

One is tempted to look back at an earlier book on scientific discovery - the story of the decoding of the DNA molecule, when competing teams worked in isolation each hoping to be the first with the result. But in astronomy things are different, though I suspect the characters themselves have much in common with Crick and Watson. Certainly Clark wanted to be first with an answer to the nature of this x-ray source.

Clark, with Dr Paul Mordin, had been investigating an object known as A1909+04, listed thus from its discovery as an X-ray source by the Ariel V satellite. Clark's interest lay in the fact that this object appeared very close in the sky to a supernova remnant catalogued as W50. Clark was looking for relic stars associated with SNRs.

Over the period of the story, many teams

BOOK REVIEWS

were investigating the same object, under different catalogue listings, and for different reasons. The interest in the book lies in reading how the various teams came to realise they are collecting data on the many aspects of the same object.

What adds interest, are the swings and roundabouts which help and impede progress. I don't want to give too much of the story away, but you will read here of the world leading optical telescope working on a vit night only because a third party spends a night with his finger on a button because switch isn't working. A major radio telescope cannot confirm the exact position of a radio source because it is accurately aligned. Important data stored on computer is not locked against prying intruders, so that rival astronomers can take a peek at results surreptitiously. All goes to show that men and machines are not infallible.

Over a number of years hundreds of papers were published and IAU circulars issued, the name of this one exotic object. At a stage, at a meeting of the Royal Astronomical Society, a typist had made an error on a meetings announcement referring to "New Observations of SS433" and a Fellow had appended the remark "Oh, God, it's another one!"

So I would recommend that you read this book for the everyday lives of astronomers. I found it entertaining. I still didn't know at the end how bright this 'star' is, but the Hershfield Volume II lists it as 14th mag. There are numerous diagrams illustrating the behaviour of SS433 but I found them frustrating. They were aimed at the educated layman and often failed to label axes.

The typesetting was wretched, but perhaps the reviewer is being pedantic. However, diagrams and typesetting apart, f9.95 for a hardback book, you cannot go wrong if you decide to buy. Written before the outburst of the supernova in the LMC, another Sanduleak star, apparently, Clark's book becomes even more topical. The SS by the way, stands for Stephenson and Sanduleak.

Rosemary Naylor