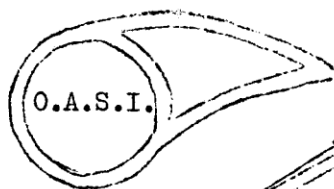


JOURNAL OF THE ORWELL ASTRONOMICAL SOCIETY (IPSWICH)

Editor: Mr. P. Burt, [REDACTED], Ipswich, IP1 6PS
Phone Ipswich [REDACTED]

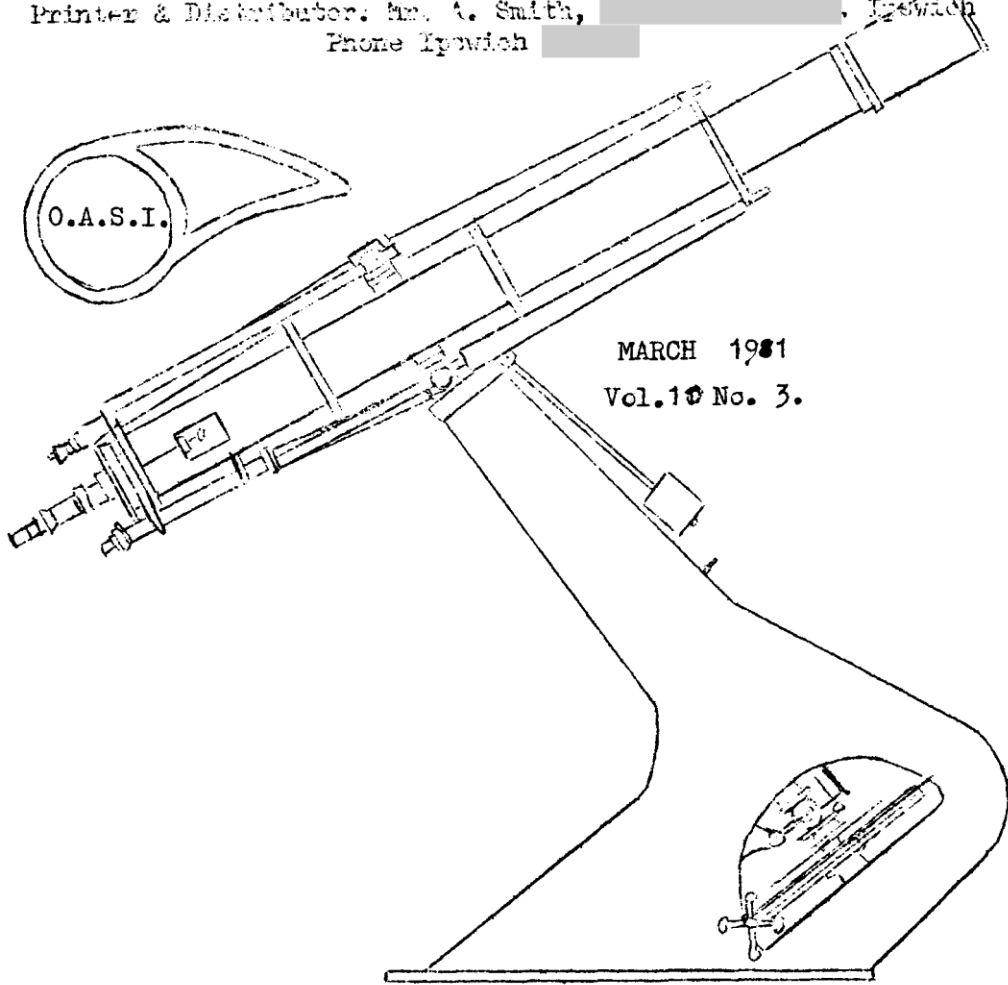
Producer: Mr. R.M. Cheekman, [REDACTED]
WEST HARMLEIGHFIELD, Chelmsford, Essex. CM2 8LQ

Printer & Distributor: Mr. A. Smith, [REDACTED], Ipswich
Phone Ipswich [REDACTED]



MARCH 1981

Vol. 10 No. 3.



The Orwell Park 10 Inch Astronomical Telescope
at Nacton near Ipswich.

THE NIGHT SKY AS SEEN FROM ORWELL PARK DURING MARCH

by Paul Burt.

Ursa Major fills the zenith area during late evening this month, with the Plough 'handle' pointing eastwards towards Arcturus in Bootes which is now well above the horizon by mid-night. To the south-east Virgo is visible by late evening, with Corvus and Crater below it. Leo crosses the meridian around mid-night, with Cancer Directly to the west of it. The head of Hydra lies below Cancer while the body of the water-snake winds it's way to the south-eastern horizon. To the west lies Gemini, Taurus and Orion, the latter two of which will be slipping below the horizon by late evening at the end of the month. Further round, to the north-west, Auriga and Perseus are prominent.

THE SUN:

Sunrise is at 06h 50m at the beginning of the month, changing to 05h 50m at month-end. Sunset changes from 17h 30m to 18h 30m. The sun moves from Aquarius to Pisces during the month.

THE MOON - Phases.

New Moon	6d 10h 31m	Full Moon	20d 15h 22m
First Quarter	13d 01h 50m	Last Quarter	28d 19h 34m.

Occultations:

<u>Star</u>	<u>Phase</u>	<u>Mag.</u>	<u>Time</u>
627	D	6.8	11d 20h 43.1m
*787	D	7.5	12d 21h 9.2m
940	D	5.7	13d 19h 18.8m
971	D	7.3	14d 00h 18.9m
1109	D	7.3	15d 00h 34.4m

D = Disappearance. Stars listed according to Zodiacal Catalog (ZC) numbers
* denotes star is a double one.

THE PLANETS:

Mercury is a morning star reaching greatest elongation of 28° on the 16th, at mag. +0.4, but rising on the 15th before the Sun.

Venus is too close to the Sun for observation.

Earth Spring Equinox is at 20d 17h 03m.

Mars is an evening star, but too close to the Sun for observation.

Jupiter will reach opposition on the 26th, at mag. -2.0 in Virgo.

Saturn is still lying near Jupiter, reaching greatest opposition on the 27th at mag. +0.7

Source - B.A.A. Handbook 1981. All times at U.T. (=B.S.T. minus 1 hour)

FROM OTHER JOURNALS:

QUASAR CLUSTER DISCOVERED

A team of American astronomers from the University of California have made the first discovery of a cluster of quasars, which had up till now only appeared singly in the sky (apart from gravitationally split images and claims of neighbouring quasars of differing red-shift).

The team developed a combination of diffraction grating and prism (termed a 'grism') which when placed in front of a telescope causes each image to become a miniature spectrum. When galaxy M82 was photographed, the spectrum of three quasars were found lying in a group nearby, within 1.8° arc minutes of each other. A detailed investigation by the Lick Observatory telescope revealed their red-shift to be 2.048, 2.054 and 2.040 - close enough for the quasars to be at the same distance, but different enough not to be a multiple image of one quasar. The cluster is 9 million light years across, similar in size to galaxy clusters, and the red-shift figures indicate relative velocities of a few hundred km/secs, again typical of galaxy clusters. From this, the team have concluded that the quasars are probably the active nuclei of three galaxies in a cluster so distant that their neighbouring galaxies cannot be seen.

- New Scientist.

METEOR NOTES by David Barnard.

There are no major Showers this month so we will not be holding a meteor count.

Reports have been coming in of a fireball at mag -5 seen on the 11th February at 1938 U.T. It came vertically down through Cepheus and was white in colour. If any member observed this please contact me at [REDACTED]. Ipswich, telephone Ipswich [REDACTED].

SUBSCRIPTIONS FOR 1981.

Membership Subscriptions to our Society fell due on the 1st January, 1981. If you have not renewed your subs and would like to do so please send them direct to

Mr. M. Barriskill,
Membership Secretary, O.A.S.I.

[REDACTED]
IPSWICH IP1 2EZ.

NEW MEMBERS:

We would like to welcome the following new members to our Society:

Mr. Kevin J. ELY, [REDACTED], Ipswich
Mr. Tony STOLLERY, [REDACTED], Ipswich
Mr. J.M. WRAGG, [REDACTED], Ipswich
Mr. R.T. HODGISS, [REDACTED], Ipswich
Mr. Graham SMITH, [REDACTED], Ipswich
Mr. Stephan J. PETTIT, [REDACTED], Ipswich
Mr. Christopher NICE, [REDACTED], Felixstowe.

NEW JOBS WITHIN THE SOCIETY:

At the Committee Meeting held on 14th February the following Committee Members agreed to be responsible for the following:-

MEMBERSHIP SECRETARY - Mr. M. Barriskill, [REDACTED]
Ipswich.

LIBRARIAN Mr. J. Hood, [REDACTED], Ipswich

FUNCTIONS CO-ORDINATOR - Mr. M. Nicholls [REDACTED].

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This review is compiled from original press releases, and further information on the content of the news items may be obtained by writing to: S.G. Harvey, [REDACTED], Needham Market, Suffolk. I am grateful to the contributing organisations.

EXPERIMENT UNDERWAY FOR METALS IN SPACE.

Jan 12. Presently, the White Sands Missile range is not exactly enjoying the attention given to the Kennedy Space Centre. Ever since the days of the 'WAC Corporal' the range has been relatively quiet. Now, however, N.A.S.A. is initiating a number of space experiments, which with the aid of high altitude sounding rockets promises to give researchers some idea of how high temperature metals react in the low gravity conditions of space. The Marshall Spaceflight Centre is using 'Black Brant' rockets with built-in electric furnaces to study the metals tin and lead under such conditions. During the five minute time of flight while the rocket encounters zero-G, the metal is cooled rapidly by flooding it with liquid helium. Once on the ground, scientists can then examine the effect of rapid changes in a metal's temperature in weightlessness.

Lockheed built the furnace which is about 17 inches in diameter and 31 inches long. The program as a whole is part of N.A.S.A.'s long term research into materials processing in space.

- Lockheed Space and Missiles Co.

SPACELAB ENGINEERING MODEL HAILED DURING MOVE:

At the recent roll-out of the Spacelab Engineering Model during December at ERNO's Bremen works, both N.A.S.A. and E.S.A. officials praised the spirit of European involvement in getting the project this far. Although it was only the engineering model that was on it's way to the Kennedy Space Centre, the few feet it was moved proved symbolic of the heights to which both it and U.S.-European co-operation would eventually rise. After ceremonies, the model was towed by scarlet tractor to Hanover airport for shipment to the U.S. The Director General of the European Space Agency said that European Industry must be congratulated for a job well done.

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and he went on to say " It is the result of succesful teamwork by almost 40 firms in ten European countries".

The SpaceLab Flight Unit is still in the integration room, and many of the final experiments are in their last stage of development.

- ERNO Raumfahrttechnik GmbH.

N.A.S.A. RELEASES VOYAGER 1 FINDINGS.

Following the flyby of the planet Saturn by N.A.S.A.'s deep space probe - Voyager 1, the Jet Propulsion Laboratory has issued a review of the major findings.

They are summarized below:-

1. Although Saturn's zone/belt cloud structure extends almost to the poles, the overall structure resembles very closely that of Jupiter.
2. The estimated wind speed at the equator is 1,600 km/hr - that is four times the same region on Jupiter.
3. Temperatures at the surface of the planet range between 86 and 92 degrees kelvin, highlighting the large distance between Saturn and the Sun.
4. Saturn's dark side receives a fair amount of reflected sunlight from it's rings.
5. Although no image recorded lightning bolts, the electric field detector on board indicated that there were periodic discharges.
6. Saturn's rings comprise several hundred 'ringlets', some of which are elliptical in shape.
7. Voyager measurements of the D, E and F rings suggest particle size to vary between 4×10^{-5} and 1 metre.

- N.A.S.A./Jet. Propulsion Laboratory

VOYAGER 2 TARGETED FOR URANUS ENCOUNTER:

Following the unparrellel success of Voyager 1 in it's encounter with Saturn, N.A.S.A. has officially decided to ensure that Voyager 2 is targeted for a flyby of the planet Uranus. Under the plan now approved, the craft will fly

2.

within 107,000 km of the planet, and there-after fly a course for Neptune (subject to approval). The encounter is due to take place on January 24th 1986. This will be the first time that Uranus has been visited. J.P.L. scientists will not alter it's course. At present Voyager 2 will encounter Saturn on August 25th 1981. There will be no occultation of the rings, neither a Saturn close approach so as to preserve the Uranus encounter.

- N.A.S.A. (Jet Propulsion Laboratory)

N.A.S.A. TAKE DELIVERY OF SHUTTLE RADIOS

The first of two cockpit radios for use aboard the Shuttle Orbiter, were recently delivered to the Kennedy Space Center. A fall back set and four back-pack radios (for use by Astronauts while suited) have been delivered to the Johnson Spaceflight Center. Each back-pack radio weighs 4kg and is about the size of a loaf of bread. The larger cockpit radios weigh 11.3kg. It is these that will enable Pilot or Commander to communicate with astronauts outside, traffic control towers on re-entry and chase plans once in the lower atmosphere. Manufacturers - R.C.A. - stress that the astronaut back-pack radios will also transmit medical telemetry to the Shuttle Orbiter. The radios also give off warning noises when life-support equipment is running low.

- R.C.A. Government Systems.

NEW HELP FOR DISABLED PLANES AND SHIPS:

Starting in 1982, crashed planes and ships in distress will have the help of a new search and rescue tool - based in space. Under the auspices of the U.S. National Oceanic and Atmospheric Administration, search and rescue payloads will be placed on all weather satellites in the N.O.A.A. series beginning with N.O.A.A.-E in 1982. The weather satellites will still undertake their regular day and night meteorological duties. If a plane finds it's self in difficulty or a ship is disabled, an on-board beacon will

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transmit a message to the orbiting satellites, they in turn transmitting this to the weather data receiving station. Computers at the receiving station will then be able to fix the site of the emergency to within 13 miles. If the initially participating countries - Canada, France and the U.S. - find the system up to expectations, then it is hoped that talks will begin on an international space base search and rescue system.

- R.C.A. Astro-Electronics.

INDONESIA SIGNS SHUTTLE LAUNCH AGREEMENT:

Dr. Weiss, N.A.S.A. Associate Administrator for Space transportation Operations has signed an agreement with Dr. Suryadi of the Department of Posts and Telecommunications, to launch two satellites by shuttle. The terms of the agreement will mean Indonesias new generation of satellites - Palapa B-1 and B-2, will be launched by Shuttle. However, Perumtel (the owner company), reserve the right to have them launched by Delta. If Perumtel decides to launch by Shuttle, Palapa B-1 will be launched during January 1984, with Palala B-2 following in March. In both cases launch by Delta is possible before launch by Shuttle. Indonesia will be responsible for satellite check-out and integration with the S.S.U.S. (Spinning Solid Upper Stage or Payload Assist Module). When in orbit, Palapa's B-1 and B-2 will provide high speed data services to the Phillipines, Thailand, Malaysia and Singapore.

- N.A.S.A.

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FOR SALE

S.A.O. STAR ATLAS as new!

£35 o.n.o.

By Simon Harvey, [REDACTED] . Needham Market, Suffolk.

PUBLIC RELATIONS OFFICER - Mr. D. Barnard, [REDACTED]
Ipswich
TELESCOPE MAINTENANCE Mr. M. Coe, [REDACTED], Ipswich.

CHEAP BOOKS

Mr. Roy Gooding has made arrangements with the Orwell Bookshop, Upper Orwell Street, Ipswich for members to purchase books at a discount on production of their membership cards.

NEW SECTION AT THE OBSERVATORY:

A new Section for Observing Variable Stars has been started by Mr. M. Nicholls, [REDACTED], Ipswich and Mr. R. Hoggkiss, [REDACTED], Ipswich on Friday evenings starting on March 6th at 8p.m. If you are interested in Variable Stars please come along on the Variable Star Nights at the Observatory. If you do any Variable Star work with your own telescope the Directors of this section would welcome a copy of your reports.

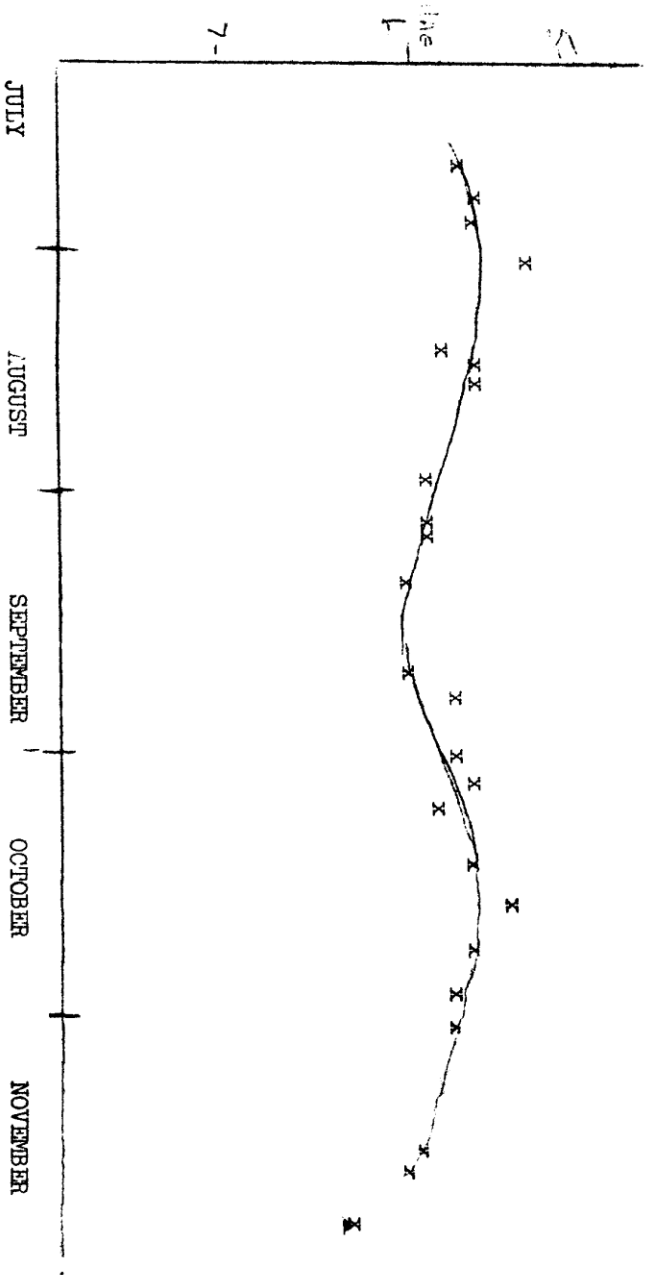
VARIABLE STAR OBSERVATION by Mike Nicholls.

On page 5 of this month's Journal is shown the Light curve of R Scuti from July 1980 to November 1980. This star is an RV Tauri type which is sometimes classed as a ~~RV~~ sub-group of the semi-regular class of pulsating variables. RV Tauri type variables are characterised by having alternate deep and shallow minima. The light curve shows clearly a shallow minimum. Unfortunately Scutum moved into the twilight before R Scuti went into what looked like being a deeper minimum. Observations were made using 10 x 50 binoculars.

DEADLINE FOR APRIL JOURNAL:

Although the deadline for articles for the April Journal is Monday 23rd March articles will be accepted at any time so that they can be typed up. All articles should therefore be sent A.S.A.P. to Mr. R.M. Cheesman, [REDACTED], WEST HANNINGFIELD, Chelmsford, Essex. M2 8LQ.

Light Curve of R. SCUTII from July 1980 to November 1980



NATIONAL ASTRONOMY WEEK - APRIL 20th to 26th.

During this week it is hoped to open up the Observatory for visitors every night plus we hope to arrange for an astronomical display in one of the Town's big shops.

Please come along to the next Committee Meeting which will be held on Saturday 14th March in the Observatory at 8p.m. when final arrangements will be made for this event. If you cannot make this meeting but would like to help on one of the nights at the Observatory please contact either Mr. D. Barnard, [REDACTED], Ipswich our Public Relations Officer or Mr. M. Nicholls [REDACTED]. Ipswich our Functions co-ordinator.

CENTRAL ASTRONOMICAL SOCIETY (IPSWICH)

MEETINGS FOR MARCH 1981.

At the Observatory Orwell Park School, Nacton:

TUESDAYS from 7p.m. Solar, Lunar & Planetary Section.

Directors: Mr. J. Hood, [REDACTED]. Ipswich.

Mr. J. Ranson, [REDACTED]. Ipswich

Tel. Ips. [REDACTED]

Mr. M. Barritt, [REDACTED]. Ipswich.

March 3rd 10th 17th & 24th

WEDNESDAYS from 8p.m. Nebulae & Faint Objects Section

Directors: Mr. D. Payne, [REDACTED], Wickham Market

Tel. Wickham Market [REDACTED]

Mr. M. Cook, [REDACTED]. Ipswich

Tel Ips. [REDACTED]

March 4th 11th & 25th

FRIDAYS from 8p.m. Variable Stars Section.

Directors: Mr. M. Nickolls, [REDACTED]. Ipswich

Mr. R. Hodgkiss, [REDACTED]. Ipswich

March 6th 13th & 27th

SUNDAYS from 8p.m. General Observations Section

Directors. Mr. M. Barriskill, [REDACTED]. Ipswich

Mr. R. Adams, [REDACTED], Ipswich

Tel. Ipswich [REDACTED]

March 8th 15th & 29th.

VISITS TO THE OBSERVATORY:

WEDNESDAY 18th March from 7.30p.m.

Ipswich Young Farmers, organised by Messrs. Barnard & Cook.

COMMITTEE MEETING at 8p.m. in the Observatory

all members invited to attend.

OTHER MEETINGS: at The Friends Meeting House, Fonnereau Rd.

Ipswich at 8p.m. Lecture by Mr. M. Maunder

entitled 'Astro Photographic Development.'

Orwell
Astronomical
Society (Ipswich)



presents a lecture

ON

ASTROPHOTOGRAPHIC
DEVELOPMENT

by Mr. E. M. Maunder

on

Friday MARCH 20TH 1981

at

THE FRIENDS MEETING HOUSE, FONNEREAU RD
IPSWICH

Commencing 8 p.m.

ADMISSION FREE - EVERYONE WELCOME

ORWELL ASTRONOMICAL SOCIETY (IPSWICH)

MINUTES OF THE ANNUAL GENERAL MEETING

Held on SATURDAY 17th JANUARY, 1981.

in the Library of Orwell Park School, Nacton, Ipswich.

The Minutes of the previous A.G.M. were distributed amongst those present and agreed to be a true account of that meeting.

APLOGIES FOR ABSENCE:

Apologies for absence were received from Mrs. P. Bearcroft and Mr. D.M.J. Brown.

TRUSTEE'S REPORT:

Mr. Roy Adams stated that during 1980 the Observatory had been open only 109 times officially although there had been many unofficial nights which were not advertised when the telescope had been used. This figure included the times when the Observatory was opened for visitors such as the Caravan Clubs and for various other clubs and societies. Mr. Adams felt that this figure of only about two nights a week for the telescope to be used was not enough and that many more members of the Society should be encouraged to hold regular nights at the Observatory so that the Orwell Park Telescope, which is a very fine instrument and that we were very fortunate to have the opportunity of using it, could be used to it's full potential.

During the year the 'Greenwich Trip' had to be cancelled because of lack of support which was very sad as trips to Greenwich in previous years had been a great success.

During the year the Society's activities had not been entirely involved at the Observatory. Many members had organised 'field' trips to observe grazing occultations, meteor counts and the Aurora. In the Observatory many members had again done a great deal of work repairing and decorating the Observatory.

Mr. Adams also said that he would like to see more of members observations published and a great deal more serious work done with the telescope, as had been mentioned in previous years by Mr. Cheesman.

Regarding the Orwell Park Bridge Mr. Adams said that he was pleased to read in the Society's Journal an extract from an official letter regarding the lighting of the bridge and that it would not seriously effect the night sky around Orwell Park. He had campaigned for a tunnel rather than a 'bridgean' had been told that a Orwell Tunnel cost would be prohibitive and a bridge was the only cost viable project.

During the middle of 1980 there were 72 memberships listed on the Society's membership, not just 72 members but individuals and families.

During 1981 the Society is looking forward to the National Astronomy week and the 1981 Open Day when we hope that we will be able to use the new School's Sports Centre.

Mr. Adams finished by saying that he hoped that members would be getting to gether on things and communication. Our Monthly Journal was very helpful and important in this and he hoped that many more members would contribute articles for the Journal.

CHAIRMAN'S REPORT:

Mr. Royston Cheesman said that he would not mention in his report the Society's activities during 1980 as these would be covered in other reports.

Mr. Cheesman said that after nearly a decade of being Chairman of Orwell Astronomical Society (Ipswich) it was with great sorrow that this was to be, as far as he could see, his last report as Chairman. As many members were aware he now worked down in Essex and that he felt that the Society should have a Chairman locally to deal with many items which came up. He had been running the Society for nearly three years from Essex attending all Committee Meetings and as many other Society functions as possible with the able assistance of the Vice-Chairman, Mr. A.J. Smith and our Secretary Mr. M. Barriskill and to those he gave his thanks.

Mr. Cheesman recalled that he was first introduced to the Society way back in 1969 when the Society had about fifteen members of which there were a small handful who were actively involved in the Society's affairs and this handful of members were still with us and helping to run the Society.

Mr. Cheesman said that he remembered vividly his first trip up the Observatory late one Friday evening with David Bearcroft and David Brown. After climbing the stairs to the Club-Room we were greeted by a force ten gale blowing through the broken windows, water was dripping from the ceiling and everything was very wet. On reaching the Observatory, the floor had collapsed and was sloping with a total of over one foot drop on the transit room side of the Observatory where the main beams supporting the floor had rotted away. The telescope was rusty, the telescope object glass was covered in a thick film of dirt and the dome would hardly move while the shutter needed brute force to open it. The walls of the observatory were wet and in some parts had collapsed.

We managed to look at the Moon that night, anything dimmer than that was virtually unobservable because of the bad state of the O.C. John Easty, my predecessor, together with the few other members had done a great deal of work to get it to that standard and I shuddered to think what the telescope was like ~~xxx~~ before they had worked on it.

The first thoughts I had when taking over as Chairman was that we should encourage new members to the Society and they would bring with them their expertise to help make the telescope and observatory something to be proud of. Also I wanted the telescope used more than it was at that time which was about once a week. This criteria has been with me ever since and I hope that to this end my Chairmanship of the Society has been a success.

During the last ten years I have made many friends both within the Society and outside the Society, many of these people have given me guidance. Since moving away from Ipswich to work I have had to rely heavily on Mr. A.J. Smith, Mr. M. Barriskill, David Barnard and Martin Cook to deal with things and my only association with the Society has been the heading of Committee Meetings, organising visits to the Observatory and looking after the monthly Journal.

Although I will be coming back to Ipswich at least once a month for Committee meetings and other Society functions I feel that the Chairman should live locally and play an active part in running the Society and it was for this reason that after a long deliberations have decided to stand down as Chairman and not ask for re-election and give the chance to some other member of the Society to hold the rudder and to continue to steer the Society into space.

May I take this opportunity to thank all those members who have written to me since the news leaked out of my resignation. I would like to thank them all personally but there are too many to answer individually.

SECRETARY'S REPORT:

Mr. M. Barriskill reporting said that at the January 1980 A.G.M. a resolution was passed to purchase new books, star charts and equipment for the telescope and a considerable sum of money was put aside. During the year the Society had purchased many books, two new eyepieces and agunsight which was being converted into a micrometer. Also the Society had a Barlow lens on order. A more precise and sophisticated drive system for the Orwell Park Telescope was being designed by Mr. David Payne and it was hoped that the new system would be in operation before the end of the year.

The Society had organised many events during the year including three very successful lectures, many visits to the Observatory were arranged of which the Suffolk Caravan Club was the largest and the most profitable, their donations to Society funds were quite substantial. At last members were able to see a grazing occultation and a meteor count during which a record number of meteors were seen.

The most important event of the Society during the year was the Open Day to which an estimated 350 people attended and nearly half of our membership turned up to help. Although the Open Day Draw did not do so well as in previous years it still made a handsome profit for the Society.

There are many people who deserve praise for their efforts on behalf of the Society during the year, to name them all would be difficult but I would like to thank all the Committee Members, Section Directors, the Editor of the Monthly Journal and all those members who worked so hard to make the Open Day a success.

There is one person who I would like to thank personally for all the work that he has done over the years for the Society. He has during the year built the new telescope drive mechanism and was the driving force

and I would like to thank him for his help and advice that he has given me during my term as Secretary. That is, as you all know, Roy Cheesman and I would like to ask you to show your appreciation for all his hard work for the Society over the years.'

TREASURER'S REPORT:

As Mrs. Bearcroft was unable to attend the Meeting Mr. David Bearcroft read out her report.:-

The Income and Expenditure Account shew that during 1980 the Society received a total income from subscriptions, the Open Day and donations of £635.57^{7p} compared with a total expenditure of £552.09^{3p}, this excess of income over expenditure together with money in the bank, building society and cash in hand amounted to £622.46p. The accounts shew that had it not been for the Open Day and the very large amount of donations (£92.41p) the basic income of the Society through donations would not have covered the running of the Society. It was recommended that, as the Committee had not taken up their authority given to them at the A.G.M. in January, 1980 to increase membership subscriptions, provision should be made to enable them to increase membership subscriptions from 1st January, 1982.'

The accounts were presented to all those members present and questions were called for by the Chairman.

Mr. Payne asked whether we could purchase the Journal Paper any cheaper than we were at the moment to which Mr. Cheesman replied that the source of the paper was the cheapest we would ever get but if a cheaper method could be found it would be investigated.

The money in the Building Society against cash in the current account at the bank was raised and Mr. Bearcroft said that the amount in the current account was high but this was because money had been allocated to purchase new equipment for the Society and that it had not been spent.

Mr. Adams asked how many stickers were purchased for £52 and Mr. Smith replied that there had been a 1,000 stickers printed which when sold would show a handsome profit for the Society.

Mr. Cheesman thanked Mr. Bearcroft for his report.

ELECTION OF OFFICERS FOR 1981.

After an initial discussion regarding Mr. Cheesman's wish to retire as Chairman voting took place.

The Committee voted for was:

Mr. D. Payne	Chairman
Mr. R.M. Cheesman	Vice-Chairman
Mr. J. Ranson	Secretary
Mr. A.J. Smith	Treasurer
Mr. D. Barnard	General Committee
Mr. M. Barriskill	" "
Mr. M. Cook	" "
Mr. J. Hood	" "
Mr. M. Nicholls	" "

CHAIRMAN'S PROPOSALS FOR 1981:

Mr. David Payne stated that during 1981 he would like to see the telescope used on more evenings per week and that more active observational work should be done with reports written up by each director and that 1981 should be 'The Society's Year of the Telescope Drive'. The drive system for the Orwell Park Telescope has been talked about for some time and a small motor had been added to the Telescope but at the 1980 Open Day it was proposed that the money made from it would go towards an accurate drive system, and he hoped that at that A.G.M. money would be set aside to purchase a commercial drive system.

ANY OTHER BUSINESS:

- Mr. Cheesman proposed, seconded by Mr. J. Hood that the Constitution of the Society be amended to read to the effect that 'the Committee voted for at the A.G.M. would hold office until the next A.G.M.' as opposed to 'hold office from 1st January to the 31st December'. The Chairman put this resolution to the vote which was passed and took effect immediately.
- Mr. D. Bearcroft presented an astronomical clock to the meeting which had been given to the Society by Mr. E.H. Collinson which Mr. Bearcroft had spent some time in adjusting and fixing a new clock face to. Mr. Bearcroft said that the clock was a valuable item and would realize about £150 when sold and would be a good addition to the Society's collection.

lock and key and that the clock should be mentioned on our Society Insurance. This proposal was agreed to.

3. Mr. David Bearcroft said that, unbeknown to Mr. Roy Cheesman the Committee had agreed between them that to show appreciation of Mr. Cheesman's devotion to the Society over the last decade that the room commonly known as 'The Club Room' in the Observatory would now be known as 'The Cheesman Room' and that a plate would be put in the room to that effect.

4. Mr. David Bearcroft then proposed that, as he had stated in the Treasurer's Report, provision should be made at the Committee's discretion to increase Membership Subscriptions as from 1st January 1982.

Mr. A.J.Smith proposed that the Committee be authorised to increase Subscription rates to the maximum of \$6 Family Membership; £5 Full Membership and £4 for Junior Membership. The proposal was seconded by Mr. J. Hood and the proposal was put to the meeting and carried.

5. The question of 'Proxy Voting' was brought up at the Meeting and after a lot of discussion it was thought to be a bad idea and the proposal was not put to the vote.

6. Mr. David Payne then proposed that a new drive system should be purchased for the Orwell Park Telescope. On the market made commercially were two systems; 1. A stepper motor, which was generally in use in all major observatories and which was an 'idiot proof system'; 2. A synchronised Motor which was cheaper to purchase but did not have all the advantages of the other type of system. Of the two systems the Stepper Motor would cost in the region of about £50 more than the synchronised motor system. After the proposal was put to the meeting a lot of discussion took place and Mr. Payne, together with Mr. A.J. Smith and Mr. R. Adams answered the questions. The proposal for the Stepper Motor costing in the region of £200 was given by Mr. M. Barriskill and seconded by Mr. J. Hood. The vote for the system and the financing of it was put to the meeting and the proposal was carried, in the light of that finance granted at the 1979 A.G.M. of £159 had not been used.

7. Mr. David Barnard proposed that , seconded by Mr. J. Hood, that £50 should be set aside for the purchase of miscellaneous items and books for the Library. The proposal was put to the vote and carried.

As there was no other business the Chairman called the Meeting to a close at 10.35p.m.

Proposed as being an accurate account of the 1980 A.G.M.

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Seconded by

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Signed

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D. Payne, Chairman.

INCOME & EXPENDITURE ACCOUNT
for the ORWELL ASTRONOMICAL SOCIETY (IPSWICH)
1980.

<u>INCOME</u>	£	<u>EXPENDITURE</u>	£
Donations	92.41	Postage	15.85
Sale of:		Hire of Hall for	
Posters)		Lectures	29.00
stickers)	17.70	Affiliations	28.00
Histories)		Books, Star Charts	90.30
Postage	1.00	Betting Licence	5.00
Subscriptions	205.00	Observatory Rent	5.00
<u>OPEN DAY:</u>		Screen	5.50
Grand Draw	172.57½	Stencils for Journal	3.45
Sideshows	31.49	Ink for Journal	5.80
Food	54.40	Stencils for Journal	5.69
Entrance Fee	111.00	Journal Paper	34.80
		eyepieces & maps	25.30
		Insurance	26.67
		Books, stencils and	
		Ink	8.86
		eyepiece	59.83
		Misc. Expenses	9.50
		Stickers	52.00
		Income over expenditure	133.48
		<u>OPEN DAY:</u>	
		Food	29.58½
		Draw Tickets	26.62
		Draw Prizes	52.94
		Posters	16.00
		Advert.	16.40
		Income over expenditure	133.48
	<u>£685.57½</u>		<u>£685.57½</u>

BALANCE SHEET FOR 1980

Balance b/f from 1979	488.98
Income for 1980	<u>685.57½</u>
	1174.55½
less expenditure	<u>552.09½</u>
Balance for 1980	622.46
at 31st December	<u>622.46</u>
Balance at Building Society	228.72
Balance at Bank	361.24
Cash in Hand	<u>32.50</u>
	<u>622.46</u>

Signed: Mrs. P. Bearcroft
Hon. Treasurer, Orwell Astronomical Society (Ipswich)