THE JUNIOR ASTRONOMER

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The Journal of the Junior Astronomical Society

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THE JUNIOR ASTRONOMICAL SOCIETY

First Steps (by the President)

Our Oxshott Astronomical Group started in quite a small way. Just two or three neighbours arranged to meet once a month in each others homes for friendly star talks. Our keenness made this an easy matter. Usually the lady of the house acted as hostess. There were no formalities, no rules, no expenses—just tea, biscuits and star talks.

After one or two meetings we realised the need of guidance. So we sought help from more experienced friends, and they came occasionally to help us along the right lines.

When nights were clear we went to the garden and helped each other to know the night sky; it was not long before we discovered the limitations of our binoculars and acquired a small telescope and suitable star charts. Our first attempts at observation suggested the kind of reading we should take up. Soon we were able to recommend to each other helpful books discovered in the local library, and we even succeeded in getting the librarian to obtain several special books we wished to read.

A small projector enabled us to borrow and show astronomical slides. All this attracted new members until now we have to limit the number to the size of the rooms in which we meet. We have discovered that the large gathering is not necessarily the most successful. We look back with pleasure to the early days when we were just a group of two or three taking our first steps into an unknown Universe.

Surely there must be many localities where similar groups can be formed. The J.A.S. is now in a position to help. During the last few months membership has grown. The Society's Secretary, Mr. E. W. Turner, will be pleased to assist you by giving addresses of members living in your area.

It is up to you to take the first step by forming your own group, then to write and give us the name of the one willing to act as Group Secretary. This will be published in the Journal, so will any account of your meetings. Next write and tell us how the Journal might be made more helpful. The best way to do this is to write a short article as an example of the type you consider most needed.

Mr. Patrick Moore will advise you in the choice of books. Mr. S. Bradford and his assistants will help you to plan for accurate sky observation, and Mr. C. Reid will give advice on telescopes.

The Secretary is now forming a panel of the more experienced members willing on occasions to visit a group in their locality to give a talk. Offers to do so will be most helpful.

WANTED: AUTHORS!

One of the difficulties in producing a really good periodical is to find authors willing and able to submit articles for it. The J.A.S. is quite a large Society by now, and is growing every month, but we are still faced with a shortage of contributions apart from those written by members of the Council.

If you have done some work or reading on your own account, and are sure of your facts, it is not difficult to produce an interesting short article; and we are going to hold a competition in the hope that new writers will come forward. The age limit is 18 for the first competition (Group A), and there is no age limit for Group B. In each case there will be a book prize, with smaller prizes also for the runners-up.

All you have to do is to write an article of between 250 and 500 words on one of the following subjects:—

Observing with a Small Telescope,
The Moons of Jupiter,
Why I am Interested in Astronomy,
Astronomy Without a Telescope,
Tycho Brahe.

and send it to me at my home address (Glencathara, Worsted Lane, East Grinstead, Sussex). Please indicate which group the entry is for, and if in Group A please add your age. Winning articles, and some others, will be published in the Journal. The closing date for entries is August 31st, 1955.

We are looking forward to hearing what you have to say!

PATRICK MOORE.

THE SKY SURVEY SECTION

The Director, Mr. S. Bradford, is pleased to announce that it is now possible to extend the work of the Section by the appointment of three more Directors. Members desiring to take part in a series of practical observations, and who are prepared to submit written details of their observations, should write to the appropriate Director.

Northern Zone (England North of the Wash):—
Mr. S. Bradford, 241 South Eldon Street, South Shields, Co. Durham.

Southern Zone (England South of the Wash):—
Mr. G. T. Webdale, 9 North Field Ave., Wells, Norfolk.

Scottish Zone:—
Mr. R. D. Watkins, M.Sc., Swawbrae, Tweed Crescent, Galashiels, Selkirkshire.

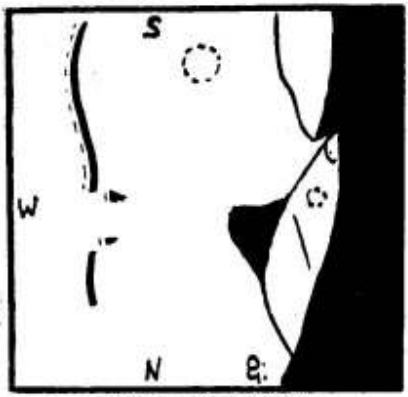
Welsh Zone:—
Mr. R. E. Roberts, 80 Graiglwld Road, Sketty, Swansea, Glam.

Members living abroad are cordially invited to join in.

Observations on the Surface of the Moon. By David Grundy (Leigh Astronomical Group).

MY LUNAR WORK for 1954 has been very scanty, totalling only seven observations, but even in this I believe that I have been more fortunate than most others! Of the obtained studies I have selected five for description in this note:—

O'NEILL'S BRIDGE: The accompanying drawing will serve to show just what I make of this much-debated region. The two promentoria do not come point to point, and are in themselves much lighter than the general aspect surrounding them, but darker than the area marked with a circle of dots. These were much brighter, and on account of their diffuse character were quite difficult objects to draw. P. Olivium was devoid of all markings, but as can be seen, Lavinium was mottled with one bright spot, a cleft (or ridge?) and a crater on the tip. The ruined wall west of the formation is well-known. Additionally seen were two mountains near a gap in the wall. The only thing about the observation that is puzzling to me is the dusky area alongside of Lavinium. I can only put it down as a deep fault on the floor of the maria. Patrick Moore does not show it on his sketches, at least not so far as I am aware of. As for the arch itself——?



O'NEILL'S BRIDGE
4.6.54. 3" O G. x 100 21h. Seeing 5.-6.

PLATO.—This is a very strange formation, the only floor marking seen was the bright spot S (Dr. H. P. Wilkins' chart).

GASSENDI.—This is a very interesting formation for possessors of small telescopes. I have charted about twelve objects upon the interior during the course of one evening, including a ray joining up no fewer than five lone peaks.

MESSIER AND PICKERING.—In a recent observation it was noticed that Pickering was only about three-quarters the size of Messier. Whilst Pickering appeared more triangular-shaped, but with rounded sides.

PALUS SOMNII.—In the course of three nights I was able to chart nearly thirty features.

All observations were made with a 3-inch refractor, with powers of 80 and 100.

Condensed Report of a Talk given to the Tooting and S.W. London Group by Mr. C. A. Ronan, F.R.A.S., on 20th January, 1955, at 96 Moring Road.

We of the above-mentioned group held a very interesting meeting, when we were given a talk on the HISTORICAL side of Astronomy by Mr. C. A. Ronan. He stressed the importance of getting some historical perspective into our picture of astronomy so that present trends and ideas may be seen in something of their proper perspective.

He gave us a brief summary of the significant points of the development of astronomy from the Babylonians and Egyptians in the third millenium B.C. up to the present time. He explained the Babylonian conception of the universe as a " closed box," the EARTH being the floor with its centre rising up to the snowy regions, the Earth being itself surrounded by a " moat " of water beyond which lay a ring of mountains which supported the dome of the heavens.

We then went on to the work of the Greeks and here Mr. Ronan stressed the significance of their contribution which was the examination of the general ideas and laws underlying the material universe. Aristotle's system of the universe with its central earth surrounded by spheres of water, air and fire was explained, and the fact that Aristotle believed that all material bodies were made up from these four " elements " but that the heavenly bodies, whose spheres lay outside the sphere of fire, were made of something different and changeless was emphasised.

From the Greeks the story passed on to the contribution of the Arabs and Mr. Ronan mentioned the work of the later medievalists and especially the contributions of the University of Paris to the growth of new ideas of the nature of the motion of physical bodies. The great contributions of GALILEO both in the fields of dynamics and observational astronomy were mentioned as also were the ideas of Copernicus and the work of Tycho Brahe and Kepler.

We then went on, after Mr. Ronan had pointed out that the bias in astronomical work had by the seventeenth century become one of observation of particular bodies rather than studies of conceptions of the universe as a whole, to the work of Newton, and heard about his ideas of motion and gravitation. The return to a consideration of the universe as a whole had, Mr. Ronan explained, come by the early years of the twentieth century, and he mentioned something about the large telescopes of the present day, including the new radio telescope at Jodrell Bank.

To wind up his interesting talk Mr. Ronan emphasised the fact that with all the present day advancement the work of the amateur was still as important as ever, for the professional

astronomer was engaged in work on intricate problems which needed all the resources of the modern observatory for their solution, and general observations are still the important province of the amateur with his smaller instruments.

H.J.L.

THE WEEK-END COURSE AT KINGSGATE COLLEGE

A party of about 50 J.A.S., Morley College and City Literary Institute members gathered at the Kingsgate Residential College, Broadstairs, on January 28th for a week-end course. The theme being "Astronomical Discoveries."

Mr. Patrick Moore our Vice-President, Mr. E. A. Whitaker of Greenwich Observatory and Mr. E. H. Noon, President, collaborated in giving a series of examples of notable discoveries which depended on different techniques for their achievement.

Mr. Noon first outlined the methods of Copernicus and Kepler, who discovered the true design and proportion of the Solar System.

Mr. Moore held us spellbound as he unfolded the fascinating stories of the discoveries of Neptune and Pluto.

Mr. E. A. Whitaker, in his lucid and modest manner described the many contributions astronomical photography has made to discovery.

Films of Jupiter, the Solar Prominences, and the Palomar 200 inch telescope were shown and made all the more astounding by Mr. Moore's swift running commentary.

The final talk came from Mr. Noon, who summarised the part played by reason and observation in astronomical discovery, and then outlined the reasons which have led astronomers to suspect the visible universe to be about twice as extensive as hitherto supposed. All through the course the lecturers refrained from being ponderous and academic. This encouraged the students to question and even interrupt the speakers when they wished any point to be dealt with more fully.

Unfortunately the night sky was too cloudy for telescopic observation, so the time set aside for this was spent in friendly fireside discussions of a lighter nature. The days were sunny so we did succeed in viewing a fair-size sunspot and the solar spectrum.

We are all indebted to the National Council of Y.M.C.A.'s for putting the College at our disposal, and to the Vice-Principal of the City Literary Institute for being the ideal host. The arrangements made for our welcome and comfort could not have been better . Already we have been invited to arrange another such course. Perhaps the experience gained this year will help to make another visit even more profitable and enjoyable.

Early Days in the Martian Canal Controversy (3), by Richard Baum.

It was the wholesale canalisation of the Martian globe that brought forth much reprobation against Lowell's theories and work in general. Probably his keenest antagonist was the rising Greek astronomer, E. M. Antoniadi, who was then residing in France and working at the famous Juvisy Observatory—Flammarion's station. Antoniadi is remembered for his extreme accuracy and his meticulous care in setting down planetary details as they actually appeared, and not as they were assumed to be.

Antoniadi denied the reality of the canals and regarded them as illusions. It is of some interest as contradicting this view, that he was not adverse to placing some of the more prominent canaliform features on his many charts of the planet, even as late as 1929.

In the first place the canal controversy revolved about the manner in which they were drawn. Schiaparelli, in his 1877 drawings, showed them as relatively broad swaths of tone, but as his acquaintance with Mars grew, so too did his method of depicting the canals. Instead of the coarse objects of his discovery year, hard narrow lines described the channels. The whole giving the impression of having been laid down with a ruler and very hard pencil. In this character the Italian was followed by Lowell. On the other hand workers like Pickering and Douglass drew the streaks as wide bands of greyish hue. Others, it may be added, could not detect any trace of these strange features at all.

Such was the position when the warring factions lined up to do battle early this present century. Lowell and his hard-canal school on the one side, Antoniadi and his anti-canallists on the other. Examination of the journals of the period reveals just how fierce raged the argument, indeed in some cases tempers appear to have frayed somewhat and articles became more like veiled insults than anything else! Even the popular press contracted the "Martian Fever" as sporadic outbursts spilled over the academic frontier and enlivened otherwise prosaic pages with fanciful writings.

The first major doubts as to the reality of the canals were cast by the celebrated Maunder-Evans experiment, commonly known as the "Small Boy Theory." This was an attempt to interpret the canals as illusions brought about by the eye being forced to observe very fine detail far beyond the known limits of vision under conditions of poor lighting, hampered by the turbulence of the Earth's atmosphere. These factors coupled with personal equation would tend to vary the exact aspect of the channels as depicted by any one individual. This was logical and seemed to

be the explanation of the canal riddle, and consequently it was accepted with joyful glee by the anti-canalists.

Their victory was short-lived, however, for soon an announcement from the Lowell Observatory stated that C. O. Lampland, a Scandanavian astronomer employed at the observatory (who actually died as recently as 1954), had succeeded in registering certain of the more prominent canals on photographic plates exposed for the purpose of tracing these features.

Notwithstanding the fact that these photographs demonstrated the Martian aspect as drawn by Lowell as nearly correct, the situation was not resolved and to-day over four decades later we are not much nearer the solution of the canal enigma.

(To be concluded).

BOOK REVIEW

Our Moon, by Dr. H. Percy Wilkins, F.R.A.S. Frederick Muller, Ltd., London, 1954. 180 pp., 6 plates, 20 line drawings. 12s. 6d.

Dr. Wilkins needs no introduction, his skill and accuracy as a lunar observer has never been surpassed, nor has his organisation of the Lunar Section of the British Astronomical Association.

This little book can profitably be read by the beginner and advanced student in selenography (the science of the study of the lunar surface markings). The work begins with a clear and well-written account of lunar history and the moon's motions, after which we see the mountains and crater rings through the great 33-inch Meudon refractor, from the time when the moon appears as a silvery sliver of light in the twilit glow of the sunset, right up to the opposite phase when it is seen in the morning sky rising just before the sun. Following this lucidly described telescopic survey, we are taken on a journey to witness the effects of temperature and climate on the surface. Other chapters include Changes and Life on the Moon, The Other Side of the Moon, Is the Moon Hollow? and Mysterious Happenings on the Moon. Several appendices are given and the whole is rounded off by end paper maps.

On the whole this book is a very handy little guide to have at the telescope and should be a " must " on any book-list.

R.M.B.

A QUESTION FROM A BEGINNER'S LETTER

" How can I start the study of Space Travel? "

Answer.—" By getting to know the night sky from personal observation, and the elements of astronomy from reading reliable books."

FORTHCOMING EVENTS

April 19th. City Literary Institute Lecture Course commences. "The Unseen Universe."

April 22nd. Morley College. Lecture Course commences. "Astronomy for All."

May 14th. Morley College. Open Day. 3 p.m. to 9 p.m.

June 18th. Visit to Greenwich Observatory.

Further particulars on application to the President.

Members wishing to exhibit photographs, models or charts at the Morley College, Open Day, on May 14th, should communicate with Mr. E. H. Noon, Norman Cottage, Pond Piece, Sheath Lane, Oxshott, Surrey, as soon as possible.

NEW BOOKS

Book List for Older Readers

The Night Sky, by J. G. Porter. Winchester Press.
To Other Worlds, by Werner Büdeler. Burke, 18s.
The Green and Red Planet, by Hubertus Strughold. Sidgwick and Jackson, 7s. 6d.
Man and the Planets, by R. S. Richardson. Muller, 12s. 6d.
Suns, Myths and Men, by Patrick Moore. Muller, 12s. 6d.
Guide to the Planets, by Patrick Moore. Eyre and Spottiswoode, 17s. 6d.

For Younger Readers

Worlds Around Us, by Patrick Moore. Muller, 6s.
True Book About the Stars, by H. P. Wilkin. Muller, 6s.

NOTICE TO ALL MEMBERS

If you have anything to dispose of, such as instruments, books, etc., why not advertise them in the Journal, scale and charges of application to Hon. Treasurer.

RENEWAL OF SUBSCRIPTIONS

Several readers have not yet sent their annual subscription. Our Treasurer, who is now preparing his annual report, wants the list of members in arrears to be a short one. Please co-operate.

NEXT ISSUE OF JOURNAL

Articles and notices should be sent to the Editor before April 30th.

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NOTICE.—The Society cannot be held responsible for the accuracy or the descriptive statements of the goods advertised nor for their quality.

WANTED.—Orthoscopic or Monocentric $\frac{1}{3}$ inch or $\frac{1}{4}$ inch eyepiece. R.A.S. standard thread.—Noon, Norman Cottage, Pond Piece, Sheath Lane, Oxshott.

FOR SALE.—On May 14th, at Morley College, 61 Westminster Bridge Road, S.E.1, 3 to 9 p.m., a quantity of secondhand books on Elementary Astronomy.