AAE news

Vol. 2, No. 3. April, 1983

ANNUAL GENERAL MEETING - NORTH LONDON POLYTECHNIC

The general theme of the reorganised meeting will be on "Astronomy Education and the Media".

The provisional timetable is as follows:-

Friday, 8 April 1983

7.00 - 7.30 pm	Arrival
7.30 - 8.15 pm	Informal gathering of delegates
8.15 onwards	Viewing of films and video tapes.

Saturday, 9 April 1983

10.00 am	Reception, registration, refreshments
10.30 - 11.30 am	Annual General Meeting of AAE
11.30 - 12.30 pm	Exhibitions (on view until 2 pm)
12.30 - 2.00	Lunch
2.00 - 3.30	Astronomy Education and the Media*
3.30 - 4.00	Tea
4.00 - 5.00	Lecture by Dr D Malin, Research Photographer, Anglo-Australian Observatory.

* It is hoped that two BBC producers will be among those contributing to this part of the programme.

Spacecharts

A widely acclaimed series of space wall charts

"Attractive ... well printed ... very inexpensive .. highly recommended." *BAA Journal*

These new charts present up-to-date information on astronomy and astronautics in an attractive format. The meticulously researched text is by Robin Kerrod , FRAS, FBIS, author of many books on science for children and the general reader. SPACECHARTS are illustrated by superb artwork and brilliant colour photographs. Measuring some 900 x 600mm - about 3 ft x 2 ft - they are printed on artpaper for the best possible reproduction.

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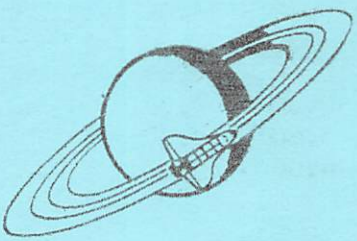

ASSOCIATION NEWS - FROM THE SECRETARY

BBC Schools TV Programmes on Space

Tom Stanier, producer of the series called "Zig-Zag", has written to the AAE with the following information.

In Spring 1984, "Zig-Zag", a series aimed at 8-9 year olds, will start the term with four programmes on Space. The TV programmes will run in tandem with a radio unit. He suggests that we could help teachers to prepare for this particular topic by arranging meetings in different parts of the country where they can (a) pre-view the programmes, (b) be given some relevant background information and (c) be informed about astronomy resources in their areas. The BBC would publicise meetings in the Teachers Notes and arrange viewing facilities. Recording of the programmes will be completed by 3 December 1983, so meetings could be held in January and February 1984.

If you are able to organise such a meeting at a Planetarium, Teachers' Centre or Museum in your area, please get in touch with our President, Mr Donald Gold, 35 Kiln Road, Emmer Green, Reading RG4 8UE, who is co-ordinating the activities of the various resource centres. This could well be one of the first collaborative efforts of these centres, and could serve as the basis of the national network which we envisage.

Annual Meeting of Association for Science Education (4-8 January 1983)

Before taking over as Secretary, I had made arrangements to attend this meeting in my capacity as Public Relations Officer (this post is now held by Geraint Day).

I put up a small exhibition at the meeting and distributed a brief handout about the AAE together with membership forms. There were quite a lot of

enquiries, and I talked to many teachers as well as people from the Secondary Science Curriculum Review and members and officers of the ASE. Our Patron, Professor F G Smith, was a speaker at the meeting and mention of his connection with the AAE brought us a little more publicity. There was also a special symposium on the Secondary Science Curriculum Review and I was able to talk to Dr West, its Director.

At one of the receptions I spoke to the retiring President of the ASE, Sir Herman Bondi. As a noted cosmologist, he was delighted to hear about the AAE and stressed the point that secondary school science must be made interesting and exciting for pupils, and that astronomy could certainly help to make it so.

Generally speaking, the meeting was a good public relations exercise for the AAE, and both the SSRC and the ASE are willing to support our claim that astronomy should be a part of the science curriculum.

P A H Seymour
Secretary.

GLASGOW BOWS OUT

This newsletter is the last under my Editorship and will be the last issue produced at the Glasgow University Observatory, at least for the time being. My thanks are due to all the contributors out there who have made my task (relatively) easy over the last two years.

I cannot sign off without recording my appreciation of the hard work performed with great skill and impish humour by Mrs Morris, who has converted your articles into the bound newsletter - the AAE is greatly indebted to her.

And now I hand over the office to Colin Goodman wishing him and the newsletter good fortune.

David Clarke.

LETTER TO THE EDITOR

Sir, It is good to see that the AAE are tackling with urgency the lively teaching of astronomy in schools and colleges. Encouraging also is the intent that consistently developing programmes of instruction shall result in students exhibiting a desirable standard of attainment in the application of the subject. It would seem increasingly hopeful that sorely needed resources to reinforce and sustain this objective will be to hand. This is obviously where the effort should start.

The AAE, however, is also strongly aware that "education" in astronomy is in no way confined to the classroom nor to the school, college or university proportion of the population. Although the need for "resources" lies in this area, the need for "resource" may more often lie outside it. Those who form the membership of local astronomical societies engage often vigorously in astronomy education in the form of a leisure pursuit. Local Education Authorities, University Adult Education Departments and the Workers Educational Association institute "voluntary" astronomy education on a vast scale. Speakers address meetings of a wide variety of clubs and organisations and are often invited into schools to speak to senior students in a slightly seminar context. In many sections of the Press - both local and national - the "astronomy feature column" can be a source of informed comment about our astronomical environment with, again, the leisure pursuit rather than the formal-course-of-study attitude. Properly informed comment in the Press and Magazine world (as in radio and television) is vital to counteract often superstitious misinformation that often seems to be in greater demand.

The AAE wisely has all this "in mind" and, whilst concentrating on the immediate task of teaching those of "tomorrow's world" will, hopefully, never lose its "awareness" of the pressing need for a well informed society beyond the educational establishment.

Harold Gooch,
Newcastle-upon-Tyne 2 February 1983

ALSTON HALL - November 1982

The dark, dark days of November now seem as remote as the pre-Cambrian era of our planet's history but some memories of the AAE's first course for teachers held at Alston Hall, near Preston, are still quite vivid.

One of the highlights was a visit to the adjoining Preston Polytechnic Observatory site to view the Multiple Aperture Telescope now under construction and be reliably informed of the more advanced techniques in photometry and spectroscopy that it would employ. On the same site, dating from an earlier decade, we were equally fascinated by an astrograph, once used to determine asteroid positions and now (sadly) only retained for the odd teaching session.

The course, though, was primarily directed towards teachers and teaching - its purpose to provide an awareness of both the value and need of astronomy teaching in our schools. One over-riding aim was to disseminate advice on aids, resources, methods and the availability of information. This it did superbly.

The tone was set from the beginning. Themes introduced at the outset by our President and Mr P J C Smith (HMI) became recurrent throughout the course, the most important perhaps being the valuable links that Astronomy has with so many other curriculum subjects. In addition to the obvious correlations that it offers, it may also act as a stimulus to further study of vital subjects as well as throwing new light on many physical concepts. It is perhaps the only scientific subject that has a ready appeal to the non-scientist.

Time and time again we probed and discussed the opposition of some teachers and heads, which contrast so noticeably with the enthusiasm of the pupils. Inexplicably, even the Schools' Council, Science 5-13 Project, has a bare minimum of Astronomy.

Halfway through the course we might have been found crawling through a "wormhole" into an inflatable planetarium, capable of accommodating 30 to 40 children. This was demonstrated by Terence Murtagh and his indefatigable team from Armagh. We learned how to set (blow!) it up (just in case we ever bought one, at £8,000!) and Terence then gave us a typical 30 minute talk, followed by a demonstration of numerous cylinders, to show its versatility as a teaching aid in a variety of subjects. (Maybe its versatility is the lever we need to persuade the local LEA to buy one. If not, then Armagh will always be prepared to hire one, subject to availability, at about £45 per week).

Other extra "goodies" included an excellent mini-lecture from Peter Drew of Bedford Astronomical Suppliers Ltd., on what to look for and what to avoid in telescope purchase. The cheapest instrument really recommendable for serious youngsters appeared to be the "Vixen" currently retailing at £74.95, or the equivalent kit at £29.95.

Dr Barocas in his two fine lectures concentrated on "The Sun". He pointed out that it was an excellent subject for schools (Particularly in California!) as it could be studied during daylight hours with quite a small telescope. After issuing the usual warnings, he ran through an impressive list of topics, e.g. the sun and early civilisations; the sun, time and the calendar; the sun and energy; the sun and the weather; the variability of the sun; the sun and magnetic fields; sunrise and sunset, and the variation in length of the day; and finally a project on elementary spectroscopy at secondary level.

Julian Ravest (having stressed the need for easy to use, readily available material) entranced us all with his "Simple Astronomical Equipment". We traced the path of the sun (a torch) across the celestial sphere (a transparent plastic dome) and then used the dome to study the principle of the sundial (see AAEnews Vol. 1, 1). We made a sundial out of a small bowl (as the Romans did) and stuck an array of tiny cardboard

sundials all over a large geographical globe to show rising and setting times. We learned how to make a cross staff with wood and card and how to use it to find exact speed, position and distance of moon and planets. A series of acetate sheets superimposed, one at a time on top of one another, clarified the differences between Sidereal Time, Observer Time, GMT, etc., and served as starting point for an appreciation of the concept of time.

Captain Peter Richards-Jones drew samples from his mine of material and inundated us with posters, charts, maps,leaflets and pamphlets - each one a treasure trove of valuable astronomical and educational information for teachers. He unearthed books of colour transparencies, an overhead projector book and told us the cheapest way of making our own slides. Then followed his teaching aids - round bottomed flasks as celestial spheres, plaster of Paris moon craters, cardboard sundials, simple quadrants and forms for logging meteor watches, etc.

Peter's lectures were as wide-ranging as his aids, including examples of children's work, notes on the origin of the Solar System, how to use films profitably, how to investigate scale using local ordnance survey maps, photography and work cards, how to watch the next eclipse, and things to make in the classroom.

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The meeting felt that such a rich store of information should be made nationally available under the auspices of the AAE and, naturally, fell to discussing how this could be brought about.

Part of the answer was provided by our second session with the Armagh team who displayed many of their wares "all at reasonable prices!" Examples included "Starpacks", satellite weather pictures available daily, slide sets (even one complete with a viewer at only 75p!) and, of course, books, charts, posters, etc. Video discs, we were informed,

will be available in the Autumn. Terence Murtagh aims, in fact, to compile and supply various "Teachers' Packages" as soon as possible. Please write stating requirements and Armagh will provide the resources.

Dave Ashton clearly knew the minds of young people and their enthusiasm "to get an image through their own telescope in as short a time as possible." He proceeded to give a fascinating lecture on how to make a simple but effective telescope for £2 to £3 using drain piping and other easily available cheap materials. He asserted that it was a good idea to make the school's first home-made telescope a simple Dobsonian. He enthralled us with many home-made slides on aspects of his own work, e.g. the construction of telescopes and observatories.

The final question time inevitably revolved round the question "How should the AAE organise itself to accommodate all the needs that the course has brought to light?" It was suggested that one avenue (not discussed earlier) was the introduction of astronomy through computer software.

All in all, we were given a vast wealth of information superbly presented. The next course is already being considered for mid-1984. Book as soon as you are able!

Colin Goodman
Hinckley.

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The centre page of this issue of the Newsletter provides a pull-out listing of the scheduled television programmes on astronomical subjects presented by the Open University.

A second level course (S256) - MATTER IN THE UNIVERSE - should be available in 1985.

REVIEWS: TAPES-SLIDES-BOOKS

"Stargazer's Guide to the Night Sky" A Ford. Terra Firma Cassettes 1982. £6.90. Plus p/p 50p from Terra Firma, 55 Bolingbroke Road, London W14.

This is a package deal of two cassettes (4 sides) divided into six sections together with four simplified star charts covering the four seasons. It is well narrated and the descriptions of the constellations are very good. The amateur will be delighted not only in having help in locating the constellations but also certain individual stars are chosen for interesting and factual comment. Thus for the beginner and indeed others, we have four little lessons of 20 minutes each which with the aid of the star charts will enable the user to enjoy and become acquainted with the more popular parts of the sky. Moreover there is no age limit - but from personal experience I would confirm 9 years to 90 years!

When listening to these tapes there is on occasion slight irritation caused by the narrator's choice of pronunciation of certain star names, and I wished for the sake of good order that he had kept to one form of Latin throughout and also not given Latin sounds to Arabic names. In this vein, the kilometre is the language of science but it does sound a little technical because it is not used in our everyday colloquial language. Perhaps dual units should have been used.

I experienced some trouble knowing when to change charts. Perhaps they should have the section numbers printed on - this would help the "looking and listening" link-up to be smoother.

There is a very nice section on the planets - after all they are mostly naked eye objects; but I would question the necessity to describe planetary surfaces in a Stargazer's Guide. Again, another part describes a star's life cycle, supernovae and black holes which is I suppose a little closer to the

described brief. Magnitudes, however, are given only a short description and there are no examples to show how they work, and yet stars have only that one fundamental identification to the naked eye observer - their brightness. Similarly, shooting stars get short shrift in the narrative although on the back of star chart No. 4, the dates are given for six meteor showers (but, alas, no names).

Throughout the programmes, references are made to "a small telescope"; however, description of such an instrument is missing. I know certain lay people who think that a 60 mm refractor is a large telescope! - and it is to this type of person that the tapes and whole course are directed. No mention is made of binoculars and the extras that can be seen and enjoyed by their use.

My main concern is that the author is not keeping strictly to his "guidelines" and has included planetary and cosmology lessons to the detriment of more star-gazing information and knowledge thereof.

All criticism apart, this is for the price a most worthy little package deal filled with interesting information and I would think that it would be most useful as an educational guide (visual, if slides were optional to charts) to any school teacher, perhaps Primary teachers in particular, and as such I recommend it accordingly.

Peter Richards-Jones
London Schools Planetarium and Advisory Centre.

"Voyager in Space". Focalpoint Audio Visual Ltd. 1982.
Part I. Saturn and its moons. Nick Argent. Twenty slides with notes, £7.50 (with rigid binder).
Part II. Jupiter, Ganymede, Callisto, Io and Europa. Nick Argent and David Carter. Thirty slides with notes. £10.00 (with rigid binder).
Prices exclude VAT and postage/packing.

This double collection of slides is packed in protective plastic sheets with pockets, these in turn are clipped into stiff plastic ring binders. Thus they may be stowed on your bookshelves neatly and attractively.

The slides themselves are good and, as one might expect, they are the usual photographs which have found world acclaim subsequent to the Voyager missions. The quality is as good as any that I have seen and the slide mounts have space enough to write a title on each although, personally, I would have preferred to see this printed. However, they do have numbers corresponding to the notes which are well written and ideal for teachers and amateur astronomers alike.

I suppose that the high price is partly due to the production of comprehensive notes and the attractive stiff ring binders but, although I did keep my collection in an overstuffed briefcase for a week or two, I did not expect all the metal parts to disintegrate. Maybe my set was the rogue!

In checking prices, when VAT and P/P are added £7.50 and £10.00 become £9.52 and £12.40 respectively. Even with the binders and notes this package deal is expensive. By comparison another company advertises Voyager slides as follows:-
"40 slides, plus a cassette for £10, including VAT and local postage". Very nearly half the price. Well, you pays your money and you takes your choice!

Peter Richards-Jones
London Schools Planetarium and Advisory Centre.

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Usborne First Astronomy Series:
Our Earth £1.00 paperback ISBN 0/86020/582/7.
Sun, Moon and Planets £1.00 paperback
ISBN 0/86020/580/0
Rockets and Spaceflight £1.00 paperback
ISBN 0/86020/584/3.

They are also published together as a 72-page combined volume at £2.99.

This series of booklets for young children is very colourful and attractive. The compilers are to be congratulated on their ability to hit the right level with a subject which hitherto has been the poor relation of the classroom, largely due to imaginary inadequacies of teaching staff. However, those who are alert to the requirements of Environmental Science and the needs (also wants) of the children, will welcome this series with open arms. They comprise pictures with a short legend plus succinct notes scattered throughout. No long reading matter but bags of new words and a useful index. They are cheap, too!

OUR EARTH sets out to explain the physical features of the Earth and does this remarkably well. In reviewing, one looks mainly at the factual inadequacies and possible pitfalls of misconception. So, when reading *Earth Facts* on page 2, I was not happy with "The Earth is flat at the ends" - which it isn't, even if it had ends! Also, "There is a line round the middle called the Fqıator". Is there? Further, the description of meteors could have stated that they were commonly referred to as "shooting stars", so providing a natural bridge in the text. When discussing the Ionosphere, mention is made of Noctilucent Clouds; the value of this introduction is doubtful and is an example of one of the few imbalances in the booklet. Also the description of the Moon's phases on page 15 is so bad that I would give it three out of ten. On page 16, the presentation of the seasons could have been greatly enhanced if the Earth's tilt had actually

been shown on the diagram. I also wondered why the axis and polar regions had been omitted. However, these reservations apart, the booklet is generally good and worthwhile.

SUN, MOON AND PLANETS I liked this booklet, but was hard pressed to understand why there were two pages on galaxies and the origin of the *Universe* and yet no mention at all of the origin of the *Solar* System. One has to look twice at the title.

Like all books, there are certain inaccuracies but I cannot forgive calling a solar *prominence* (one of those big loops of fire) a solar flare. Ugh!

There is a good warning about observing the Sun and the classical safe method is shown. The description of lunar phases on pages 6 and 7 is particularly good and well done (Yes!) and I was delighted with the presentation of "On the Moon" on pages 8 and 9; this is really good. By comparison, there is a rather silly attempt on page 10 to describe the apparent retrograde motion of the Sun as seen by an observer on the surface of Mercury, whilst omitting worthwhile information, e.g. the length of Mercury's year (orbital period) as 88 days, or giving some explanation as to what caused all the surface craters. This, of course, is all part of the origin of the Solar System which, as already mentioned, is omitted. On page 11 there is an excellent presentation of the planet Venus and the Mars section is similarly good - although the attempt to describe the phases of Phobos (Martian moon) as seen from Mars I find irrelevant and in fact a derivation of the Martian moon names would perhaps be better received. The suggestion that the Martian polar regions are made of water ice is erroneous. The presentation of Jupiter and Saturn is excellent, the only shortcoming being the lack of mention of the constituents (methane and ammonia) in the atmosphere. However, that is the author's prerogative.

Comets are dealt with on pages 18-19 but, according to the text, not even the periodic ones are

members of the Solar System (?) and it is a pity that a diagram of a solar-orbiting comet with its tail emanating from the head is not explained as this would have given the very reason for the existence of the tail - a point with which many teachers are not acquainted.

I am not sure whether a section on the life cycle of a star should hide under this booklet's title, especially with highly charged words like "Black Hole". However, it's all astronomy - sorry, "Environmental Science" - so I suppose it's all right.

ROCKETS AND SPACEFLIGHT A nice little booklet commencing with a good diagram of the Solar System. The text starts with an explanation of space flight and gravity, passes on to lunar landings, Space Shuttles and Skylab and ends with space probes and a guess at future space travel. There is very little indeed in this excellent book that I find does not live up to expectations. But I must have one dig; on an astronaut's suit the gold vizor acts like sunglasses, good! (doesn't dazzle the eyes). Why, therefore, is the life line covered in thin gold? We are not told.

There are no other comments except to say that the author must have heard that the Americans are training woman astronauts and it is nice to see an introduction of the idea in this booklet. It was certainly pleasing news for me to find that the West are catching up with the Cosmonauts (Soviet).

GENERAL SUMMARY A very worthwhile and informative little series, perhaps more versatile if purchased separately rather than as a volume. Unfortunately, no classroom projects, but that's reaching for the Moon. They are on view at the London Schools' Planetarium, Wandsworth School.

P Richards-Jones
London Schools Planetarium and Advisory Centre.

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LONDON PLANETARIUM - SILVER JUBILEE

This year the Zeiss Star Projector of the London Planetarium is 25 years old and a special anniversary performance has been devised.

This will be known as "The Silver Star Show" and the programme of visual effects and music should be a worthy celebration.

The shows are given every 40 minutes and timings of the first showing are as follows:-

WINTER: 11 am weekends, 12.15 pm Monday to Friday
SUMMER & BANK HOLIDAYS: 10.40 am.
The last show commences (WINTER) 4.20 pm or (SUMMER) 5.00 pm.

You are advised to check exact times on 01-486 1121.

From time to time, series of talks are given for children with learning difficulties. Such series have taken place in February and March. Phone the above number if you are interested in future series.. There are also occasional talks on Astronomical Navigation.

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.."The Pound continues to dominate the NEWS .. "

Geraint Day's interesting article in the January 1983 issue could lead to further spin-offs. For example the Bank of England £1 note could introduce a discussion on paper-making (Newton's head is in the watermark) or on social history (the circular emblem near the Queen's head is taken from a token coin commemorating Newton). Again, calendar reform could be brought in by pointing out that Newton was born (Christmas Day) in 1642 or 1643 according to Old Style or New Style.

P.S. A slightly larger piece of paper exists with a British astronomer on it - the £50 note with portrait of Sir Christopher Wren - but this is not often met with in the classroom! Other countries too have honoured their astronomers on coins and banknotes.

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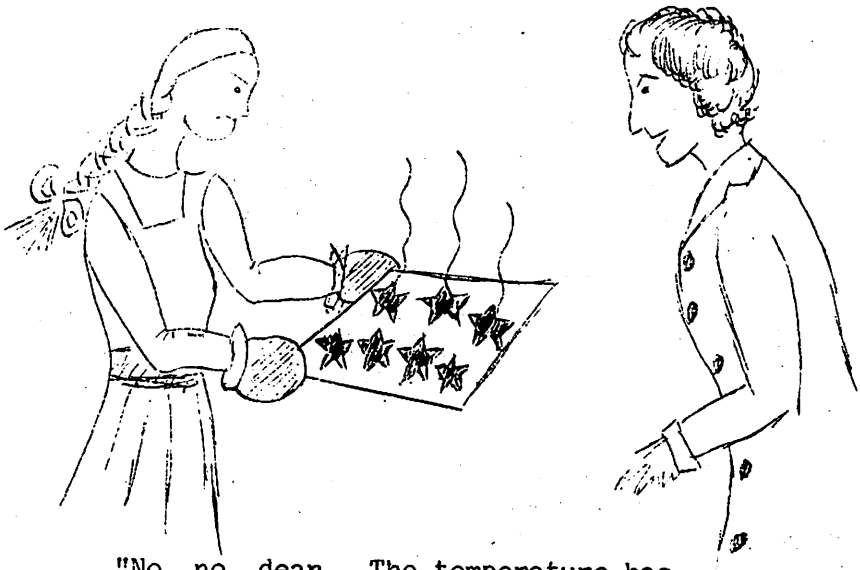
SCIENCE FOR WOMEN. Girls should be encouraged towards science - domestic or otherwise?



"No, no, dear. The temperature has been too high even for M type stars"

AAE COMPENDIUM ON ASTROPHOTOGRAPHY

This collection of material comprises the following articles:

1.	Brief Notes on Simple Astrophotography	J Ravest
2.	Astronomy with a Camera	G Y Haig
3.	Some Hints on Astrophotography with a Telescope	C R Jack
4.	Films for Astrophotography	J R Nichol
5.	Keep it Safe	M Maunder
6.	Booklist	

It is available from: Dr D Clarke
University Observatory
Acre Road/Maryhill Road
Glasgow G20 0TL

Price £1 (cheques payable to AAE)

ASTRO EQUIPMENT BARGAINS

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Contents

Articles, ideas, views and Letters to the Editor for publication should be sent to the new Editor:

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NEXT ISSUE - SEPTEMBER 1983

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