Star Dial

The description of our star dial in the issue of Gnomon (mentioned in the last newsletter) resulted in just two orders - from London and New York!

It's a small world!

When my wife was in hospital recently she discovered that her nurse's father works in optics for the Royal Greenwich Observatory in Cambridge. We have passed on details about the Astronomy Section, and hopefully David Jackson will pay us a visit sometime.

A visitor from Africa

Mark Humphrys made a sudden appearance in early January, and spent several weeks waiting to rejoin his seismological survey ship off the coast of Africa. He put in many hours on the new building. He recommends the southern sky, and wants to set up a radio telescope system in due course.

Don't forget -

La Société Guernesiaise
Annual General Meeting
Wednesday, 3rd March
7.30 p.m. at St. Martin's
Country Hotel

Advertisements

Do you have anything for sale, or do you want anything (preferably, but not necessarily astronomical)? Advertise here - no charge.

Thanks -

to Brian Gabriel for a table cover.

to Rex Huddle for a vacuum cleaner.

to Antony Saunders for getting sponsors.

Council meeting

On the 6th January the Société Council held their monthly meeting at the Observatory, and apparently enjoyed the experience.

F.A.S. Handbook

I have received the 1993 edition of the Handbook for Astronomical Societies. Over 100 pages are crammed with information, including articles on CCD astronomy and writing for magazines, and lists of places to visit, equipment suppliers, etc., etc..

It costs just £3.00 if purchased through the Astronomy Section.

The next newsletter will be published at the end of April. The deadline for publication materials is the 15th April.

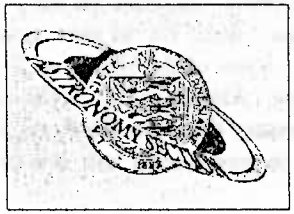
Articles in Sagittarius are © the authors.

La Société Guernesiaise, Candie Gardens, St. Peter Port, Guernsey

Edited by:
Section Secretary, David Le Conte,
Belle Etoile, Rue du Hamel, Castel
Telephone 64847 Observatory 64252

Sagittarius

The Newsletter of the Astronomy Section of La Société Guernesiaise



March/April 1993

Lots happening in the next few weeks. Details of meetings start on page 2.

Special General Meeting
Tuesday 2nd March
8.00 pm at the Observatory

Visit by Dr. Patrick Moore

Tuesday 9th March
Observing and supper
7.30 pm at the Observatory

Wednesday 10th March
Opening of New Building
5.30 pm at the Observatory

Looking for Life
A Survey of the Solar System
7.30 pm at Beau Sejour

Star Nights and Telescope Surgery
26th - 30th March
7.30 pm at the Observatory

The 21st Anniversary Lecture
Particle Astronomy
Tuesday 6th April
8.00 pm at the Observatory
Dr. David Falla

John Hodder's Garden
Sunday 25th April
2.00 - 5.00 pm

Main articles:

21st. Anniversary Lecture	Page 2
Patrick Moore's visit	2
Stars nights and telescope surgery	2
Special General Meeting	3
John Hodder's garden	3
Sagittarius - your newsletter	3
The new building ... and telescope	4
A week is a long time - isn't it?	5
A visit to ... ROE	6
Gemini - The Twins	Centre pages
Nostradamus (1992 - 2001)	7
AstroFest 1993	8
Other news	10-11
. . Roundup . . Roundup . .	12

21st Anniversary Lecture

This year we come of age, as we celebrate our 21st anniversary. The Section was established in 1972 by David Falla. The first meeting was held on the 6th April of that year, when David gave a talk entitled "Man's View of the Universe: A Survey of Modern Astronomy". On the exact anniversary date, the 6th April, David will again be presenting a talk, this time on:-

Particles from Space

As David Williams showed us at the February meeting, celestial objects emit radiation across the whole range of the spectrum, from radio to gamma rays, and all these forms of radiation can now be studied by astronomers on Earth.

But the Earth is also subjected to a hail of particles from space. These particles are the **cosmic rays**, produced in catastrophic events such as supernova explosions, and **neutrinos**, produced continuously in nuclear fusion processes at the centre of stars such as the Sun.

The instruments by which these particles are studied are so novel that they are quite unlike any telescope ever built. The results that they give are also of great interest to the astronomer.

Patrick Moore's visit

Patrick Moore will be arriving on **Tuesday, the 9th March**, and will be at our regular meeting at **7.30 p.m. at the Observatory**. After a short meeting or (if clear) an observing session, we will have an **informal supper at the Hotel Fleur du Jardin** (cost £10, excluding drinks). This event is for Section members only. »

The menu is: mulligatawny soup, chicken breast stuffed with seafood, coffee and mint. Please let David Williams (tel. work: 722123, home 725088) know if you are coming.

All members are invited to the **Official Opening** of the new building at **5.30 p.m. on Wednesday, the 10th March**, and to bring a guest. Park at La Houguette School. Call Geoff Falla (tel. 724101 after 7 pm) ASAP if you will be attending.

Help is needed at this event - please be there as close to 5.00 p.m. as possible, and bring a finger food. We would like a display of telescopes, so please bring yours if you have one, again as early as possible.

Then, of course there is **Patrick Moore's talk at Beau Sejour on the 10th March**. Tickets are almost sold out. He will be talking about the search for life on other planets and their moons, describing the solar system as we know it.

Star nights and surgery

Four public "Star Nights" are scheduled for the 27th to the 30th March. The Moon will be between New and First Quarter, Mars will be high in the sky, and Jupiter will rise during the evening.

The evenings start at 7.30 pm, although as summer time starts on the 28th it will not get dark until 8.30 pm on the last three nights. However, we are inviting anyone with a telescope to bring it along, especially if they need help with it (perhaps that includes you?), so we can make good use of the light period. If it is cloudy videos and slides will be shown.

You can help in several ways - by assisting with sky-spotting, serving coffee, and selling publications.

Special General Meeting
- to select a new Secretary

Members may be aware that I have been appointed Deputy Chief Executive Officer of the States Board of Administration. Unfortunately, it is a condition of my appointment that I resign my seat on the Council of La Société, and therefore Section Secretary, since the position, which is primarily concerned with the environment, requires me to negotiate with La Société and there could possibly be a conflict of interest.

There will therefore be a **Special General Meeting of Section Members at 8.00 p.m. on Tuesday, the 2nd March** to select a new Secretary.

In submitting my resignation, I must reassure members that I will continue to be an active member of the Section, and am prepared to serve in any capacity which is needed. I have been proud to be your Secretary since 1985, but it is a good time to hand over to someone else.

Please come along to this important meeting.

David Le Conte

John Hodder's garden

John Hodder has kindly offered to open his beautiful garden in aid of the Astronomy Section, on Sunday the 25th April, from 2 to 5 pm, at: Le Courtillet de Bas, Mont Durand, St. Martin's (Perry's Guide 31E3).

Help is needed to make this event a success - to take the gate money, and prepare or serve tea and scones, etc.. The garden should really be a picture at that time of year, as John has unusual bulbs and other plants.

Sagittarius
- your newsletter

I have had a lot of positive comments from members about the new newsletter. The response to my request for articles has been overwhelming. They have come flooding in - a good variety and of high quality. Keep them coming!

In this issue, Antony Saunders writes about Nostradamus, David Williams continues his series on the units of time, Mark Humphrys describes his visit to the Royal Observatory Edinburgh, and Daniel Cave gives a full account of AstroFest 1993.

Mark is also the author of the insert - an excellent description of the constellation Gemini, including details of deep sky objects, and a star map. Mark promises further inserts on other constellations. One down, 87 to go, Mark! *DLC*

Journal papers

I have so far received two papers for our Journal - one on the Solar System and one on the Big Bang. Don't forget - if you have given a talk, why not write it up as a paper? Or perhaps write one from scratch!

Jersey Astronomy Club

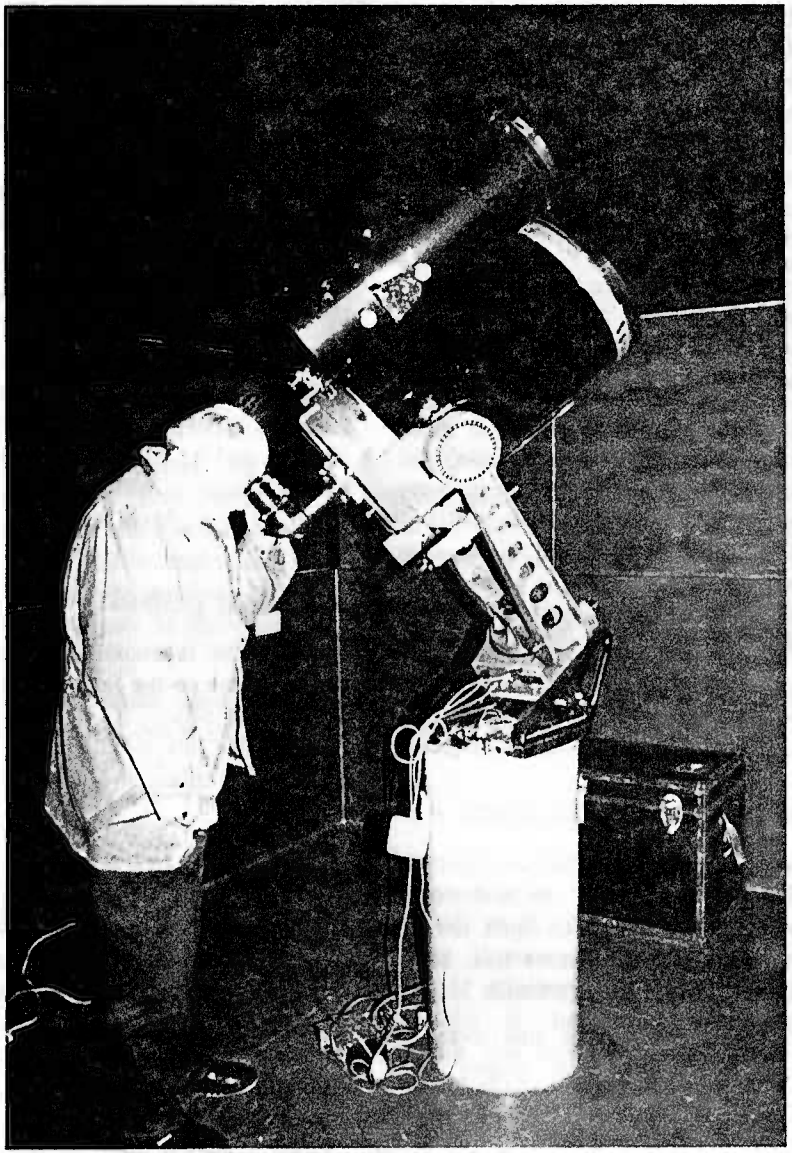
We have received a letter and newsletters from this new club. They have a good many members and are quite active with regular meetings and access to several telescopes. They also have an interesting newsletter. I am sure they would welcome any Section member interested in making contact. Two of their members will be coming over for Patrick Moore's visit, including the Club Secretary, Neil Mahrer.

The new building

After a huge amount of effort by many members, the new building is virtually complete. A magnificent achievement!

. . . and telescope

Dr. Pilkington's 14-inch Celestron has been installed in the new building, and aligned. The first object seen was Mars!



Dr. Lawrence Pilkington observing with the 14-inch in the new building. February 1993.

A Week is a Long Time - Isn't It?

David Williams continues his series on the origins of units of time.

The origin of this particular time measure is to be found in Astrology and not Astronomy.

Originally, the grouping was not often used until Hellenistic times (c.f. the day), and then only by believers in Astrology, the days being grouped according to the first hour of each planet whose name it bears.

Interestingly, as this is an Astrological grouping Christians do not observe the week, as Christianity (like Judaism) rejects Astrology. However, both religions do celebrate the Sabbath, and this occurs at intervals of 7 days.

The Egyptians used a 10-day week, while ancient Scandinavians had a 5-day week. The Jews and other Eastern cultures had been using the 7-day week for centuries until eventually the Romans around the beginning of the fifth Century high-jacked and subsequently adopted the 7-day week, thereby ensuring its universal acceptance.

How did the 7 days come to be decided upon? Well, here we turn to Astronomy to help us.

It is generally accepted that the ancients revered the 7 heavenly bodies (and believed the motions of the planets to affect people's lives in a magical way, hence 7 becoming a mystical number), and so named the days after them, and as a result the grouping of 7 days into a week occurred and became the week we now know. »

Incidentally, the 7 heavenly bodies were the 5 naked eye planets, plus the Sun and Moon.

The naming of the days in English is shown below:-

Sunday	- day of the **Sun**
Monday	- day of the **Moon**
Tuesday	- day of **Tiw**
Wednesday	- day of **Woden**
Thursday	- day of **Thor**
Friday	- day of **Frigga**
Saturday	- day of **Saturn**

These names display the influence of both Roman and Scandinavian cultures. However, in French they reflect more accurately their planetary associations:-

Dimanche	- day of the **Lord**
Lundi	- day of the **Moon**
Mardi	- day of **Mars**
Mercredi	- day of **Mercury**
Jeudi	- day of **Jupiter**
Vendredi	- day of **Venus**
Samedi	- day of the **Sabbath**

David Williams

Next time David will be writing about the months.

This newsletter has kindly been sponsored by

Domestic Heating Services (Wholesale) Ltd.

Tel. 725460

A visit to . . . The Royal Observatory, Edinburgh

Mark Humphrys continues our series on visits to astronomical establishments.

Established in 1818, granted a Royal Charter in 1822, the Royal Observatory, Edinburgh has been a centre for astronomical excellence ever since. Although now little used for direct observation, due to light pollution from the city and the notorious Scottish weather, ROE is responsible for several major facilities funded by the Science and Engineering Research Council, two of which are the 1.2m UK Schmidt Telescope at Siding Spring, Australia (see any of David Malin's exquisite photographs taken with the Schmidt), and the 3.8m infrared telescope in Hawaii.

For the amateur and the general public it has much to offer, in particular the exhibition. From the Visitors Centre follow the blue arrows to the West Tower, with its large green copper turret. This houses the now defunct 16/24 Schmidt telescope. Ascending the circular staircase around the instrument takes one past numerous photographs of the heavens, together with descriptions of the Observatory's work.

One in particular caught my eye - that of the COSMOS plate measuring machine, able to count and classify all the stars and objects found on one of the large photographic plates taken by the giant telescopes in about 11 hours (see some examples of these plates in the Section's library - you try counting!)

From the top of the West Tower, walk out onto the rooftop, which gives excellent views of the city skyline. To escape the » cold wind head for the Rooftop Gallery and 'The Universe' exhibition. This describes the universe on all scales, from the planets through the Galaxy to the universe as a whole. It is well illustrated, with demonstrations, videos and models.

After the exhibition, cross the rooftop to the East Tower. This houses the Grubb-Parsons 36-inch reflector, unfortunately no longer in use. It is nevertheless an impressive sight to those who have never seen a large telescope.

Back at the Visitors Centre you'll find a comprehensive range of astronomical books, slides, posters, postcards and other gifts. All in all well worth a visit. During the winter months, on clear nights, the Observatory has several telescopes which are open to the public, and it organises a programme of lectures.

Mark Humphrys

I also revisited ROE last October, and can confirm that the exhibition is one of the best I have seen. Opened by Helen Sharman last year, it includes much well-prepared graphic material, together with colour-coded information panels for different age and interest levels, e.g.: basic information, further information, "did you know that", and "gee whiz!" There are also videos, computer programs and demonstrations.

My only complaint about the exhibition was that it occupied the space where my office was when I worked there! DLC

Contact:

Royal Observatory Visitors Centre, Royal Observatory, Blackford Hill, Edinburgh EH9 3HJ (tel. 031 6688405).

(There are also leaflets in the Section library.)

Nostradamus (1992-2001)

Michel Nostradamus, the 14th century prophet, has been credited with many predictions which appear to have come true, i.e. the 1st and 2nd World Wars, the great fire of London, and Adolf Hitler, to name but a few.

Many people have studied and interpreted his prophecies, but it is easy to "interpret" his quatrains when the event has already happened. Words and phrases can be twisted to suit the event. In a recent publication two authors have boldly attempted to unravel his predictions for the final years of the 20th century. The book, entitled *Nostradamus, the End of the Millenium*, has some very interesting interpretations of his predictions, especially for the scientific world. In the book the two authors, V.J. Hewitt and Peter Lorie, use a simple decoding method. By translating the Old French into the modern language - certain words have letters which are no longer included in the modern language - and by using these discarded letters, they believe they can predict the date at which the event will occur, and have come up with some startling predictions.

One prediction is that physics will take a giant leap forward in June1995, with the emergence of a mathematical explanation of how a black hole functions, and these theories may involve a total explanation of how the Universe functions.

Another prediction reads as follows:- "Mars known. A journey to the planet near to the Great Age. A new power which grows instead of lessens. A staggering success. Possession outside the rocket." The time given for this is August/ September 2000. »

A new power source described in the verse, which "grows instead of lessens", may come from our new understanding of black holes. This new power source which grows will make space travel far cheaper than the existing rocket propelled vehicles. Space travel will perhaps become an everyday occurrence.

Another prediction which will fascinate astronomers is titled "aliens televised" - August 1998. "On a road someone televises intelligent aliens from the sky with a broken, limping appearance. He or she will put them to flight. He sends them home, although here they alter belief." Someone, perhaps an amateur cameraman happens across a group of creatures which appear to be aliens. The aliens flee, but the capturing on film alters public opinion to the existence of extra-terrestrial life.

Here are a few more of these interesting interpretations:-

1993 Californian earthquake.

1993 Sound waves kill cancer.

1993 America burns.

1995 New hole in the ozone layer.

1998 Aliens televised.

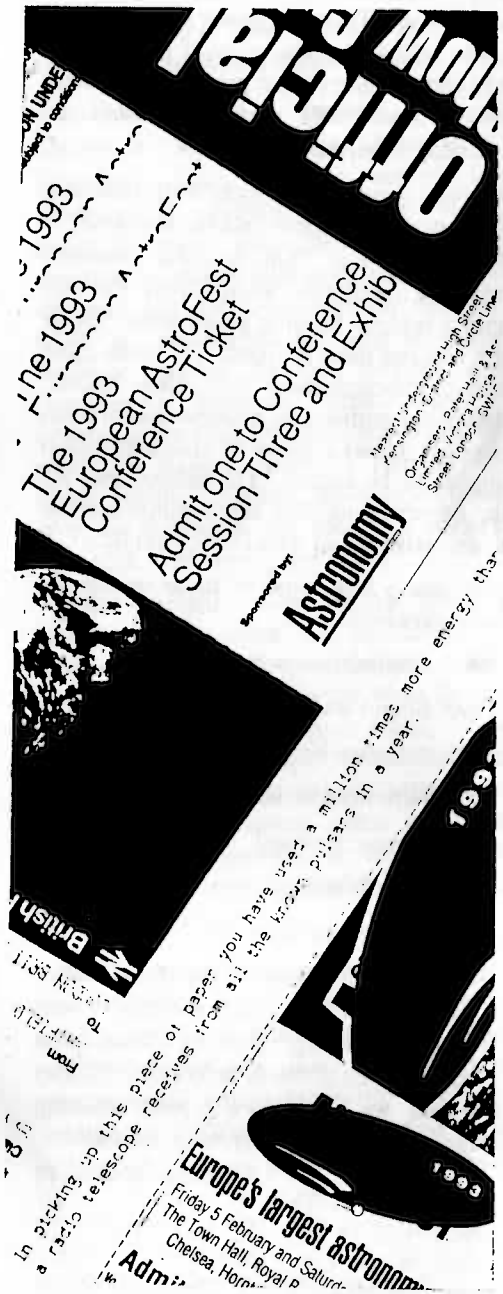
2000 New World religion.

2000 Mission to Mars.

The book is published by Bloomsbury Publishing Ltd., and makes very interesting reading. But will these latest interpretations prove to be correct? If they do then we may have a very exciting future ahead of us. Only time will tell!

Antony Saunders

The address of The Mills Observatory, not given in the last newsletter, is: Balgay Park, Dundee DD2 2UB. Tel. 0382 67138



Daniel Cave **attended -**

AstroFest 1993

The 1993 European Astrofest has been and gone, so, for those of you who missed it -

AstroFest took place on the 5th and 6th of February, and, as last year, the venue was Kensington Town Hall, London. It was opened by Howard Stapleford of Tomorrow's World, who happily told of some of the funnier astronomy and space articles he had presented over the years on the programme.

Formalities over with, Patrick Moore gave the event's first lecture' "Getting Started in Astronomy". This lecture was filled with valuable do's and don'ts for those just setting out in astronomy, and, for the established astronomer, how to answer the questions put to them by newcomers. Over the next two days Patrick gave two more lectures, one (to fill a gap caused by a scheduling problem) was on observing Mars. In the other he described his favourite pass-time: observing the Moon.

On the Friday, John Zarnecku, a project scientist for the Cassini mission to Saturn, gave an account of his work on the Huygens probe to be flown with the Cassini orbiter. The instrumentation he is working on will be used after the probe has fallen through Titan's surface. On Saturday John gave another talk: "The Hazard of Orbiting Space Debris", graphically describing the damage that can occur to space vehicles by minute particles put into space by man.

Iain Nicolson (University of Hertfordshire) gave a lively two-part lecture on the origin and fate of the universe. "The First Three Minutes" dealt with the Big Bang. »

galaxy formation and microwave background radiation, while the second talk on the Saturday was entitled "The Next Trillion Years". This handled the possibilities left for the universe, whether it will last forever or collapse in on itself in the very distant future.

Paul Murdin (The Royal Observatory Edinburgh) presented lectures on observing with the William Herschel Telescope and on "Exploding Superstars" or Supernovae. Based mainly on the information gained from SN 1987A, the lecture presented the facts about how supernovae are understood today.

Jocelyn Bell Burnell gave two excellent and entertaining lectures. One was on her famous discovery of pulsars (following the first all-sky radio survey), the other about the formation and consequences of black holes. This talk presented some unusual ideas about using black holes and dustcarts to generate energy. [*Sounds unusual! -Ed.*]

The President of the BAA, John Mason, energetically presented two talks entitled "Great Comets" and "A Meteorite Falls", highlighting his own interest in these Solar System objects. His lecture on comets stated that we are long overdue for a truly great comet - so keep your eyes open!

Sky and Telescope's Richard Fienberg gave a fascinating lecture on how, possibly late this year, an ambitious spacewalk will take place. The purpose of this will be to fit the Hubble Space Telescope with corrective optics. His conclusion was that, when installed, all the instruments will be working with a minimum of 80% of their designed performance, while the Wide Field/Planetary Camera will be working better than it had ever been intended to. »

Rudiger Reinhard lectured on comet rendezvous missions (such as Giotto) and on the STEP project, the Satellite Test of the Equivalence Principle. The STEP project is an ultra sensitive version of the "feather and hammer" experiment carried out by astronauts on the Moon. Any minute difference in the rate of fall of two test masses means it is back to the drawing board with present ideas on gravitation, and a re-think of Einstein's theories.

The topics for Richard Ellis's talk were faint galaxies and gravitational lenses. AstroFest gave him the opportunity to present some of his recent observations made with the HST. These new images showed some recently discovered gravitational arcs, and he demonstrated how their appearance changes with the wavelength at which the observations were made.

The European Southern Observatory's Massimo Tarenghi concentrated on ESO's new telescope technology, namely the NTT and the VLT (Very Large Telescope). The NTT is already operational at La Silla in Chile, while construction of the VLT is underway. Some interesting slides were shown of how a mountain has been levelled in order to accommodate the VLT. Slides of the huge 8-metre mirror blanks and models of the domes were also shown.

The most visually impressive lectures given had to be those by Paul Doherty. He displayed a number of images he had painted of astronomical objects. Along with sketches he had made at the telescope, he also showed the more commercial side to his work, the science illustrations he does for books. In flicking through astronomy books and magazines you are »

sure to some across some of the excellent pictures painted by Paul Doherty.

As you can see there was a lecture for everyone. There was also a trade fair and exhibition which was constantly busy, and there was an excellent opportunity to compare products and prices. There were many stands displaying computer software and books. BC&F had a large stand with many of the new SCTs there to see. The *Astronomy Now* and *Sky and Telescope* stands had their latest issues for sale, while Rosemary Naylor was hidden behind a pile of her books. There was even an inflatable planetarium on show!

AstroFest was regarded as a great success by all those who attended. The event was very well organised (despite a few last minute changes in the schedule), and was held at a perfect venue. The relatively high cost of entrance was justified, and it would have been worth the trip to London (even from Guernsey!) just to attend the event. I thoroughly enjoyed the two days, and I plan to attend the 1994 AstroFest.

Daniel Cave

Radio Astronomy

On the 2nd February David Williams told us about the history of the development of radio astronomy, and an account of the extent of the electromagnetic spectrum beyond the visible.

Did you know there are three kinds of radio telescope: dish, array and interferometer? The largest dish is the 100 metre near Bonn, the largest array is in New Mexico (27 telescopes, each 25 metres in diameter, in a Y form, each arm being 21 km long), and the largest interferometers extend across continents.

Look out, Lawrence!

What can happen when you look up at the night sky whilst walking in an unlit area? On the 14th January Lawrence Guilbert simultaneously found Mars and a flower bed, whilst doing just that. The result was a heavy fall and a broken collar bone. A lesson to all of us who think that astronomy is one of the less hazardous pursuits. We were all sorry to hear of Lawrence's mishap, but pleased with his quick recovery.

Annual Business Meeting

The meeting on the 5th January was well attended, and there was much constructive discussion. Peter Langford was elected as Treasurer, and Geoff and I were confirmed as Assistant Secretary and Secretary, respectively. Gareth volunteered to care for the outside areas, and Rex the inside areas. Margaret Humphreys undertook to serve the coffee. Gareth and David Williams agreed to create displays.

It was decided not to have formal leaders for astrophotography, solar observing, etc., but to let these evolve. It was also agreed to place more emphasis on education, and to encourage schools to make use of our facilities. ***DLC***

Observing Members

I am compiling a new list of members interested in being called out to observe.

The idea is that anyone planning to go to the Observatory on a clear night can call anyone else on the list. (Often two heads - and pairs of eyes - are better than one!) Let me know if you are interested. ***DLC***

The Lunar Society

We hold our meetings on or just before the full moon for sound astronomical reasons. When the moon is full little observing can be done, so it is the ideal time to have an indoor meeting.

But did you know that a 19th century philosophical society also met on the night of the full moon, and was therefore called the Lunar Society - Charles Darwin was a member. The reason for the selection of the meeting days, however, had little to do with astronomy. It was simply that the members' horses could see their way home more easily! ***DLC***

Schools support

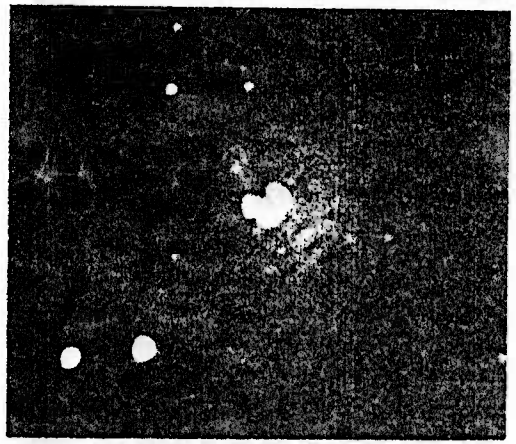
I attended the presentation by La Société to secondary schools on the 19th January. There is a lot of interest by the Education Council's Science Coordinator, Kate Mason, and on the 4th February I met her and teacher Lesley Le Page at the Observatory. Arrangements have been made for pupils from Blanchelande and La Houguette School to have observing sessions at the Observatory.

We now have a file of Teaching Resources, including the Earth in Space part of the National Curriculum. I am a member of the Association of Astronomy Educators, and have much educational material, including a workpack for secondary schools.

There is much potential for working with schools, especially now that astronomy is included in the National Curriculum. If you want to get involved let me know. I have prepared a flysheet on facilities for teachers and students studying *"The Earth's Place in the Universe"*. ***DLC***

News from Hatfield

Daniel Cave has sent us this picture, which he took with a CCD camera using the 20-inch reflector of Hatfield University Observatory. It is of the trapezium in the Orion Nebula. The exposure was 15 seconds, and required no guiding. All four of the trapezium stars showed up in exposures of only one second. The image has not been processed at all, but the original of course shows considerably more detail than this copy.



It would certainly be a good idea to acquire a CCD, and I have initiated enquiries about the availability and cost of a computer to use with it. Daniel says that a new company, Helius Designs were displaying their (British) CCD camera at AstroFest, which could be as good as the ST-6, but cheaper. I would be interested in hearing members' ideas as to how to carry this forward.

Daniel also sent two slides which he took of Mars using our 11-inch telescope over last Christmas. They are excellent, clearly showing surface markings and the polar cap. ***DLC***