

# TRANSIT

The Newsletter of



11<sup>th</sup> January, 2002. Julian Day 2452286

## Editorial

The New Year, 2002

A Happy and Prosperous New Year to all our readers! Where did 2001 go to?

January Meeting

Friday, January 11<sup>th</sup>, 2002, at 7pm, is Member's Night and Neil Haggath is looking for contributions. Please contact him or John McCue now, if you can give a short talk. The meeting place for the Society will continue to be at the Parish Hall, Thorpe Thewles for the time being. It had been suggested that meetings should be at the new Planetarium but suitable toilet facilities have yet to be installed, making Thorpe Thewles the better choice at present.

December Meeting

On December 15<sup>th</sup>, 2001, the meeting was in two parts, both featuring Paul Money. First, he was Chairman, question setter and question master for the Thomas Wright Trophy annual quiz competition. He followed his virtuoso performance with a splendid Lecture. Both of these events are reported later in Transit.

The CaDAS Interview

This issue has the first of a series of interviews with members of the Society, to introduce members to more members. The first few will feature well-known people in the Society. Later interviews will give others, less well known, their 15 minutes of fame.

Letter from New Zealand

Frank Gibson, an old friend of John McCue, has agreed to send us periodic news of astronomical doings in the antipodes and his first piece appears in this issue. He would like to make contact with friends in the Society and has given me his address for anyone who wants it.

European Astrofest 2002

A reminder that the annual jamboree at Kensington Town Hall is on Friday, February 8<sup>th</sup> and Saturday, February 9<sup>th</sup> this year. As well as the exhibits, there are

lectures by many famous names, including Allan Chapman and John Gribbin. Tickets can be booked by ringing 01732 367542.

#### Advertising

If any member wishes to advertise in Transit, please contact me. Anything decent, legal and honest will be published. News of items for sale or wanted can reach about 60 people on our circulation list.

#### Book Review

I would like to start a regular Book Review in Transit and invite you all to send in a summary of a book (or books) you have enjoyed and think everyone should read. I have started the ball rolling with Timothy Ferris's "The Whole Shebang".

#### New Editor

I hope you enjoyed the December, 2001 issue of Transit. Comments welcome. Many thanks to all those who contributed articles and please keep them coming. If you have contributed but not seen your article yet, please be patient. It will appear, soon. Copy deadline is the first of the month.

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### Quiz Afternoon at Thorpe Thewles

On December the 15<sup>th</sup> the Society Meeting took the form of a combined event and lecture. The Thomas Wright Trophy is an annual quiz contest between local astronomical societies. This year CaDAS provided the venue and Paul Money provided the questions and acted as quizmaster, recruiting Karl from the audience to be the scorer. Three Societies were able to raise teams and turn up on the Saturday. Martin Dawson, Martin Whipp and Simon Howard from York, John Gargett, George Gargett and Keith Johnson from Durham and Neil Haggath, Michael Roe and Darran Summerfield for CaDAS. (Darran had his mobile at the ready – his wife was due to have a baby any moment!). Paul had devised an incredibly varied series of questions in both type (individual, team, picture) and subject (people, constellations, history, deep sky, telescopes, etc). The teams displayed an amazing knowledge and answered the most obscure questions with ease. I think I could have answered about 10 of more than 60 (?) questions. After an interesting contest, with the lead changing several times, CaDAS came through as winners with 63 points to York's 58 and Durham's 55. As the Chairman remarked on presenting the Trophy, the questions seemed to be about right, with a fair ratio of right and wrong answers.

### 2Mass, A New View of the Universe

Our speaker in December was Paul Money, one of the most entertaining astronomical lecturers around and a friend of Neil Haggath. After devising and chairing the Thomas Wright Trophy Quiz, Paul had a quick cup of tea before launching into his subject – the emerging results of the all-sky survey at a wavelength of 2 microns (or 2000

nm, the near infra-red). Two 2-metre telescopes, one in the northern hemisphere and one in the southern, have been dedicated for the last few years to a robotic sky survey, taking CCD images at one picture every few seconds. Paul treated us to a series of stunning slides of some of the resulting photographs. He also pointed out the differences shown up between the infra-red and the visible. At the 2m wavelength, lots of brown dwarfs are now being discovered. All in all a feast of astronomical images to enthral us all. If you were not there, you missed a superb talk.  
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Last month Michael Roe argued for a relaxed attitude to the asteroid threat. Neil Haggath was inspired to write of his approach to this perplexing problem. Neither of these two gentlemen seem impressed with our national press.

The Asteroid Threat *Is* Real!  
By Neil Haggath

In the December Transit, Michael Roe gave us his opinion on the threat of asteroid impacts, which he claimed is nothing at all to worry about. With all due respect to Michael ( nothing personal, mate! ), I would like to take issue with his conclusions.

First, I'll point out that I'm definitely *not* one of the scaremongers, and have no time at all for any of the irresponsible, sensationalist drivel which appears all too frequently in the less reputable media.

A classic example occurred a few years ago. A new Earth-crossing asteroid was discovered, and the preliminary calculations of its orbit indicated that it would make a close approach to the Earth on a certain date in 2126. ( A "close approach" is usually defined as closer than the orbit of the Moon). The early data showed that its orbit would intersect that of the Earth somewhere within an error ellipse about 100,000 km long, with the position of the Earth also falling within that ellipse. Astronomers estimated that the probability of the asteroid actually hitting the Earth on that date was about 1 in 10,000.

Yet, when certain newspapers got hold of the story, they actually stated that the asteroid *would* collide with the Earth, and printed such idiotic headlines as "The Day the World Will End!" How even the most dimwitted of journalists could possibly translate a 1 in 10,000 probability into a certainty is beyond me... Within a matter of weeks, as more observations were made, the asteroid's orbit refined and the size of the error ellipse reduced, the astronomers were able to state with certainty that the probability of impact was in fact zero, and that it would miss the Earth by at least 50,000 km.

Unfortunately, that kind of media stupidity tends to blind the public to the *real* facts. Sensationalism aside, most astronomers now believe that the threat of impacts from asteroids and comets must be taken somewhat more seriously than Michael would have us believe. Even the British Government is, at long last, beginning to give the matter some serious attention, though it has yet to allocate any funds. ( See the article by Lembit Opik MP, in Patrick Moore's 2002 Yearbook. )

Most of us have heard of the Tunguska impact in 1908, which flattened hundreds of square kilometres of Siberian forest. Though opinions are still divided as to what the impacting object was ( most favour the nucleus of a small comet, which exploded in the

atmosphere ), we know that its explosive power was equivalent to that of a ten-megaton hydrogen bomb. By incredible good fortune, it happened to strike one of the most sparsely populated land regions on Earth, and as far as we know, not a single human being was killed – though it was bad news for a couple of thousand reindeer! But had the object struck the Earth a few hours later than it did, then it could have hit Moscow, St. Petersburg or even London, with consequences which really don't bear thinking about.

Impacts on that scale happen more frequently than most people seem to realise. There were actually *three* in the Twentieth Century; apart from Tunguska, there was a somewhat smaller impact at Sikhote-Alin, also in Russia, in 1947, and another in Brazil in 1930. And we had an amazingly lucky escape in 1972, when an object of about 9,000 tons actually entered the Earth's atmosphere, but at such a shallow angle that it emerged back into space, without hitting the ground. And *that* happened over the United States!

So far, we have been very lucky; all of those three impacts occurred in regions of wilderness. But it can only be a matter of time before another one hits a populated area. If a Tunguska-size object were to explode over the centre of Birmingham, it would destroy most of that city, with the loss of perhaps half a million lives. And statistics indicate that impacts of that size are likely to occur about once per century, so the next one may not be very far away...

Now let's turn our attention to *big* impacts, on the "dinosaur killer" scale. It's now as good as proven that the impact of an asteroid, probably about 10 km in diameter, was the cause of the Cretaceous-Tertiary mass extinction event, which wiped out not only the dinosaurs, but 70% of all the living species on the planet. We have, after all, identified the crater, near Chicxulub in Mexico.

There have also been several other mass extinction episodes in the Earth's history; some or all of these may or may not have been due to impacts, but in the case of the K-T event, there is no longer any serious doubt. Of course, for impacts of kilometre-sized bodies, the consequences extend far beyond the devastation of the immediately surrounding area. We have to consider the "Nuclear Winter" effect – so called because it was first postulated as the after-effect of a global nuclear war, but it applies equally to asteroid impacts. In the immense explosion, billions of tons of rock would be vapourised, and would then condense in the atmosphere as fine dust. This dust would be carried by the winds for years, maybe even centuries, before it all fell back to the ground, gradually spreading into a blanket of dirt which encircled the entire planet.

This in turn would reduce the intensity of sunlight reaching the Earth's surface, making the climate significantly colder. The world would be plunged into a long, severe winter lasting for centuries; the result would be a major ecological disaster. Plants would die, starved of the sunlight which they need for photosynthesis; animals which eat those plants would then starve, and so on up the food chain. That is almost certainly what happened 65 million years ago – and it could happen again, when the next big strike occurs.

Obviously, the bigger the impact, the less frequently it happens. Objects about 1 km across hit the Earth about once every 100,000 years – which of course *doesn't* mean that we have that long to wait until the next one. We have no idea when the last such event occurred; the next might not happen for millennia, but it could equally well happen within our lifetimes. (Don't forget that for every Earth-crossing asteroid which we know about, there are probably several more yet to be discovered). Such an impact would

devastate a region the size of France, and would have grave ecological consequences on a continental scale. If it landed in an ocean, the effects might be even worse, as the resulting tsunamis swamped every coastal region around that ocean. The human death toll would be measured in tens, perhaps hundreds, of millions.

Any impact by an object bigger than about 2 or 3 km would have truly global consequences, due to the aforementioned “Impact Winter”. Such an event happens once per couple of million years; it would kill a substantial fraction of the human race, and probably cause the extinction of significant numbers of other species. And once in every 30 million years or so, we can expect “The Big One” – an impact of 10 km size, with consequences comparable to the K-T mass extinction. It’s by no means certain that the human species could hope to survive such an event.

As Michael pointed out, we read such statements in the media as “A person is more likely to be killed by an asteroid impact than in an air crash”. Sorry, Michael, but far from being “ridiculous”, that statement is actually statistically correct! In making such a comparison, we need to multiply the probability of an event happening by the potential number of deaths if and when it does.

Disregarding the terrible events of last September, air crashes tend to happen a couple of times per year, and usually kill a couple of hundred people at a time. Let’s assume that the average number of people killed per year is 500; that’s roughly one in 10 million of the world’s population. Therefore, the probability of any given individual dying in an air crash, in a given year, is one in 10 million. ( I’m over-simplifying here, and assuming that every human being has an equal likelihood of dying in an air crash, which of course isn’t the case! )

Now let’s consider the impact of, say, a 3-km asteroid, which I’ve already said would be a global catastrophe. This is likely to happen about once in two million years; the death toll would be of the order of *one billion* people, or one in five of the human race. Therefore, the probability of any given individual being killed by such an event, in a given year, works out as... Guess what? One in 10 million – exactly the same as for the air crash! And if you integrate the equivalent figures over all sizes of asteroids, we can conclude that each of us is at least twice as likely to die that way. Yet, while billions of dollars are invested each year in efforts to make air travel safer, how much is being spent on countering the impact threat? Answer: next to nothing!

The British Government uses exactly the same kind of statistical argument as I’ve just presented, to assess the risks of various disasters – road accidents, air crashes, nuclear power accidents, etc. A graph is plotted of frequency of occurrence versus likely number of deaths; each event is represented by a point on the graph, and its location determines what, if anything, should be done to reduce the risk. The graph is divided into three risk categories. “Negligible Risk” means that the risk is so small as not to justify spending public money. “Significant Risk” means that steps should be taken to reduce the risk, as far as is economically practical. “Unacceptable Risk” means that something *must* be done, *regardless of cost*. And guess where the major asteroid impact falls... well within the region of “Unacceptable Risk”! So by not investing any funds in near-Earth object research, the Government is actually contradicting its own policy. ( But then, what’s new? )

So, if and when we *do* detect an asteroid or comet on a collision course, what can we hope to do about it? Most people’s instinctive answer would be “Destroy it!” – and

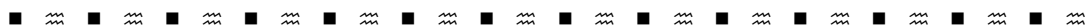
they would be completely wrong. Michael claims that military leaders love the idea of “another evil enemy to aim their nuclear missiles at”. Not if they have any brains, they don’t! Jay Tate, Director of Spaceguard UK, is himself a retired Army officer, but has never once said anything about “blowing up” an approaching asteroid.

Think about it; what good would that course of action do us? If we hit the asteroid with lots of nuclear bombs, and blasted it into fragments, then the majority of those fragments would continue to travel along more or less the same orbit, i.e. on the same collision course. So instead of a single large object hitting the Earth, we would have thousands of smaller objects hitting it at once, at impact sites spread around the globe, and the net effect would be worse.

The real answer lies in subtlety, not “brute force and ignorance”! We need to find a way to deflect an asteroid’s orbit, to ensure that it misses the Earth. If we have plenty of warning, this shouldn’t be all that difficult; if we can intercept the object while it’s still months or years away, then the gentlest of nudges, altering its course by just a degree or two, will be all that’s required. This could possibly be achieved by exploding nuclear weapons in its vicinity, but much more subtle methods have been proposed. Probably the best involves installing an electromagnetic linear accelerator on the asteroid’s surface, which would propel bits of its surface material off into space at high speeds. The required nudge would result, courtesy of Newton’s Third Law.

So there are two areas of research in which our leaders should be investing a little of our money – near-Earth object monitoring programmes, to give us the maximum possible warning of an imminent strike, and the development of methods of preventing it.

To conclude: as Michael quite rightly said, the threat of impacts is definitely nothing to get hysterical about. On the other hand, we would be extremely foolish to ignore it. If we all adopt the attitude of the ostrich, then are we really that much cleverer than the dinosaurs?



### Letter from New Zealand

What is a letter from New Zealand doing in the newsletter of the Cleveland and District Astronomical Society and who is this Frank Gibson fella who has written it? I would think that most of the people on the mailing list know each other by sight and meet regularly. It is unlikely that I shall meet most of you in the flesh so it is only fair that I introduce myself and explain the situation.

In 1961 I started at what was then a posh (well they thought so) boys only grammar school in Middlesbrough called Acklam Hall. In my second year there I found that my desk was next to a young fellow called John McCue. He at that time was obsessed with astronomy. I owned a cardboard tube, with a lens at each end, which I rested on the gutter of the washhouse as a mount and sort of saw craters on the moon and some moons around Jupiter. John was the motivator and around him formed the school astronomical society. Other luminaries included Russell Grief and Paul Harris. I know that Russell and John have been life long friends but what happened to Paul Harris?

John built his own six-inch reflector. My favourite instrument was a spotting telescope from a tank, which I believe a teacher had brought back from the Second World

War. It had great optics and a wide field of view, which made it excellent for star clusters.

We had many adventures. John found a concrete pillbox in a field in a bend in the Tees (again left over from the war) in which we camped and watched meteor showers and nearly froze to death. In 1967 we spent the night on the roof of Whinney Banks School at the invitation of David Bailiss who was a teacher there at the time and even got our picture in the Evening Gazette of which John has a copy. I am the one kneeling down.

The aim was to observe the Leonids shower. It rained all night and we got very cold and wet and saw nothing. This story has a sequel. As you probably know the Leonid shower of 2001 was expected to be good over eastern Asia or the western Pacific and indeed I believe good sightings were had from Australia and Japan. I got up at 2 am to see patchy cloud so I sat on our front deck (veranda in England), which faces due north (the right direction for the zodiac from here). The cloud gradually thickened but I saw one mighty fireball bright enough to be seen through thin cloud and definitely coming from where Leo would be below the horizon. Shortly after this the weather closed in and yes, you guessed, it started to rain. But that is an improvement on 1967. I will be eighty-two when the next time comes around and I expect the upward trend in Leonids seen to continue.

To continue the story. John and I continued through school and did a lot of things together. Then we left and went to different universities and did not see a lot of each other. He was at Saint Andrews studying astronomy and I was at Bradford getting a degree in engineering. The last time I saw him in the flesh was at a Christmas party in 1979 (I think). I then did a lot of things and a fair bit of travelling but that is another story not relevant to an astronomical newsletter. I got married to Linda and now live at a place called Koatanui near Wanganui on the south coast of the North Island of New Zealand (Aotearoa). One day I browsed the Internet white pages and searched for people I have not seen for a long time and found John's email address and that is what started this.

Now I will confuse you. Wanganui is on the river Whanganui. Wanganui and Whanganui are pronounced the same. If you are from one of the local iwi (Maori tribes) you call them both Wanganui. If you are from a Taranaki iwi your dialect will tell you to pronounce both of them Fanganui (a very soft F more like ph).

Alex (the editor) asked me to give some idea of astronomy in New Zealand. Where I was born and brought up in Middlesbrough, astronomy to the north was impossible because of the glare from the furnaces and ICI. To the south was the glare of sodium street lamps but I could pick out Orion and I became very familiar with Cygnus and Delphinus because they were often overhead. The Plough (Ursa Major) and the Little Bear (Ursa Minor) were familiar and the star fields in Cassiopeia were great in my tank telescope.

In New Zealand things are rather different. We have about the same land area as Britain but only 3.8 million people (almost 60 million I believe in Britain). About 2 million of these live in Auckland, Wellington, Christchurch and Dunedin. The main industries are agriculture based with little heavy industry.

Where we live we are about 20 km in a straight line from Wanganui (about 40000 people) and we are at a height of about 400 metres. To the south is Cook Strait and then the South Island (Pounamu) which we can see on a clear day. To the west there are no serious towns before Sydney (about 3000 km). To the North is open country for about 300 km and no major towns for about 450 km. What this means in practical terms is that stars are visible down to the horizon and on a clear moonless night Scorpio and Sagittarius are stunning. I take my dogs for a walk at dusk. At the start of the walk we are walking east but coming back we are walking into the last remnants of the sun and about an hour after sunset the zodiacal light is very obvious. This is something I never saw from England. I have also seen a phenomenon, which Patrick Moore mentioned in one of his books. This is a shadow cast by Venus. I have seen this clearly on two occasions. So in summary the seeing here is excellent. However, because we are in the roaring forties the proportion of clear nights is probably less than in the North East. So we make up in quality what we lose in quantity.

I have been asked by Alex to contribute a regular column. I shall endeavour to do this. Where possible I shall contribute serious astronomy but an essential part of astronomy is the simple gob smacking wonder of the sky and the philosophical thoughts this engenders so I may wander off into more esoteric areas as time goes on.

Kia kaha et aroha  
Frank Gibson

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## TESTING GOD By John Crowther

In September, Channel Four produced three programmes with title "Testing God". The first dealt with the idea of God always within his creation. This view agrees with modern cosmology, because the idea of a Creator outside it, is difficult to accept. Space, time and matter all suddenly appeared in the Big Bang, so such questions as "What was God doing before that event?" and "Where was He" do not make sense. So the universe may seem to resemble a bubble, which suddenly appears and may just as suddenly break and be no more!. On a smaller scale this already happens when extremely dense stars distort time and space so much that a black hole is formed and the star then disappears from the Universe.

The second programme focussed on evolution and the survival of the fittest. Animals evolve, changing so that they can use an environment or a food source, which no other animal is using. Evolution is not purposeful and can no longer be seen as a tree with humans at the top. It is more like a creeper growing in all directions, filling every crack and crevice. But the theory of evolution and that of the selfish gene does not explain why selfless love appears, that which is more than parental love and care and is at the heart of Christianity.

The third programme, continued the theme of the earlier ones. Scientists, about three hundred years ago, saw the universe as being rather like a big clock. They thought that they would discover everything about it through mathematics, chemistry, physics and other sciences, also with the help of telescopes and microscopes.



But now they are finding out they are wrong. Things are more uncertain, there are many grey areas. Whether they deal with the very small or the very large, violent chance events take place. Galaxies collide and particles smaller than atoms do strange things. So our personal view of God varies between one of believing in God who is in everything that happens to us or in God who loves and waits and does not intervene and alter the uncertainties that surround us.

The programme looked at other religions. Atheists, as well as believers, gave their views, and many of the believers had suffered or were suffering. They included a woman cellist who had been in a concentration camp, a man who had fought in the Hitler youth, and a young lady, now a famous astronomer, who was close to the troubles of Northern Ireland and who had a child with a terminal illness.

Unfortunately no leaflet or book companion to the series "Testing God" was available but it may well be repeated in the future.

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### The CaDAS Interview – Jack Youdale

*For the first of a series of interviews with CaDAS members, who could be more appropriate than the President? We have all enjoyed and been entertained by Jack's Annual Presidential Lectures – I am told he has done more than twenty, now, and all on different subjects. To recent members like myself has "always been there". It was time to introduce him, in a wider sense, to everyone. We talked in Thorpe Thewles Village Hall after the Regional Quiz and Paul Money's lecture in December, 2001. As we strolled outside after talking together, I learned that Jack lived literally a stone's throw from the Village Hall and knew everybody.*

*When did you first become interested in astronomy?* When I was a lad of 11 years old a neighbour, called Mr Laws, had a 2 inch refractor and let me look at the Moon through it. Like everyone who sees the Moon through a telescope or binoculars for the first time, I was amazed. It set me off on a life-long enthusiasm. In 1947 I joined the BAA and joined the Meteor and Mars sections. I soon bought a 6-inch mirror and built my own telescope from scratch. I bought lots of astronomy books, looked at the planets, became involved with the sky. Mr Laws was the sort of man who was interested in everything and his introduction to ornithology has stayed with me as a life-long interest.

*Tell me about your young days.* I was born and brought up in Billingham, the youngest of 4 brothers, with a younger sister. School and family life were enjoyable, pleasant experiences. I was interested in all the normal boyish things, including football. From school, I did an engineering apprenticeship at ICI, then National Service in the Royal Navy. In about 1948 I met David Sinden. He had just completed his first 6 inch reflecting telescope and he introduced me to making optics. He later became Chief Optical Engineer for Grubb Parsons in Newcastle, building big, professional telescopes for organisations all over the World.

*How did you get involved in grinding your own mirrors?* After coming out of the Navy, in about 1956, I started teaching astronomy at Workers' Educational Association

evening classes. Later, I began teaching telescope making at evening classes and it was here that John McCue and John Nichol became involved in optics. I did a lot of telescope building from around 1960. I was amazed that, entirely by hand, you can grind a mirror with a surface accurate to within a fraction of the wavelength of light.

*When we were talking ornithology, you mentioned holidays in Scotland. Were you mountaineering - Munro-bashing?* More fell walking. My wife and I used to take holidays in the Lake District and Scotland and walk in the hills. The ornithology always came in handy. *That gives me a chance to ask about your own family.* I met my wife at the SY (Service of Youth) Art classes at the Cleveland Sketching Club. We have a son and two daughters. John is a school teacher, and the youngest daughter was a TV gladiator, called "Jet". She is in pantomime this year in Leeds.

*You have been in the Society from the beginning. How did it all start?* John McCue and John Nichol, both teachers, started a local Society, to encourage their older students to take an interest in Astronomy. As I remember it, they met in Prissic School, in Acklam Road, Middlebrough and asked me to wear the "President's Hat". The Darlington AS was formed earlier than the Cleveland. In 1979, by mutual agreement, both combined to form the present CaDAS.

*You are an Fellow of the Royal Astronomical Society and holder of the Dall Medal. Tell me how that came about.* Well, to become a Fellow you must be proposed by two Fellows. David Sinden and the late Harold Ridley proposed me and I was elected FRAS in about 1970. My association with Horace Dall came through our mutual interest in telescope optics. I began investing in Sky and Telescope Magazine in 1948 and I still have every copy since then! In 1957, an article appeared on the making of a new and revolutionary design of compact telescope - the Maksutov, named after the Russian optician D. D. Maksutov. I bought the optical glass and ground the steep curves of the correcting lens by hand. I believe the instrument (6 inch aperture) was the first to be made in this country by an amateur. I wrote two articles for Sky and Telescope Magazine about the construction of this instrument. It was at this time I corresponded with Horace Dall about making the optics and I met Dall. I admired him greatly. He was very modest and unassuming, although a brilliant physicist in optics and fluid flow. His Dall tubes and orifice plates were basic industry standards for flow measurement. He was closely associated with George Kent, who built up a big company making flow-measuring instruments for the power station industry. Dall died in 1986 and the BAA set up a memorial fund with a medal to be awarded to amateurs in the optics field., to encourage people to become involved. I was awarded the medal in the first couple of years of its existence for "services to amateur telescope making".

*Only a short time ago I learned of your regular radio broadcasts on astronomy. How did you get involved in that?* Graham Aldus, a producer at BBC Radio Cleveland, heard about my lectures and asked me to give a broadcast talk on a partial eclipse of the Sun during the mid 70's. I took a telescope with me and set it up to give a projected image of the Sun as the eclipse progressed and we talked about it, live, as it happened. Ever since then I have given a monthly talk for BBC Radio Cleveland, called "The Sky over

Cleveland”. It covers things of interest in the sky for that month, lasts about 20 minutes, and is broadcast on the first Wednesday of the month at 1030am. How could I have missed that, living in the area for 25 years? Well, I also produce a monthly star chart showing which planets are visible every month – I’ll give you one next time I see you!

*You are a very enthusiastic guy. Do you ever ask yourself why and how people get so enthusiastic about things?* Well, in my case, it’s a drive to seek answers, to ask questions. It’s a search for basic truths. I don’t see how one can’t be inspired and enthused by such a search. I want to know how I relate to the Universe. I want to contribute as much as possible. Can you imagine yourself ever being bored? Never. I suffer frustration at not being able to do all I want to do, but never bored. I think enthusiasm is part of a person’s make-up, part of the joy of living.

*Are you a religious man?* Not in the conventional sense. I am not a Church-goer. It is more a matter of a philosophical relationship with the Universe and what is out there. I don’t have a personal God. In astronomy it’s impossible not to have a sense of wonderment at this profound aspect of life. Here we are on this tiny planet, looking out at the immensity of the Universe, learning daily how insignificant we are. We are made of star stuff, we are part of the Universe. It’s all a complete entity and still the greatest collection of atoms exist between our ears – the greatest source of joy!

*Do you have time for other hobbies and interests – music, theatre, books?* Oh, yes. I love music and can’t imagine life without it. I sang a lot when I was younger and took singing lessons, gave concerts with a regular accompanist, then and when I was in the Navy. Do you know I met Gigli on King’s Cross Station once? *Do you play an instrument?* I can do a few chords on the guitar, if pressed. *What are you reading now?* I’ve just finished reading Allan Chapman’s “Victorian Amateur Astronomers” and Stephen Hawking’s illustrated version of “A Brief History of Time” again. Another memorable read was Dava Sobell’s “Longitude”, about John Harrison and his amazing marine clocks. My library has grown over the years and takes up an immense amount of room at the moment. I need to do something about it. *What about novels?* I read the Classics – Dickens, H. G. Wells – but not modern adventure novels and stuff like that.

*If you were World Dictator, what measure would you introduce?* (Jack looked up into the ceiling and was almost non-plussed by such a daft question). You don’t have to answer. Just gathering my thoughts. I believe that in some way mankind must move towards World Government, one in which there is less Law but greater Justice for everyone.

*And another of my daft questions – in a sentence, what makes a civilised Society? (Not a hesitation this time!).* One that embraces a proper National Health Service and Health and Safety Legislation to protect working people, with the emphasis on the prevention of ill-health.

*Tell me about the connection between the Society and who owns the Observatory and the Planetarium.* They both belong to the Local Authority. The Society provides the

motivation, the equipment, the personnel and the know-how to run them. For instance, the Society put the telescopes, with optics by David Sinden, in the Observatory provided by the Local Authority. Ray Worthy acquired the planetarium projector from Belgium and gave his know-how for the design. We, as a Society, bequeath our equipment and expertise to the public, via the Local Authority, who look after matters of public safety, education and well-being, providing stable continuity.

*What is right about CaDAS and what you would like to change?* What's best about it is the coming together of like-minded people to share their views, talents and thoughts. We have some very talented amateur astronomers here, some serving as leaders of sections of the BAA. It's always possible to improve an organisation, I suppose. I would like to see more active involvement of members generally in observation and active participation in the observing sections of the national amateur organisations – the BAA, the SPA. Astronomy, at least the “fun” part, is through the eyepiece of a telescope.

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### Local Course

From Dr. Fred Stevenson, Science Development Officer, Harrow Road Centre

My astronomy course at the Centre failed to recruit the required number of students this year - for the first time - when it started in September. I am going to try and start again in January (Monday 14th, 7-9pm for 22 weeks). From people who started before plus a few others that I have found in the meantime I now have 9 keen students. This means that I only need one more for the course to be viable. I was wondering if you might know of anyone who may be interested? It will be a basic introduction this year starting at the beginning - finding your way around the night sky, telescopes, the solar system and stars. Anyone interested, please contact Dr Stevenson, as soon as possible.

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Custom Telescopes UK. Glen Oliver, a long-time member of the Society, can supply telescopes and accessories of all kinds? He operates from Hartlepool and has a website [www.goliver.freeserve.co.uk](http://www.goliver.freeserve.co.uk). Support local businessmen!

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Transit Adverts If you wish to let members know what you want to sell or what you are looking for, please send an advert for the magazine.

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CaDAS Website Don't forget to visit our very own website and give John McCue your comments ([www.stocktonsfc.ac.uk./mccue/caseden.htm](http://www.stocktonsfc.ac.uk./mccue/caseden.htm)).

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Please send contributions for the Newsletter to Alex Menarry, 01325 482597 ([a.menarry@virgin.net](mailto:a.menarry@virgin.net)) or to John McCue, 01642 892446 ([john.mccue@ntlworld.com](mailto:john.mccue@ntlworld.com)).