

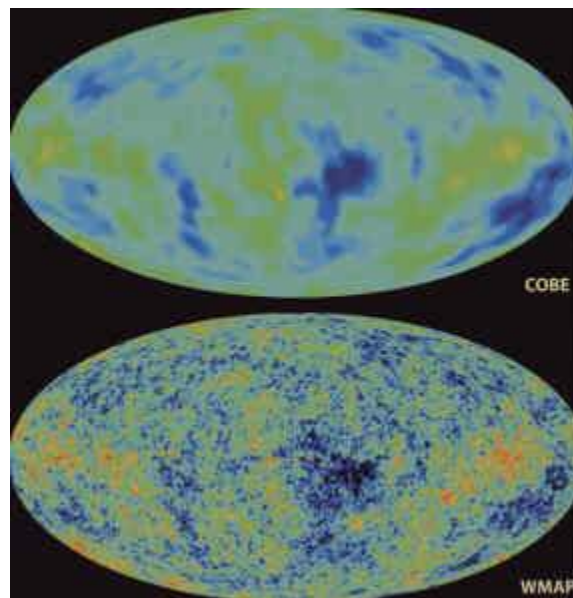


TRANSIT

The Newsletter of



13th February, 2004. Julian Day 2453049



The all-sky results from the survey of the Cosmic Microwave Background Radiation by the Wilkinson Microwave Anisotropy Probe are beginning to come through. Here's a comparison of the detail observed by COBE and WMAP. By a statistical analysis of the angular size of the minute temperature variations shown by these maps, astronomers and cosmologists are deducing the most amazing things about the properties of the universe.

Editorial

The Society Book Project. The names of those who have sent in articles for the book are as follows. David Blower, John Borrett, John Crowther, Pat Duggan, Janet Gibson, Neil Haggath, Keith Johnson, Alex Menarry, Ron Peacock, Rob Peeling, Michael Roe (2!), Jurgen Schmoll, Darran Summerfield. Can you see your name in the List of Honour? If not, why not? Sadly the list of heroes is much shorter than the list of “the rest”.

Sky at Night, January 4th. If you watched the programme, you will know that Keith Johnson’s images of Mars reached the final of the competition, the last sixteen, in a very competitive entry. He is to be congratulated on being the only other person, apart from the first second and third, to have an honourable mention.

January meeting. There were three items for Member’s Night. Alex Menarry gave a talk on the Rosse Telescope at Birr Castle in County Offaly, Ireland. Keith Johnson talked about and demonstrated some of his beautiful images taken with TV cameras. John Crowther, Neil Haggath and Barry Hetherington then gave an entertaining play, using the script published in last month’s Transit. A lively discussion followed.

February meeting. The next meeting is on 13th February, 2004, in the Village Hall, when David Cook of Harrogate A.S. will give a talk entitled “Sundials – Not Just a Pretty Face”.

Subscriptions. Just another reminder, if you didn’t attend the last meeting, that subscriptions were due last month.

Beagle 2. The deep disappointment at the demise of Beagle 2 must be mitigated by the success of the ESA orbiter, which is doing great science. The American rovers are going well, too, with every hope that they will establish that water was and is a common molecule on the Martian surface. Lots of interesting news to come.

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Light Pollution Issues An email from Keith Johnson

Hi Alex,

I contacted the Durham County Hall Street Lights Division about 2 months ago, asking what could be done regarding two sodium lights which are 3 metres to the left and 5 metres to the right of my observing pedestal concreted into the garden. Ideally for me the solution would be to take them out posts and all but, knowing fine well I would have to compromise, I asked if we could come to a mutual agreement. Two weeks later I came home from work late one night to discover to my horror that they had fitted an even brighter light!

The very next day I contacted their head guy explaining what needed to be done even offering to pay the costs (£350) of having the lights replaced with more "astro friendlier lighting". His response was "Oh, they'll cost more than your telescope". My response to

him was "Where do you think I bought my telescope.....Argos?" After explaining what astro set-up I had, "leave it with me" was the reply. Two days ago I was awakened early in the morning to discover that they had removed the lamp post to the right of the pedestal and fitted another much taller one minus the light fitting! I quickly went outside and asked "What sort of light fitting is going to be installed?". I also mentioned that on numerous occasions I had been in contact with County Hall regarding the lights and the adverse effect it was having on my dedicated hobby. "Oh..... so you're the lad who's been constantly on the phone to our boss about his telescope?". "Yep ..that's me!". "Well you'll be pleased to know we're waiting for a special 'full cut-off light' to come in and as soon as they do we'll be out to fit them with NO cost to you!". At that I offered them a cup of tea and biscuits and showed them my equipment. "WOW.....you don't know Patrick what's-his-name do you ?" "Moore ?..... Er ..no, not really!" I think that because of the media attention lately concerning light pollution, they are having to sit up and listen to the public and why not? ...we're paying to have the damn things installed and maintained!

So the moral of the story is: Don't just put up with the light polluters, get onto the phone to your local County Office Street Lighting Division. But don't go in like a "bull in a china shop" - ask if you can come to some compromise, be sympathetic as to why we need street lights for all our own safety but make them understand we can sometimes have it both ways.

I'll let you know what positive effect (if any) the new lights have when they're installed.
Keith.

And I have just found this in my collection of "items to publish soon" :-

Student Award, by the International Dark-Sky Association

The International Dark-Sky Association is presenting a new award for students. IDA's goal is to preserve and protect the nighttime environment and our heritage of dark skies through quality outdoor lighting. We strive to educate everyone, everywhere about the value of dark skies and quality night-time lighting.

During the IDA's annual spring meeting, we will award educational work that has been done concerning light pollution from school students worldwide.

The award is given in honor of George and Edythe Taylor. George was a well known, long term, lighting engineer who won honors from the Illuminating Engineering Society of North America (IESNA) for his contributions to the field. He was always interested in and supported education.

Submissions will be judged for 3 grade ranges: Kindergarten - 6, 7-9, 10-12

The award carries a monetary award. For more information, see:

<<<http://www.darksky.org/education/edaward.html>>>

Elizabeth M. Alvarez del Castillo, Associate Director, International Dark-Sky Association (IDA), 3225 N. First Avenue, Tucson, AZ 85719-2103
liz@darksky.org

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From our Webmaster, Ed Restall

News of a change to the Society Website, designed, run and maintained by Ed for all of us. The website is an Aladdin's cave of information about the Society, with links to all sorts of places. There is a section for members to advertise items they wish to sell.

Hi Alex,

The combined Planetarium/Observatory and CaDAS website now has it's own domain: wynyard-planetarium.net

This means that you can access the website from www.wynyard-planetarium.net <<http://www.wynyard-planetarium.net>> and the main e-mail addresses are:

director@wynyard-planetarium.net <<mailto:director@wynyard-planetarium.net>> for John,
webmaster@wynyard-planetarium.net <<mailto:webmaster@wynyard-planetarium.net>> for Ed,
secretary@wynyard-planetarium.net <<mailto:secretary@wynyard-planetarium.net>> for Neil,
treasurer@wynyard-planetarium.net <<mailto:treasurer@wynyard-planetarium.net>> for Ian and
transit@wynyard-planetarium.net <<mailto:transit@wynyard-planetarium.net>> for Alex.

For those who are into such things it's a web-forwarding domain pointing to our current internet service provider (ISP) BTOpenworld, so the old addresses for web & e-mail @btopenworld.com still work. However, we have been having reliability and accessibility problems with BT and will most likely be switching ISP soon. This change will not affect our domain: wynyard-planetarium.net as all web-space & e-mails will be redirected to the new ISP (or private e-mail addresses of society personnel as and when they change). So basically if you use the new domain you'll always get to the right person/address because it's transparent to any changes ... as long as I remember to update things! :-)

Cheers, Ed.

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Astronomy and the Internet From Rod Cuff

I haven't contributed an article in this series for a while, so here's a sort of catch-up ... If you have any particular areas that you'd like me to tackle for a future issue, please e-mail me (rod@wordandweb.co.uk).

Auroras

- The spectacular auroras at the end of October and beginning of November (from the North York Moors near my home in Guisborough, I could watch beautiful ghostly streamers playing across the whole east–west span) produced some great galleries on the Internet. Examples include www.perseus.gr/Astro-Aurorae.htm (in Athens!), www.macnmotion.com/aurora2003, <http://members.aol.com/tdcarls/october302003/auroras.html>, www.philhart.com/gallery/aurora_031120 and especially http://science.nasa.gov/spaceweather/aurora/gallery_01oct03_page7.html . (You can keep tabs on current potential aurora conditions at <http://spaceweather.com> .)
- The major sunspot groups responsible for it all are well shown at http://homepage.ntlworld.com/steven.webb7/Sun/2003_1030_120821ac2.jpg – or through an H-alpha filter at www.macnmotion.com/sun/sun10302003.jpg ...
- ... And you can even listen to that record-breaking solar storm at <http://spaceflightnow.com/news/n0311/02flaresound> .

Animations

- The Vela Pulsar jet as seen by the Chandra X-Ray Observatory is well shown (for those with broadband) at http://chandra.harvard.edu/photo/2003/vela_pulsar/animations.html .
- The May total lunar eclipse is available in animated photographic form at <http://btlguce.digitalastro.net/images/Messierpage/eclipse-320.gif> and differently at www.astro-nut.com/lunar-eclipse.html .

Cosmology

- This year there are at least three of us in CaDAS who are taking a remote-learning course in cosmology from the University of Central Lancashire (www.studyastronomy.co.uk/publicity/factsheets/html/cosmol.asp). A good central directory of cosmological information on the Web is at <http://directory.google.com/Top/Science/Astronomy/Cosmology> .

Space Telescopes

- Pictures from the Hubble Telescope continue to astound – take a look at the gallery of recent pictures at <http://heritage.stsci.edu/gallery/galindex.html> ...
- ... Or the best display on the Internet, at <http://wires.news.com.au/special/mm/030811-hubble.htm> .
- Recently an exciting new observatory showed off its first pictures – the Spitzer Infra-Red space telescope. Of the photos at <http://spaceflightnow.com/news/n0312/17sstresults> , the one of M81 is real jaw-dropping stuff when you compare it with what can be seen visually (<http://antwrp.gsfc.nasa.gov/apod/ap020620.html>).

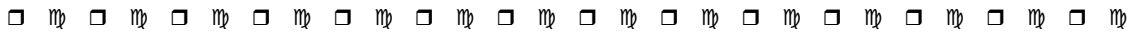
Mars

- Your view of the closest Mars opposition in millennia was probably not quite as good as Hubble's at <http://spaceflightnow.com/news/n0308/27marshubble> .

- Only a few years ago, the Martian moons showed up as just fuzzy images at best. Now see what the Mars Global Surveyor makes of Phobos at http://skyandtelescope.com/news/article_995_1.asp !

News

- Did you know two dozen planetary satellites have been discovered since 2000? Astound your friends by casually mentioning the new names and data, courtesy of http://skyandtelescope.com/news/article_1012_1.asp .
- Um ... did I say two dozen? Outdated already – 21 new ones for Jupiter were found in 2003 alone, according to <http://spaceflightnow.com/news/n0306/03moon>.



The CaDAS Interview – Keith Johnson

You will all have been as impressed as I am by Keith’s pictures published in Transit. As web cameras and other types of television camera have developed over the last 5 years or more, there are a number of local amateur astronomers who have been using them, instead of the more usual charge coupled device cameras. Together with computer software to enable multiple images to be stacked and software to enhance the image, the results are quite remarkable. Keith submitted some of his Mars images to the recent “Sky at Night” Competition, in company with some very well known imagers in more helpful climates. He reached the final of the last sixteen and emerged with an honourable mention. It was time to talk to him about his interest and inevitably about his life in general, over a drink in the pub after the last meeting.

How did you come to start this interest in TV cameras and imaging?

About 8 years ago, I happened to be looking on one of the astronomy news groups when I noticed a message entitled “obtain great astronomy images using a web camera”. It had a link to the QCUAIG newsgroup and after a year’s learning curve, I was obtaining images that were quite good. Some of the freeware software available on the internet back then were in my opinion quite off-putting, as some of them didn’t have tutorials. But as more and more people have become interested with this alternative way of image capturing, that’s all changed.

Have you always lived in the North East? I was born and brought up in Ferryhill, in a family of 4 lads and 3 girls. I’m the second youngest. My sisters are still living local but all of my brothers live away from the North East now, I visit them from time to time – especially my 2 brothers who live permanently in Northern Ireland. My Mum and Dad are still living in Ferryhill.

What about your own family? Kath and I live in Chilton and we have two girls, aged 13 and 10. The oldest girl isn’t really interested in astronomy but the youngest is, especially for projects at school and when there are interesting things going on – like the recent probes to Mars and Mars being so bright in the sky. I hope they are learning from me and will take it up seriously in the future. You never know! Kath is very supportive and

helpful but she is not interested in the stars. I work in Spennymoor as a CNC machinist. *What's that ?* In simple terms it's a computer controlled lathe. I've been in the same job for 25 years now, which is quite rare these days.

How did you get into Astronomy? Oh, I remember the very first time I got interested. It was the time of the miner's strikes and the 3-day week and the public lighting went off for long periods. It was in the 70's, I was about 7 or 8 years old. I had strict bed-times in those days, you know, and had to be in soon after dark. Anyway, the power went off and decided to call for Peter Rowland my best mate who lived over the road from me, as I was going to his back door I heard voices in the darkness at the rear of the garden. And there in the darkness were two people looking through a Charles Frank 8 inch reflector – It was Peter and his older brother. They let me have a look through it at Saturn in Gemini at the time. It was sensational and that was it for me I was hooked !

Did you get a telescope? Not straight away but a week later I bought a cheap pair of 8x30 binoculars, from Robinson's in Ferryhill. We'd sit and wait for Skylab going over, pick out the planets, observe the Moon – it was all wonderful. For my tenth birthday I got a 70mm Tasco refractor – I was still very keen after two years. We used to go to the library and get Patrick Moore's books out and others too.

So you could say you were self taught? Oh, yes. There wasn't any astronomy taught in schools then. We just consumed all the books we could. I left school at 16 and after a few short term jobs ended up at Black and Decker.

What instruments do you have now? About ten years ago I bought an f8, 5inch refractor, then an f/5 5inch refractor and very recently I got the OMC- 140 Orion Maksutov-Cassegrain, which is on a driven equatorial mount. I still have all three telescopes much to my wife's annoyance!.

You are in the Durham Astronomy Society, aren't you? Well, I'm a member of both Durham and CaDAS. I worked with John and George (Gargett) at B&D and we were all keen to do group observing sessions. In about 1985 I heard this guy on Local Radio, talking about astronomy - none other than Jack Youdale, of course. I used to listen to his broadcasts regularly. Then I read about a Society event in the Northern Echo, with John McCue's phone number. I rang him for guidance on using a telescope and he said "Come to the next meeting". The first person I spoke to was Mark Rice – he introduced himself and we have been friends ever since.

So what do you think of the Society? Oh, it's come on by leaps and bounds since I joined. The Observatory is super, the Planetarium must be the best for miles and miles. We have good speakers, good meetings, interesting people - I can't find fault! In my opinion the astronomy community is full of genuine friendly people, who are all so enthusiastic and helpful.

Tell me more about how you became so absorbed in imaging with the new cameras.

I must have been using the cameras for about two years now. Most of the sessions, with John and George and others, are after midnight, so it's an anti-social hours activity. Most of the work is done at home in the garden, despite the bad light pollution. The cameras seem to be more tolerant than the human eye. They are much more sensitive, of course, maybe 20 times more sensitive and have a wide field of view. You can use them as a replacement for the telescope eyepiece or as an ordinary camera. I have fitted a C mount adaptor to take SLR-fitting lenses and the camera can sit piggy-back on the telescope, if it needs to be tracked. We are now searching for asteroids – the sensitivity is so high; we can see 15th mag. The Minitron camera was £350 and can be used for deep sky objects with ease.

How do you find your way about the sky? With these cameras you see a mass of stars and it's very difficult to know what you are looking at. It doesn't look a bit like the view through a telescope or a pair of binoculars. We have been really puzzled many a time and once thought we had discovered a supernova or a comet, we were so confused. The software I use is Skymap Map Pro, It can get down past 15th mag and is very accurate.

So you have to be pretty handy with computers, then both for your job and the astronomy? Well, I can get around but I wouldn't say I was an expert. I can use the software that is used with the camera, to place different frames over one another and make mosaics or integrated pictures, using stacking. And I use Adobe photoshop to enhance the pictures sometimes. There's a difficult problem of ethics here. After you have done a bit with these cameras, you recognise when a picture in a magazine is technically feasible or not. I mean you know when the images can't possibly be "natural". I tried to give some examples in my Member's Night Talk. I am very much against the "computer enhanced" things or montages of impossible images – unless they are specifically declared as such.

There's also the learning curve aspect of processing the images too, so getting use to the cameras, image capture software and processing software and more often than not the seeing conditions are working against you, so it can be quite challenging.

Do you like travelling? The family holidays are usually to warmer climes, preferably with dark skies! Tenerife, Spain, Greece. We are going to Greece this year and it just happens that it will be at Venus Transit time. We found a place tucked away from everywhere, with very dark skies. The ideal holiday!

Have you met any memorable characters? Well, there's a few in the Society – Jack just oozes enthusiasm, John, and plenty of others. Jurgen Schmoll is quite a character and John and George are great guys and Mark Rice of course – you should interview him. I met Jurgen through a local north-east newsgroup on the web. He was trying to contact other interested people so I e-mailed him and introduced him to the Society. I think it has been a mutually beneficial meeting. Kath introduced him to traditional English Sunday lunch. He was intrigued by roast beef and Yorkshire puddings – never seen anything like it.

Do you have any international contacts? Oh, yes. In the imaging world there is Damian Peach, who lives in Tenerife, lucky chap and Eric Brysnick, who produces some fabulous stuff. The guy who won the Sky at Night contest and rightly so is Chris Heapy who lives in Macclesfield. Most, if not all, are very helpful with tips and advice and always reply to my emails, In making the award, the judges took into account the difficulty – through polluted skies or high latitude – of taking the image.

Have you any heroes? What do you mean? People you admire for whatever reason, or people who have influenced you. I have to mention my art teacher at school, Mr Malcolm Mitchell. He encouraged me a lot and told me I had a talent that could be developed. There weren't many encouragements like that at school. Another man I respect is Martin McGartland, the author of "50 Dead Men Walking". This is a frightening account of his time as an under-cover agent working in Northern Ireland and in doing so he was able to save a lot of lives. So because of my brothers being over there I suppose it means more to me than the ordinary guy in street so to speak, his bravery is astounding. I can't say I read a lot of books – other than astronomy, of course. I can't say I'm religious but I'm not an atheist. I think there has to be "something out there".

Do you have time for any other interests and hobbies? There's not a lot of spare time with a young family and astronomy. One thing I do enjoy, when there's time, is painting and sketching. I am trying to do a lot more nowadays. I am reasonably good at art and I like it. I've done a few of the observatory and the planetarium, watercolours from sketches. I'd like to do more, I keep getting told from people who have seen my work that I'm wasting a good talent and what I'll try and do in future is have a CCD image of say for instance Saturn and next to it my drawing of it too.

Now there are my two "daft" questions – about where your motivation comes from and what makes a civilised society? Well, I hadn't thought where my enthusiasm comes from. It just is. It came to me, out of the blue. I am sure that support from John, George, Jurgen and other enthusiasts keeps me going and I hope that I keep them going too. For me, astronomy is a group activity, doing things together. As far as a civilised society is concerned, I can only agree with a lot of others, who have been asked the question – tolerance and respect for others no matter what colour, religion, creed or race, And..... I just hope that if we ever do get to Mars - we look after it better than we have done with Earth.

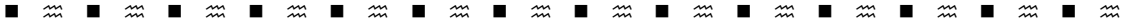
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A Source of Available Books

From Neil Haggath

Here's an item of interest for all members of the Society. I've just been informed of a web site, which could be very useful for those who like books on astronomy and spaceflight.

<http://nssdc.gsfc.nasa.gov/planetary/online_books.html>



Mid-Winter Puzzle

Thanks for all the responses to my article in the January issue. Neil thought it must be connected with the Equation of Time, but passed the detailed elucidation of it all over to John! Ray Worthy also said “It’s the Equation of Time – QED!!”. Mike Gregory took the trouble to send me a letter, pointing out that Norton’s Star Atlas has a note about the phenomenon. Good old Norton, he should always be consulted first about these things and I forgot to do that.

The latest sunrise/earliest sunset thing is to do with the Equation of Time, of course. I have now entered a load of accurate data on sunrises and sunsets and the Equation of Time into a spreadsheet but I still can’t pin down the exact arithmetical solution. The general effect is that, because the Sun is ahead of Civil Time around mid-winter (and behind in mid-summer), sunrise, maximum sun altitude and sunset are displaced, relative to civil (clock) mid-day. Neil called it “asymmetry”. It is only a couple of minutes but it makes two weeks difference! I’m not quite there but watch this space.

Those people who study sun-dials and analemmas probably knew about this all along.



From a Cornflakes Packet

John Crowther

Everyone knows that the Sun rises in the east every day and sets in the west. One day Liz managed to see the Sun rise in the west. How did she do this?

Answer: She was in Concorde, which took off after sunset and flew west, catching up with the Sun. So she saw it rise again in front of her.



CLEVELAND & DARLINGTON ASTRONOMICAL SOCIETY 2003 FINANCIAL SUMMARY

	<u>Expenditure</u>	<u>Income</u>	<u>Balance</u>
Opening Balance From 2002			338.04
Room Hire	104.00		
Speaker Expenses	75.00		
Transit Copying & Mailing Expenses	183.78		
FAS Subscription	20.00		
General Expenses	26.48		
Subscriptions (58 Adult [*] /4 Family/0 Junior)		387.00	
Entry Fees & Tea Proceeds		46.90	

Donation		6.00	
Sale of Slides	36.00		
Bank Interest		0.50	
2003 Closing Balance			405.18
* £1 owed from a £6 adult subscription.			

I.Miles, CaDAS Treasurer, 16th January 2004

Transit Tailpiece

Quote/Unquote

[If an elderly but distinguished scientist says that something is possible, he is almost certainly right but if he says that it is impossible he is very probably wrong.
Arthur C. Clarke]

A response from Neil Haggath :-

The quote in last months Transit from Sir Arthur C. Clarke (reproduced above) is commonly known as Clarke's First Law. It really should be quoted together with his other two:

Second Law: The only way to discover the limits of the possible is to venture beyond them into the impossible.

Third Law: Any sufficiently advanced technology is indistinguishable from magic.

All astronauts should be women because they weigh less and have more sense.

Edward Teller

It has no acceptable mechanism, its principles are invalid and it has failed in hundreds of tests. But no hint of these problems will be found in astrology books, which are exercises in deception.

Former astrologer, Geoffrey Dean

For Sale Meade LXD 55, Model SN8, 8 inch Schmidt-Newtonian telescope, with case of 8 eyepieces. Cost new, a year ago, was £1100. If you wish to see the instrument, please call 01388 773948, Miss C. Prestedge. Please contact the Editor for the address of the lady selling the scope, if required..

Post and Email If anyone wishes to change the way they receive their Transit, please let me know. If any member is not receiving a copy, or has changed their address, please let me know.

Articles Wanted! Please send contributions for the newsletter to Alex Menarry, 23, Abbey Road, Darlington, DL3 7RD, 01325 482597 or to John McCue, 01642 892446 (john.mccue@ntlworld.com). Copy deadline date is the 1st of each month

The Back Page Picture(s)

The February Portrait Gallery



Julia McBride



Don Martin



Darran Summerfield



Keith Johnson

At last the pictures have caught up with the interviews. Keith is interviewed in this month's edition.