

Once again the date chosen for the annual observatory working party was unfortunate as it coincided with the beginning of the hottest summer weather on record. Our thanks to those members of the astronomy section who braved the heat to help prepare the observatory for the new session and for National Astronomy Week.

Unfortunately, this year the maximum of the annual Perseid meteor shower on Aug. 13th, coincided with a full moon. It was decided not to organise a watch, especially as Astronomy week was looming and our attention was focussed firmly on Mars.

This year National Astronomy Week took place from 23rd - 30th August. It was organised to coincide with the close opposition of Mars. Mars was closer to the Earth than it had been during the last 60,000 years! At opposition on August 27th, the planet was just .37 AU (about 34.4 million miles) from Earth and attained a visual magnitude of -2.9 making it the brightest object in the sky apart from the Sun and Moon. At opposition it presented a disk of some 25 secs. of arc in diameter, just about as large as it can get and considerable surface detail could be seen despite the planet's low declination (in Aquarius) for northern hemisphere observers.

We made arrangements for the Observatory to open to the public every clear night during the week, but as usual the weather limited our activities to just three cloud free nights - the 27th, 29th and 30th of August. The Observatory opened at 10 p.m. by which time Mars had just cleared the trees to the south east and observations continued until well after midnight.

The media, of course, had talked up the event to such an extent that my telephone rang constantly during the day and evening during the entire week! About 100 or so visitors turned up each night and the queue at times, stretched right back to the entrance steps. The average waiting time was about 45 mins! nevertheless, the visitors displayed great patience and good humour. Many expressed their gratitude to the volunteers on duty and to the Society in the more tangible form of donations in the fund box. It was particularly gratifying to see so many children excited by such a 'late night' adventure.

Despite the low declination of the planet, convection currents rising from the city gripped in a mini heat wave, a turbulent atmosphere and the vapour trails of numerous passing aircraft, the prominent wedge shaped feature the Syrtis Major was easily seen. The white southern polar cap was also very obvious as Mars' southern hemisphere was tilted towards us by about 19 degrees. On all three nights some visitors lingered to well after midnight by which time the planet has risen to its maximum height above the horizon and the definition improved. The view in the early hours of 31st. can only be described as 'stunning'.

By this time the Syrtis Major had just passed the central meridian and further south a dark Iapigia, contrasted with the pale ovoid of Hellas which was well seen bordered by the Mare Hadriacum and Trinacria to the east and Yaonis Regio and the Mare Serpentis to the west. Syrtis was followed by a dark Sinus Sabeus, above which the pale Deucalionis Regio stood out in contrast to the dusky streak of Pandora Fretum to the south. Further to the south and west, Noachis paled into the planet's western limb. The northern tip of Syrtis was quite dark and to the east Moeris Lacus could be discerned below a pale Libya, above and to the east of which stretched the dark swathe of the Mare Tyrrenum, but I could not trace Nepenthes. The southern polar cap was quite prominent with a dark collar, particularly dark on the eastern border of Depressio Hellepontica. The desert regions of Aeria and Arabia appeared quite featureless with no trace of either Phison or Euphrates. The brighter desert regions Meroe, Dioscuria and Cydonia, merged into a general limb brightening to the north and I saw no trace of Ismenius Lacus.

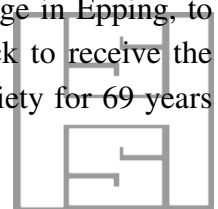
I think that I can safely say that National Astronomy Week was an unqualified success as far as our society is concerned. It netted over £150 in donations and raised the Society's profile to the general public. However, I am beginning to wonder if 'over hyping' of astronomical events by the mass media do much to encourage the public to take a genuine interest in astronomy. I think that many visitors expected to see Mars looking like the images from the Hubble Space Telescope as shown on television. Mars is a notoriously difficult subject even for experienced observers and a 'quick peep' will just not reveal any of the subtleties of its surface detail. We must take care not to disappoint.

Arranging an extra event such as this makes considerable demands on members' time and on your behalf I would like to thank all those demonstrators and assistants who volunteered to help during the week and those members who turned up 'impromptu' to assist by engaging the visitors in interesting discussions, thus making the waiting time less irksome.

When the regular session of public open nights resumed on the 12th of September, public interest in Mars had not waned and a good crowd turned up. On the following Saturday night the crowd was even greater, swelled by about 45 people from the 'Hampstead walks'.

During October, Mars began to recede but public interest did not and attendance on public nights remained high making the most of the unusually clear conditions.

On the 19th of October Julia and I together with Peter Wallis, Elizabeth Fischer, Terry Pearce and Pat Fitzgerald, joined with other members, guests and relatives at Wansfell College in Epping, to celebrate Henry Wildey's 90th birthday. It therefore came as a tremendous shock to receive the news of his sudden death on October 21st. Henry had been a member of this Society for 69 years



and was Astronomical Secretary from 1946-1988. A full obituary appeared on our website in November, in the SPA (Society for Popular Astronomy) magazine, in our January Newsletter and the Jan. 2004 Journal of the BAA. Henry's passing marks the end of an era in the Society's history. In his will, Henry made a generous bequest of £1000 to the Society. This sum is to be shared equally between the general fund and the Astronomy section fund. The astronomy section has used part of this bequest to obtain Henry's short focus 6-inch refractor, which was made by him and sold by his family after his death. It will be used at the observatory to show visitors low power wide field views of such star clusters and nebulae that are still visible from our badly light polluted site. It will serve as a permanent memorial to Henry and will be known as 'the Wildey Telescope'.

Towards the end of October, we were alerted to a huge naked eye sunspot group which had developed despite it being 3 years past solar maximum. Further surprises were to follow as an even larger more complex group appeared over the sun's limb. On October 26th the solar disk featured two large complex naked eye sunspot groups. Then on the 27th another group began to develop which achieved naked eye status within two days! It was clear that the Sun was undergoing an unusual and dramatic burst of activity. The three active regions, designated 484, 486 and 488 were accompanied by huge flares and that associated with 486, an X20 type flare, was the largest ever recorded! Strong magnetic disturbances were also reported which caused havoc with communication systems and temporarily closed down the GPS navigation system. Late October featured several consecutive days of good weather so I managed to secure a nice sequence of digital images showing the development of the sunspots over a period of a week and these were posted on the web site. Some changes were visible after just a few hours. Radiation reached the Earth during 29/30 October and Terry Pearce and Paul Clements reported strong Auroral activity on the night of 29th visible from Weston Coleville Cambs. The aurora was reported to be visible from the south coast, but it was totally cloudy in London. By 5th of November, the spots had rotated off the solar disk, leaving it totally blank again. We eagerly awaited their possible return one solar revolution later. Unfortunately, cloud and rain persisted until November 24th when the clouds parted briefly to reveal that one of the large groups had indeed survived and was almost at the centre of the solar disk. However a further period of bad weather prevented any observations of possible aurorae associated with its return.

A few members of the public joined Gary Marriot, Leo McLaughlin, Simon Lang and myself to observe the total lunar eclipse on the night of 8th-9th of November. This was a 'late event' as totality did not occur until after 01.06 hrs on the 9th. The sky was totally cloudy earlier in the evening, but cleared up by 23.00 hrs. We witnessed the first contact of the umbra at 23.32 hrs, looking quite dark and fairly well defined, then cloud began to move in again and totality was only glimpsed through very small gaps. The total phase took on a distinct red hue, remaining quite bright around the lunar southern pole. By the time totality ended at 03.40 hrs, cloud cover was complete, but we had given up long before that and dispersed to our various homes and beds!



November was also the month of the annual Leonid meteor shower. Activity was expected to be in decline after the storms of 1999-2001 and this year the event was also hampered by a waning moon. However, the weather put paid to any observations, total cloud cover persisted in London during the nights of the 17th, 18th, 19th, 20th and 21st. By December, the frequency of clear nights coinciding with weekends had declined significantly and the pattern was continued into the New Year.

There were a few clear 'open nights' in January 2004 but in general the weather was poor. This was a pity as there was much of interest to be seen. Venus, which had returned to the evening sky was attaining greater altitude heading for its greatest eastern elongation on March 29th. Venus was followed by a rapidly fading Mars, then Saturn and later, Jupiter.

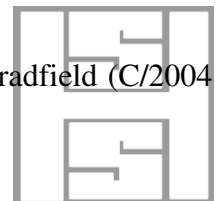
Despite the fact that February featured the highest recorded temperatures for that month, clear nights, particularly at the weekends, were rare. On the few occasions when the clouds parted, public attendance at the observatory was good. On the evening of 7th of February over 50 visitors enjoyed fine views of Saturn and Jupiter and even the Orion Nebula, despite the presence of a nearly full Moon. I had, of course, no idea that this would be the last open night that I would enjoy for some time, as just one week later on the evening of 15th of February, I suffered a mild heart attack and was carted off to hospital!

My temporary incapacitation, unfortunately coincided with Science Week, which commenced on March 12th. It meant that the Observatory was undermanned and could not open on every clear night during the week, as intended. Arrangements were made to cover both the weekends. However, we need not have worried as the weather remained poor and only the session on Friday 19th of March was well attended. John Tennant and Terry Pearce were able to show some 25 visitors, Venus, Mars, Saturn and Jupiter as all these planets were on view simultaneously. By late March, Mercury joined the planetary ensemble, attaining its greatest eastern elongation (19 deg.) on March 29th. Once again all 5 major planets were on view simultaneously.

The session of public open nights finished on 18th April but plans were afoot to reopen the observatory for two nights during the Hampstead and Highgate Arts Festival in May and for the Transit of Venus in June.

May featured yet another total lunar eclipse, the event took place on the 4th. Unfortunately, the eclipse occurred at moonrise with the moon very low on the horizon and the sky not dark. The moon was fully immersed in the umbra from 19.52 hrs and left it by about 22.00 hrs. We did not open the observatory for this event due to the moon's low declination, our poor south eastern horizon and the light sky conditions. In any case, on the 4th of May the persistent rain, which had been falling for 48 hours only just began to clear up after totality had ended, allowing a brief view of the final phase through broken cloud.

During May there were actually three comets in the sky simultaneously. Comet Bradfield (C/2004



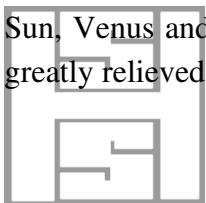
F4), Comet LINEAR (C/2002 T7) and comet NEAT (C/2001 Q4). Bradfield was very faint moving upwards through Andromeda but both LINEAR and NEAT were expected to just reach first magnitude. LINEAR tracked across the sky from west to east passing below Orion through Lepus and below Sirius on May 23rd. Its low altitude and strong twilight made it difficult to observe from London. NEAT moved upwards through Canis Major and Canis Minor, passing east of Procyon on May 11th. I searched for it on the 10th, when its magnitude was predicted as 1.0, but strong twilight and low altitude haze rendered it invisible. By the middle of the month NEAT moved into Cancer, passing quite close to M44 Praesepe the 'Beehive' star cluster on May 16th.

The Observatory was opened on the nights of the 15th and 16th of May, as part of the Hampstead and Highgate Festival, and this year we were fortunate to have clear skies on both nights. I had hoped to be able to show Comet NEAT to visitors, but its low altitude, coupled with the atmospheric pollution and strong twilight, conspired against this and it passed close to the 'Beehive Cluster' unobserved by us from Hampstead. The visitors had to make do with fine views of a slim crescent Venus, rapidly moving towards its rendezvous with the sun on June the 8th, and the planets Saturn and Jupiter, the latter exhibiting a nice shadow transit of satellite 1 (IO) on the 16th.

In the clearer skies near Cambridge, Terry Pearce had more success with Comet NEAT and observed it on the evenings of the 16th and 17th of May using 10 x 70 binoculars. He reported a dim diffuse low contrast fan shaped coma with the merest hint of a tail and a tiny 'spark like' nucleus. I eventually observed it myself on the evening of the 18th of May with 7 x 50 binoculars. By this time the comet had attained a greater declination and was midway between Castor and the 'sickle' of Leo, amongst the fainter stars of Cancer. I observed it as a small diffuse blob lacking a well defined nucleus. I could not see a tail and it also seemed somewhat fainter than its predicted magnitude of 1.5, but the sky conditions were less than ideal with pollution haze and strong twilight.

As if to provide a 'grand finale' to an eventful session, Venus transited the sun on 8th of June. Since the last transit occurred in 1882, no one living today has ever witnessed such an event. Anticipating that the 'mass media' would soon become aware and whip up public interest, we began to prepare early. Simon Lang produced a useful information sheet and some advance publicity appeared in the Hampstead and Highgate Gazette two weeks before the event. Simon and John Hayden both volunteered to open the observatory shortly after sunrise as the transit was due to commence at about 05.20 hrs.UT.

On the preceding the day, Simon, Ron Smith and Gordon Harding put in an enormous effort and a considerable number of man hours to prepare the Observatory for the anticipated hordes of visitors. Simon worked all through the night to erect a series of sun screens to provide shade for the visitors. These were adorned with information sheets which he had produced on the subject of the Sun, Venus and transits in general and he was still working frantically when I arrived at 5.00 am, greatly relieved to see the sun rising in a clear blue sky.



We set up the Wildey 6-inch telescope and my own 6-inch Helios refractor both these instruments were equipped with safe objective solar filters made by Terry Pearce. In addition to these instruments, Simon also bought along his 4-inch refractor and Jacquey Oppenheimer came well equipped with her 8-inch Meade Schmidt Cassegrain. As it transpired, all these instruments were put to very good use as we were at times almost overwhelmed by the sheer number of visitors taking full advantage of the near perfect weather conditions to observe this historic transit. Our thanks to all demonstrators who manned their instruments throughout the long hot morning.

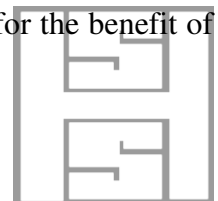
Visitors began to arrive early to witness the ingress of the planet and observe the famous 'black drop' effect which to me did not seem at all pronounced. Parents brought their offspring along on their way to school and throughout the morning many classes of school children accompanied by their teachers came to observe this rare once in a lifetime event. We estimated that in all about 200 children observed it together with about 300 adults.

I had intended to make timings but the sheer volume of visitors kept me constantly occupied at the 6-inch Helios. I did at least manage to take a few images around the times of ingress and egress and these were swiftly posted on the website on the following day thanks to Julie Atkinson. The 6-inch Cooke was used to project the image and John Tennant did sterling work within the dome demonstrating continuously to a packed and at times overheated audience. This event also gave us our first opportunity to use the Wildey telescope, ably manned throughout the session by Gordon Harding.

The large crowds were also very generous with donations to the Society encouraged by Michael Wynne and later Ron Smith, to part with a total exceeding £500 towards the upkeep of the observatory. When Michael asked me if we had a bucket, my first thought was that he was intending to rig up emergency toilet facilities, facilities sorely lacking in the vicinity of the observatory, but no, it was to be used to collect the money! It is entirely due to him that we collected so much! Thank you Michael.

The whole event, which lasted the best part of 7 hours was a total success and certainly raised the profile of the Society particularly to local schools and their science teachers. We thank all those members who came along to assist on a long, hot, exhausting but exciting day. Our special thanks must go to Simon Lang who cheerfully took on the 'lions share' of the hard physical work and organisation which made this historic astronomical event an unmitigated success and a exciting end to a very eventful session.

As always, our thanks to all demonstrators and assistants for continuing to give so generously of their time and to Julia for sorting out the roster and looking after the finances. Thanks to all those who helped in any way behind the scenes to keep the observatory up and running for the benefit of members and visitors alike.



Doug Daniels (Astronomy Secretary)

