



It was decided at the end of the session, that the annual Observatory working party, which has for the last several years, taken place in August, would be moved forward by a couple of months. Having endured uncomfortably high temperatures for this event in the past, we thought it fairly safe to choose June as the weather is usually cooler and unsettled around this time of year. Not this year! The weekend of the 18th and 19th of June saw the temperature soar up to a level in excess of 30 degs. C! On Sunday afternoon, I looked at the air temperature

thermometer in the Stevenson screen and it read 30.75 degrees C!

We decided to work over two days this year, as during the last session we were experiencing considerable difficulties opening the dome shutter. On occasions, it would resist all attempts to get it open. Clearly, something was amiss. Simon Lang and I went up on the Saturday and decided to strip off the roofing felt covering to examine the structure. We were soon able to examine the structure very closely indeed as it collapsed in to a pile of 24 wooden strips. All the joints had rotted and it was only the felt covering that was holding it together!

Our first task was to mark each piece with a number and draw a diagram to indicate where each piece fitted. Every piece of wood was curved in two directions and we had to admire the craft of the original dome maker. Some parts were too far-gone to restore and Simon was then able to demonstrate his skill at woodwork by making replacements.

We decided to totally restore the shutter frame and then re-cover it in 1.5mm aluminium sheet. The frame itself was to be strengthened with strips of stainless steel and the roller bearings, some of which had seized and worn to flats, were to be restored. This would result in a shutter lighter in weight that should make it easier to open. In a year or so it is our intention to totally re-cover the entire dome with sheet aluminium. This should result in a permanent repair and the lighter weight will take some of the stress out of the structure and out of the demonstrators who have to haul it around!

We had a very good response to the appeal for volunteers for the working party this session, despite the uncomfortable temperature. Braving the heat were: Simon Lang, John Hayden, Jerry Workman, Garry Marriot and Ron Smith. Ron spent the entire day applying Creosote to the building, a filthy job at the best of times. John, Jerry and Garry cleared the stairs and path of weeds and helped Ron with the creosoting and later Garry climbed to the top of the dome to cover the slit with polythene sheeting as a temporary cover. Julia made sure that we were all well fed and watered with



sandwiches and tea. Our thanks to all the volunteers who laboured long and hard under a blazing sun.

Although the annual display of Perseid meteors was due to take place under favourable conditions of moonlight, no special arrangements were made this year. Our main focus was set on getting the observatory shutter repaired so that the observatory would be 'up and running' for the forthcoming opposition of Mars in the autumn. The restoration of the shutter frame was proving to be a much bigger and more time consuming job than we had anticipated.

On August 31st. Simon Lang and myself spent a full day working to re-assemble the shutter frame, and yes we again managed to choose a day when the temperature soared up to 30 degrees C! The four stainless steel strips had to be drilled with innumerable holes, a trying process that resulted in breaking many drill bits, showering us with hot painful swarf and turning the air blue with curses! We then had to face a three dimensional jig saw puzzle and screw all the wooden components on to the steel strips, Nevertheless, by the end of another hot tiring day, the main framework was totally re-built. On the following day, I went back and painted it with primer.

Simon and I continued the work on Sunday Sept. 4th and of course, the temperature reached 29 degrees C! Simon had done a grand job of restoring the rollers, having had to fabricate one missing roller from scratch, and these were refitted to the frame along with the six retaining clips that hold the frame on to the rails. We selected three of the best originals and made three new ones from stainless steel. All we had to do then was to cover the whole thing with 1.5mm sheet aluminium and, of course, put it back in position.

This is where we encountered the first snag. It soon became apparent that covering the frame with one continuous sheet was impossible. This was because the frame was crafted as a true section of a dome and was curved in two directions. The job was made all the more difficult because the frame was also designed to be flexible. We finally decided to fabricate the aluminium covering in four separate sections. By the end of another hot tiring day we had one section roughly in place.

Work continued on the following day and with the help of Simon's friend Mat, the three of us were able to haul the restored shutter frame with the loosely tacked covering, back into place on the dome rails. We were then able to begin to apply the aluminium sheeting. We had to do this with the frame in-situ to ensure that the frame did not become distorted. By the end of the day we had half of the covering in place.

After yet another day's work, the shutter was totally re-covered and the cords and counterweight re-fitted. It was with a sense of enormous relief and not a little self-satisfaction, that when we pulled on the rope, the shutter opened smoothly and without too much effort. The restoration of the shutter has taken a lot of time and effort, and there were times when I wished that we had never started it! The section is greatly indebted to Simon Lang for all the work he has put into this project.



## New session September 2005

Public demonstration nights resumed on time on the weekend of 16th 17th and 18th of September. The weather was kind but there were no bright planets to observe and the Moon, full on Sept 18th did not help with observing faint objects. Despite the approaching solar minimum, there was a large sunspot group visible and I managed to obtain a digital image of it on Sept. 13th with my 150mm Maksutov Cassegrain despite the presence of some thin diffuse cloud.



On Monday 3rd of October there was an annular eclipse of the Sun, visible as a partial eclipse from Hampstead. The eclipse was due to commence at about 8.50 B.S.T and to continue until about 11.15 B.S.T. Simon and I opened up the Observatory but total cloud cover prevented any sight of the Sun. It remained totally overcast until about 1.30 pm when the cloud cleared for about a couple of hours. Five of our members journeyed to foreign parts to observe the annular eclipse. Terry



Pearce, Jim Brightwell and Jerry Workman went to Spain and Jacquey and Alfred Oppenheimer went to North Africa.

By the middle of October, Mars was beginning to become available for observation. Situated on the borders of Aries and Taurus, it was well placed for northern hemisphere observers. Although

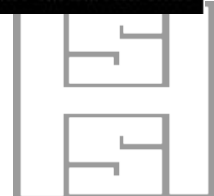
the opposition was not as close as that of two years ago, it still presented a disk some 20 seconds of arc in diameter, large enough to reveal considerable surface detail. However by October 18th we were informed that a dust storm was in progress. It had started on the south border of Chryse on October 13th and was spreading along the Valles Marineris. A similar dust storm occurred during the 2003 opposition.

By the time of opposition on the 7th of November, I was receiving numerous requests from members of the public who wished to come to the observatory to observe Mars and on the occasions when the weather allowed, attendance at the observatory was good. However, it was nothing like the volume experienced during the close opposition of 2003. This is due to the media largely ignoring this opposition despite it being better than that of 2003 for northern hemisphere observers.





**Mars at opposition in 2005.** Photos by Doug Daniels.



In early November the weather was kind to us with many clear nights but the atmosphere was rarely calm. However, on the night of Nov.20th high atmospheric pressure (30.75ins Hg) provided reasonable image quality and I secured a decent image with Sinus Meridiani approaching the central meridian (CM) and a haze on the western limb which was evidence of the dust storm in progress along the Valles Marineris. By Nov.29th Syrtis Major was close to the CM coinciding with another clear frosty night on which I managed another reasonable image. By early December Mars' disk was already becoming noticeably smaller. Its diameter was down to 16.1 secs. of arc on Dec 6th when I secured an image showing Mare Cimmerium with Trivium Charontis seen as a small dark spot in the Amazonis desert.

During November and December 2005, Venus was making its presence felt in the south-western twilight, achieving its greatest eastern elongation on November 3rd. By Christmas it had attained a reasonable altitude and was visible in a dark sky, rapidly heading for inferior conjunction on January 13th 2006. I obtained an image of the planet on Dec.10 with a 150mm Maksutov Cassegrain telescope.



## 2006

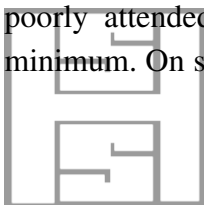
2006 began with a period of bad weather with few clear nights. The Earth was rapidly moving away from Mars, whose diameter was a mere 9 arc secs when the clouds parted on the weekend of 20th-21st. The tiny gibbous disk revealed little surface detail.



As Mars receded, our attention switched to Saturn, situated close to M44 Praesepe the beehive cluster in Cancer and coming to opposition on Jan. 27th. The rings, still well displayed, were just beginning to close so that the pole of the planet could be seen above them. This is one of the nicest aspects of the planet, and the view was much appreciated by a good crowd of visitors who gathered at the Observatory on the evening of Jan. 21st.

The north equatorial belt was quite prominent and appeared double. Later that night, I obtained an image using a webcam. on my 150mm Maksutov Cassegrain, processed with RegiStax.

The weather throughout February was generally poor with few clear nights at the Observatory, but on the rare occasions when the clouds parted, attendance was good. Sunday morning sessions were poorly attended and there were few sunspots to observe as we are now approaching sunspot minimum. On several occasions, Brian Bond set up his Coronado H alpha telescope, through which



some small prominences were observed.

Once again, the Society participated in Science Week, March 10th - 17th 2006. The astronomy section arranged an illustrated talk, given by the Astro. Sec. to both University College School and South Hampstead High School. The talk, entitled Welcome to the Universe, was very well attended at both sessions. Apart from the normal weekend opening sessions, the section also arranged for the Observatory to be open every night between 13th and 16th irrespective of weather conditions. When clear, observations were made but when cloudy Simon Lang kindly volunteered to talk to visitors about telescopes and their design. The weather was not kind and only two of the possible 9 nights allowed any observations. The bad weather persisted on the 18th when some 22 members of the Hampstead Women's Club visited the Observatory. Our thanks to Simon and all members of the section who turned up to add their support during a busy week.



On 29th of March 2006 there was a total eclipse of the Sun. The track of totality crossed parts of northern Africa and southern Turkey. In London, the eclipse was partial, about one third of the Sun obscured. On the morning of the 29th several members attended the Observatory, bringing an assortment of portable



equipment with which to observe the eclipse. Brian Bond set up his Coronado solar telescope, Simon Lang brought a 4.5-inch refractor, complete with binocular eyepiece and the Astro.Sec. set up his 6-inch Helios refractor.

The 29th had dawned brightly but by the time of first contact 09-45.1 hrs U.T. (Greenwich). the skies were totally overcast. However, a few minutes later, a small clear patch allowed a brief glimpse of the start of the eclipse. From then on we had to wait for the clouds to part to allow us brief tantalizing glimpses of the advancing Moon. There was a small group of sunspots close to the Moon's limb and



the view through Brian Bond's Coronado hydrogen alpha telescope revealed a number of short-lived prominences adding greater interest to the event. The Astro. Sec. managed to take a few digital images through his 6-inch Helios refractor, equipped with an objective filter, making the most of a few clear moments but the skies remained relentlessly overcast at maximum eclipse.

The classes of schoolchildren, who were due to come, failed to turn up, but about 40 or so members of the public attended, some with the organized Hampstead Walks. The eclipse ended at 11-22.3 UT (Greenwich). It was an interesting event spoiled once again by bad weather. We were pleased to hear that our colleagues who traveled to Africa and Turkey to witness totality, fared better. According to our own 'eclipse chaser', Jim Brightwell, it was amongst the best total eclipses that he had witnessed.

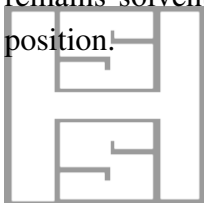
Public open nights at the Observatory ended on Saturday April 15th, but the work of the Section continued. On the nights of May 8th and 10th there was an opportunity to pick up Comet Schwassmann-Wachmann. This comet is breaking up and there are two main components. On May 8th the southern component, 73P-C, was due to be in the same field of view as M57 Lyrae and on May 10th, the northern component, 73P-B, was close to epsilon Lyrae.

Both components were predicted to be at about 5th magnitude. On May 8th it rained during the day and there was total cloud cover at night. Had it been clear, observation would have been hampered by the presence of an 11 day old Moon. On the night of the 10th, Terry Pearce, observing from the darker skies of Weston Colville in CAMBS, reported seeing the 73P-B (northern) component in 15x70 binoculars as a small diffuse shuttle shaped smudge. Seeing conditions were poor with a 3/4 moon and haze. I searched but conditions were



even worse in Finchley and I saw nothing. I had more success on the following night when despite the presence of a bright Moon, I just managed to see it with 20x80 binoculars and even managed to record it in a 20 second exposure with an Olympus E500 DSLR camera. Terry Pearce managed to see both components in the early hours of the 16th May, on a particularly clear night in Weston Colville, at which time both components were heading for Pegasus. Terry reported that the northern component was by far the brighter, shuttle shaped with one or possibly two short tails, seen in 15x70 binoculars.

Following a protracted bout of ill-health, Julia Daniels felt it was at last time to lessen her workload and has resigned as joint Astronomical Secretary. Simon Lang was appointed Assistant Astronomical Secretary at the Council meeting of April 12th. Julia will still look after the section's finances but Simon will gradually take over her other responsibilities. Julia has worked tirelessly for the Society since the 1950's and the Astronomical Section owes her an enormous debt of gratitude for the hours spent arranging the roster year on year and ensuring that the section always remains solvent. We thank Julia for her devotion to the section and welcome Simon to his new position.



We were also sad to lose the services of Ron Smith from our band of Assistants. Ron felt that age was at last beginning to take its toll and that considering the distance that he had to travel, duties in the winter were becoming a burden. We thank Ron for all his help in the past and wish him well in the future.

The Observatory re-opened for three sessions on 13th, 14th and 19th of May as part of the Hampstead and Highgate Festival. Unfortunately, the weather was bad, overcast and raining on all three occasions and visitors had to put up with talks from the Astro. Sec.

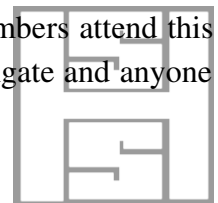
Following an enquiry concerning the Observatory, by a member of the public on the Robert Elms 'phone-in' show on BBC radio London, the Astro. Sec. was invited to the studio and interviewed 'on-air' on Monday 22 May. This was a totally unexpected but welcome opportunity to publicize the Society and the forthcoming Jupiter watch to a London-wide audience.

On the nights between May 24th and 28th, Simon Lang organized a special session at the Observatory to give visitors an opportunity to observe Jupiter before the planet is enveloped in the horizon murk for the next several years. Unfortunately, once again the weather refused to co-operate and it remained cloudy throughout the entire five nights, but this did not deter quite a few visitors some of whom managed a momentary glimpse of the planet through scudding cloud. This was a great pity, as at the moment there are changes taking place in the cloud belts in the vicinity of the Great Red Spot (GRS). A number of white ovals, which first appeared in 2000 have merged into one large spot about half the size of the GRS. It is now reported to be turning reddish-brown. Could this new feature develop into another long-lived anti-cyclonic spot similar to the GRS? We will have to wait and see.



Because of the poor weather during the planned Jupiter watch, Simon decided to try again on the nights of June 2nd and 3rd. This time we met with greater success with both nights clear. On the 2nd of June the Great Red Spot was right on the central meridian but it was not red. It seems to have faded. Similarly, the new spot was not at all conspicuous. However, the north equatorial belt (NEB) has developed into a very broad feature, extending far into the equatorial Zone (EZ) The south equatorial belt (SEB) was also very prominent and distinctly red tinged. On June 3rd we noticed a thin dark belt in the center of the equatorial zone. There are obviously great changes occurring on Jupiter at the moment. Unfortunately, Jupiter is now below the tree line of my 16.5-inch telescope so I have to use the portable Mak Cass. I managed an image of the planet on the night of May 31st with a TouCam webcam processed with RegiStax.

Due to cutbacks by certain short-sighted local authorities, many adult education evening classes have been closed down. Terry Pearce's telescope making class, which has been running for over 30 years in Camden was unfortunately included in the cull. As a number of HSS members attend this class, it has now been loosely affiliated to the Society. It meets fortnightly in Highgate and anyone





interested in joining the Camden Amateur Telescope Society (CATS) should contact Simon Lang. See the link on the website for details.

It is fair to say that this has been a very eventful and busy session with a lot of Observatory maintenance, a close opposition of Mars, extra openings and lectures for Science Week, two Solar Eclipses, a fragmenting comet and extra sessions to observe Jupiter. All this has meant more work for Demonstrators and Assistants. The Society is, as always, indebted to all those members of the section who gave their time so generously to keep the Observatory operational and at the forefront of the Society's activities.

**Doug & Julia Daniels (Astro. Secretaries)**

