
Meetings

Annual General Meeting, 2005 October 26

held at The Geological Society, Burlington House, Piccadilly, London W1

Tom Boles, President
Ron Johnson, Nick Hewitt and Nick James, Secretaries

The President opened the 2005 Annual General Meeting, extending an especial welcome to Mr David Freedman of the Association's Auditors, and our Accountant Mr Roy Dowsett. Dr Hewitt was invited to read the minutes of the previous year's AGM, which, receiving the approval of members, were duly signed. Mr Guy Hurst, Vice-President, was then invited to present the Association's accounts.

Mr Hurst explained that since the previous meeting, Mr David Tucker, the Association's Treasurer, had, at short notice and with regret, found himself unable to continue in his duties, as a result of the new time commitments demanded by his having taken increased responsibilities in his professional employment as an architect. Being unable to attend the present meeting, he had passed to the speaker the duty of presenting the accounts. As these had appeared in the October *Journal*, Mr Hurst remarked only that the Association had recorded a healthy surplus of £4,998 over the course of the year, before inviting questions. As no issues were

raised, he proposed that the accounts be adopted, which was seconded, and carried *nem con*.

Mr Hurst expressed his gratitude, on behalf of the meeting, to Gates Freedman & Company, auditors to the Association, and to Mr Roy Dowsett, Accountant, for their valuable services in advising Council on financial matters. Members applauded.

The President then presented his annual report, which on this occasion covered the months from 2004 October to 2005 September. Opening with a summary of what the sky had offered, perhaps Comet Machholtz, visible in December and January, had been most notable. Peaking at around mag 4, it passed within a degree of the Pleiades on January 7, shortly after maximum, which had been an especially beautiful sight. Shortly afterwards, on January 13, Saturn's opposition was magnificent – the rings briefly appearing much brighter the usual, a consequence of the opposition effect. And in the same eventful week, on January 14, the *Huygens* probe had made history, landing on Saturn's moon Titan, thereby becoming the first probe to land on a moon

of another planet, the first to return images from the surface of so distant a body, and the first to reveal what lay beneath Titan's thick hydrocarbonaceous clouds. Many had predicted that it would find oceans of methane, possibly covering the entire planet; in the event, however, it had imaged surface relief, before touching down on solid ground.

In the spring, binary star γ Virginis had passed periastron for the first time since 1835–'6, on which occasion it had been observed by Herschel, Dawes and Smyth, amongst others. This time around, the components, closing to within 0".3, had for a time been unresolvable even to amateurs of the likes of Damian Peach, who, after closest approach had been the first Association member to successfully separate them on May 7. This feat had been achieved using a blue 350–450nm filter whilst on an observing expedition to Barbados; he had estimated their separation to have been 0".35 at this time from his images.

July 4 had brought another space exploration first, as NASA's *Deep Impact* probe had smashed a 370kg projectile into Comet 9P/Tempel at a speed of 10.2 km/s. It had



been a tremendous engineering and scientific success, revealing much about the structure of cometary nuclei, though those amateurs who had been expecting a significant flare might have come away rather disappointed by its meagre visual brightening.

The UK's supernova patrollers had had a slow year; the weather had been some of the worst for years. At the end of September, Ron Arbour had 16 discoveries to his name, Mark Armstrong 71, and the President himself 90. The total number of UK discoveries now stood at 177. One notable non-UK discovery, however, had been SN 2005cs, in M51, reported by Wolfgang Kloehr on June 28; given the Whirlpool Galaxy's prominence, many amateurs had subsequently found pre-discovery images in their archives. It was the second supernova in M51 in a very short period of time, preceded 11 years earlier by SN 1994i.

The year had seen several nova discoveries, including Ron Arbour's detection of a mag 15 event in M31 in January. Later in the year had come two well-observed specimens: Nova Cygni 2005, discovered by Nishimura in February, and Nova Aquilae in June. On August 3, news came that the orbit of transneptunian object 2003 UB313 suggested it is 97AU distant, which, given its visual brightness of mag 18.7, placed estimates of its radius at $1\frac{1}{2}$ times that of Pluto, assuming a typical albedo. This made it the largest Sun-orbiting body to have been discovered since Neptune in 1846, and had opened debate as to whether it could be called a tenth planet. The latest reports suggested that it might have an unresolved moon – an exciting development, as an orbital determination would allow a more accurate mass estimate of the parent body to be made. At the same time however, if some of its luminosity were to be attributed to a moon, this would invariably decrease the predicted size of the object itself.

Turning briefly to the planetary scene, the President remarked that this year's apparition of Mars had arguably been the finest chance to observe the Red Planet for 14 years; though its angular size had been a little less than that seen in 2003, its more northerly declination had placed it at a much more favourable altitude in the UK's skies this year.

It had been a year of change in the Association's Office; after many years of steadfast service, Patricia Barber had stepped down as Assistant Secretary. She was a hard act to follow, but Jean Felles and Valerie Stoneham were doing a superb job, taking advantage of the transition to install a new computer system. The Association's other officers had also continued to provide outstanding service: Dr John Mason was thanked for his work as Publicity Officer in handling media enquiries and membership campaigns, whilst all of the Section Directors were given especial thanks for encouraging members in their observing work, and collating the results. Bob Mizon

and the Campaign for Dark Skies (CfDS) were congratulated for their work in lobbying for legislation against intrusive light pollution, which had this year reached the statute books for the first time.

Mrs Hazel McGee was thanked for her industrious work in editing the *Journal* – its quality was not only maintained, but improved – and Mr Nick James, Papers Secretary, for his unfailing efforts to ensure that the standard of the accepted papers was maintained. Ms Valerie White was congratulated on the fine results of her first year as editor of the Association's annual *Handbook*, and Mr Gordon Taylor for ensuring such a smooth handover of this rôle. The President further thanked Mr Callum Potter, website manager, for overseeing a change of the Association's internet service provider, and working tirelessly throughout the year to keep the website up-to-date.

All the members of the previous year's Council were thanked for their hard work behind the scenes, ensuring the smooth running of the Association. Especial mentions were given to Richard Flux, organiser of the very successful Winchester Weekend, and the outgoing treasurer, David Tucker – who was thanked and offered all best wishes upon his departure.

Sadly, the year had brought unhappy news as well. On August 29, David Sinden had passed away; he had been a long-standing friend of the Association, and a member since 1949. His interest in amateur astronomy had been by no means eclipsed by his professional work as Chief Optician for Grubb Parsons, through which he had had a cardinal rôle in the construction of such mirrors as the 4.2m for the William Herschel Telescope, the 3.9m for the Anglo-Australian Telescope, and the new corrector plate for the 48" Oschin Schmidt at Mt Palomar. After the demise of Grubb Parsons in 1983, he had formed his own company, Sinden Optics, which had produced fine mirrors for both amateur and professional applications.

The President turned finally to summarise the Association's own activities over the past year, taking the opportunity first to thank Dr Nick Hewitt, Meetings Secretary, for once again providing such a fine crop of speakers, and Mrs Hazel Collett, who, having assisted him so ably over the past year, would be taking over the job for the coming session.

November had seen the Association's first Joint Meeting with the Royal Meteorological Society, which had generated a large amount of positive feedback: it had been an unusual opportunity to see broader aspects of a common science. In January, the occasion of the seventieth anniversary of Sir Patrick Moore's election to the Association was celebrated – a

happy event, though it had been sad to see Sir Patrick so frail, reluctantly conceding it was likely to be his last appearance at a BAA meeting. On April 9, an Association-commissioned plaque commemorating the life of George Alcock was unveiled in Peterborough Cathedral by the Astronomer Royal, Prof Sir Martin Rees. It seemed a fitting tribute to the life of a man whose mastery of the art of visual comet hunting was surely surpassed by none.

To close, Mr Boles thanked all of those members with whom he had communicated over his two year tenure as President; their feedback and suggestions had been invaluable.

The President then invited the Business Secretary, Mr Ron Johnson, to announce the results of the ballot for Council for the coming session. Mr Johnson declared that 502 ballot papers had been received, and the voting was as follows: President: Richard Miles, 460; Vice-President: Tom Boles (ex-officio); Treasurer: David Tucker (candidacy withdrawn); Secretary (Meetings): Hazel Collett, 420; Secretary (Papers): Nick James, 434; Secretary (Business): Ron Johnson, 438. Other members of Council: Dr Nick Hewitt, 427; Maurice Gavin, 408; Dr David Boyd, 393; Valerie White, 391; Dr John Mason, 383; Anne Davies, 372; Mark Armstrong, 365; Roger Dymock, 350; Martin Morgan-Taylor, 320; Michael Maunder, 315; Sheridan Williams, 310; Geoffrey Johnstone, 292. Due to outstanding subscription charges, nine ballot papers had been declared invalid.

Mr Johnson said that since the distribution of ballot papers, and as mentioned earlier, the Association's Treasurer, Mr David Tucker, had resigned and withdrawn his can-



Mr Tom Boles (left) hands over the Presidency to Dr Richard Miles. (Photo: Hazel McGee)

didacy for the post in the coming session. Dr David Boyd had kindly agreed to fill the post, and thus withdrawn his candidacy as a General Member of Council. Furthermore, the speaker was saddened to report that ill-health had recently forced the Director of the Asteroids and Remote Planets Section, Dr Andy Hollis, to stand down. Mr Roger Dymock would be taking over that rôle, thus also with-

drawing his candidacy from the ballot. After the removal of these two names, ten candidates remained in the ballot for the ten remaining Council positions, thus all were elected to serve.

After thanking the scrutineers of the ballot for their attentive work, Mr Boles delivered his second Presidential Address, entitled 'Tools

for supernovae – discovery and follow-up'. He offered a personal account of the process of finding, checking and reporting supernova candidates, including a survey of some of the other amateur patrols from around the world, as well as of the professional competition presented by robotised surveys. This Address will be printed in a subsequent *Journal*.

Following the applause, Mr Boles congratulated Dr Miles upon his election as President, adjourned the meeting until 2006 October 25, and invited the new President to take the chair for the following Ordinary Meeting.

Dominic Ford

Ordinary Meeting, 2005 October 26

held at The Geological Society, Burlington House, Piccadilly, London W1

Richard Miles, President
Ron Johnson, Hazel Collett and Nick James, Secretaries

Dr Miles opened the first meeting of the 116th session, expressing his congratulations to his predecessor, Tom Boles, for having seen the Association successfully through two years of rapid change, including a complete change of staff in its office, and the installation of a new computer system. He expressed the hope that Mr Boles, with the time commitments of running the Association passed, would now be able to devote more time to his eyepiece and to his excellent supernova patrol work. He then invited Mrs Hazel Collett to read the minutes of the last meeting of the previous session, which were approved by members and duly signed.

Mr Ron Johnson, Business Secretary, said that two books had been received by the Association since the previous meeting: *Fifty Golden Years 1954–2004*, donated by the Aryabhata Research Institute; and *The Stargazing Year*, by C. L. Calia, donated by its author. Members applauded the donors.

The President announced that there were 46 new members proposed for election; the election of the 82 who had been proposed at the previous meeting was approved by members, and they were duly declared elected. Dr Miles welcomed any newcomers to introduce themselves at the end of the meeting. Mr Nick James, Papers Secretary, reported that Council had recently approved six new papers for *Journal* publication:

Performance of a fibre-optic coupled high resolution spectrograph with CCD camera data recording of solar absorption spectra, by David Airey

A home-made Newtonian filter holder for planetary imaging, by Martin Mobberley

The visibility of the dark side of Venus, 1921–1953; a series of observations by M. B. B. Heath, by Richard Baum

The Perseid meteor shower in 2002, by Neil Bone

High-precision radial-velocity measurement with a small telescope: Detection of the Tau Boötis exoplanet, by S. Vanaverbek *et al.*

Observations of the recently discovered dwarf nova IRXS J053234.9+624755 dur-

ing the 2005 March superoutburst, by Gary Poyner & Jeremy Shears

Dr Miles announced that the Association's next meeting would be the Northern Back To Basics Workshop, to be held in Doncaster on Saturday November 12. The following week, there would be a meeting of the Instruments & Imaging Section on November 19 in The Humfrey Rooms, Castilian Terrace, Northampton. The next Ordinary Meeting would be the Christmas meeting, to be held in the English Heritage Lecture Theatre on the afternoon of Saturday December 17; the Christmas Lecture would this year be delivered by Prof Don Kurtz, and would be followed by Rod Jenkins and Martin Mobberley.

The President then welcomed Nick James to make a short presentation of images on behalf of all those who had observed the annular solar eclipse of 2005 October 3.

October 3 annular eclipse observations

Mr James opened by giving the circumstances of the eclipse, which was visible in

its annular phase along a path which traversed Spain, Portugal and parts of Africa. A good partial eclipse was seen from London between 07:49 and 10:19 UT, to a maximum of 66.1%.

The speaker, and a number of other Association members, had taken advantage of cheap airfares to fly to Madrid for a long weekend, and had viewed the eclipse from Valencia. Others had observed from Tunisia, while many others still, of course, had watched the partial event visible from the UK. Spain had enjoyed clear skies throughout; the Tunisian groups had had some worries about localised cloud patches, but in the event they had not affected anyone of whom the speaker was aware. Many in the UK had been clouded out, though there had been some clear patches, especially in the south-east.

Martin Mobberley, in Suffolk, had imaged some of the partial phase through a thin veil of cloud; in Worcester Park, Maurice Gavin had had good enough skies to take a series of images, later to be stacked into a fine composite, which revealed clearly the magnitude of the eclipse. In Surrey, John Murrell had taken another fine series of images by mounting his digital SLR onto the back of his telescope.

Mr James then showed some of the images from Valencia – firstly those by Damian



Montage of images of the partial solar eclipse of 2005 October 3, obtained from Worcester Park, Surrey, by Maurice Gavin.



Peach and David Tyler, taken during annularity. The resolution achieved was astounding – some aspherical details were even apparent on the lunar limb. The speaker was unsure whether these were lunar mountains, as he might like to believe, or seeing effects; in either case the images remained superb. Pete Lawrence had obtained a fine image of the central moment of annularity, when the Sun had appeared to form a perfect ring. Perhaps the best images of third contact were those by Glyn Marsh, who had captured the annulus breaking up into a whole series of many Baily's Beads; these were without question the result of lunar topography, the Sun setting first behind the mountains, lingering a little longer above the valleys, each for a moment shining like a sparkling bead.

In Tunisia, Nigel Evans had attempted successfully to take a composite image of the eclipse, using film rather than digital stacking – the old-fashioned way. A fair amount of advance planning was required, to frame the shot appropriately and select a suitable exposure; the speaker congratulated him heartily: he had good reason to be pleased with the result.

Mr James concluded by showing a video that he had taken from Valencia of the annular phase; he also remarked upon one of the most interesting demonstrations that could be done during the partial phases of an eclipse: projecting little crescent images of the Sun through pinholes and other crevices.

Following the applause for Mr James, the President introduced the evening's final speaker, Dr Stewart Moore, Director of the Deep Sky Section.

The autumn deep sky

Dr Moore remarked that his talk would provide a striking contrast to Mr Boles' earlier Presidential Address: whereas the supernova patrol work described there had been at the cutting edge between amateur and professional work, the present talk would contain a lot of pictures, showing some of the beautiful gems of the night sky. The autumn was often thought a poor season for amateur astronomers. The glorious winter constellations – Orion, Taurus, Gemini, etc. – rose very late in the night, while the summer constellations and the galactic centre began to sink into the twilight of dusk. As for the autumn's own constellations – Andromeda, Triangulum, Aquarius, etc. – they seemed to consist of rather faint and unappealing stars.

But he wished to right this view, for what these constellations lacked in bright stars, they made good with a fine showing of deep sky objects. Concentrating on the vicinity of

Pegasus, the speaker began to tour the sights.

Perhaps the most famous among them was the Andromeda Galaxy, M31, an Sb spiral, and its companions, M32, a dwarf galaxy, and M101, an elliptical. Here was a fine illustration of the gregarious nature of galaxies – a triplet separated by a mere degree on the sky. Showing a three-dimensional map of the Local Group of galaxies, the speaker illustrated how M31's relationship to its two companions was very similar to that of the Milky Way to the two Magellanic Clouds; in both cases, smaller satellite galaxies orbited around a more massive parent.

M31 itself was $\sim 3^\circ$ across, and readily visible as a misty patchy to even mediocre eyes given sufficiently dark skies. Given its brightness and size, it was an easy target to find telescopically; the star α And (aka δ Peg) provided a nearby reference for star-hopping. Through a telescope with a 30' field, however, it was often a disappointment: only the central region could be seen, which seemed to merely fade away towards its edges. A good pair of binoculars generally provided a much more appealing view. The speaker's personal favourite of the trio, however, was M101 – though the faintest of the three, it was set in an attractive starfield, and its mottled core and a faint obscuring dust lane made it appear slightly spiral, despite its elliptical classification.

Despite these galaxies' fame, Dr Moore thought that Andromeda had better sights to offer – NGC 891, for example. It was easy to locate, being 18' of RA to the east of mag 2 star γ And – one could simply find this star, turn off the drive, and drink tea for 18 minutes! An edge-on Sb spiral, it appeared spindle-like, with a strikingly dark dust lane running through its centre, and two mag 12–13 stars marking either end. Another nearby edge-on spiral (classified Sbc) was NGC 7640, appearing as a thin needle of light – a long thin streak of faint nebulosity with a slightly grainy core. It was a remarkable sight, but despite being quite bright at mag 11, its low surface brightness required a good sky.

Moving now to the constellation Triangulum, the speaker showed the famous Pinwheel Galaxy, M33 – to be found 4.3° north-west of α Tri. Despite sounding as if it should be rather bright at mag 5.7, it actually had a rather faint surface brightness on account of its size – at $71' \times 42'$, larger than a Full Moon. It was the third largest member of the Local Group, and within its sweeping spirals could be found many deep sky treats, including the bright HII region NGC 604. However, the speaker wished to draw more attention to nearby NGC 672 and its companion IC 1727 (8' distant). Both were beautiful Sb spirals, but under-observed, despite their being visible even with a mere 150mm aperture. The Pinwheel, by contrast, could be a challenge with a 250mm aperture.

As a final Messier galaxy, Dr Moore mentioned M74, though warning that it was per-

haps the most difficult of all objects in the Messier catalogue to observe. A fine face-on spiral, visible as a square bright patch in poor sky conditions, rewarded those who persevered. The speaker recommended fine frosty nights as the times most likely to yield the best skies.

Turning to star clusters, M2 in Aquarius and M15 in Pegasus were surely the finest globulars of the season, measuring 12' and 15' across respectively. NGC 7006 in Delphinus was also fine, though rather more distant – 185 thousand lightyears (kly), as opposed to 30 and 37 kly for M2 and M15 respectively. Consequently, a mere 1'.5 across, it was too compact to be resolved. NGC 7492 in Aquarius was also worthy of note, though at -16° declination it never rose more than 23° above the London horizon, and at 6' across, was tricky to resolve.

Cassiopeia was littered with many tens of open clusters, but surprisingly only one was a Messier – M103 – and even this a rather stubby unexciting specimen. Rather more interesting, to the south-west of the 'W', was NGC 7789 – missed by Messier and later discovered by Caroline Herschel, very much an observer in her own right, though so often recorded in history as a mere secretary to her brother.

Two planetary nebulae were particularly well-placed in the autumn sky: NGC 7662, the Blue Snowball, in Andromeda, and NGC 7094 in Pegasus. The former was visually easy and required no filter; it could be found close by galaxy NGC 7640. John Herschel had first noted it to be 'blue in colour'; its nickname derived from Leyland Copeland's remarking upon its 'looking like a light blue snowball'. This trademark colouration was quite tricky to make out, as the eye's most sensitive cells, the rods, were colour insensitive, but it could be discerned with a reasonable aperture. NGC 7094, 1.5° away from M15, was rather harder – it was rather fainter, and greatly benefited from the use of an OIII filter. It presented all that a planetary nebula should: a bright shell surrounded a central star, with faint nebulosity filling the shell.

At half the size of the Full Moon, the largest, and at 0.45 kly, also the closest, of all planetary nebulae was the Helix Nebula, NGC 7293, which presently culminated at around 20h00 UT. At $\delta = -20^\circ$ it never rose more than 18° above the London horizon, and was easiest viewed from the Continent, but was a beautiful sight through a large aperture. It could be seen through a 150mm aperture, but 305mm brought out much more structure; in both cases an OIII filter was recommended.

Following the applause for Dr Moore's fine, well illustrated tour of the autumn sky, the President adjourned the meeting until December 17 at the English Heritage Lecture Theatre, 23 Savile Row.

Dominic Ford