



## Obituary

### Brian Geoffrey Marsden (1937–2010)

With the death of Brian Marsden on 2010 November 18, amateur astronomy has lost one of its key long-time supporters. Brian's professional astronomy colleagues will also miss someone who not only excelled in the investigation of the orbits of comets and minor planets, but, in addition, effectively policed potential discoveries and their validity, mainly through his work at the Central Bureau for Astronomical Tel-

He was elected as a member of the Association on 1953 November 25. During his time as an undergraduate at New College, University of Oxford he persuaded the BAA to lend him a mechanical calculating machine, allowing him to increase his computational productivity. By the time he received his undergraduate degree, in mathematics, he had already developed somewhat of an international reputation for the computation of orbits of comets, including new discoveries.

Brian also participated in summer student courses at Herstmonceux. His interests were demonstrated during his attendance at various meetings of the Association when he often responded during after-talk questions and answers about a variety of mathematical issues. He formed close links with the Computing Section of the BAA and took an early interest in Jupiter's satellites. In the *Journal* for 1955 July there is a table of mutual occultations of the satellites prepared by the 18 year old Brian Marsden and, later, predictions of close planetary conjunctions, all demonstrat-

ing mathematical skills as well as his support for the Computing Section. Brian also looked into the more unusual calculations in astronomy as is demonstrated by his BAA paper of 1956 on 'Transits', when aside from those of Mercury and Venus crossing the face of the Sun as seen from Earth, he discussed when transits could be seen from other planets. His paper on 'Interior contacts of Jupiter's satellite phenomena' earned special recognition.

In recognition of his many achievements and support of the Association, Brian was awarded the Merlin Medal and Gift in 1965 and subsequently, in 1979, the Association's most senior award, the Walter Goodacre Medal.

Sir Richard Woolley (Astronomer Royal, 1956–1971) suggested that Brian attend Yale University and he took up work at the observatory there and was also enrolled as a Yale graduate student. Whilst there he used computer facilities to work out the orbits of comets and completed his PhD degree with a thesis on 'The motions of the Galilean satellites of Jupiter'. At the invitation of director Fred Whipple, he joined the staff of the Smithsonian Astrophysical Observatory in Cambridge (MA) in 1965. During this period he developed a program which included non-gravitational effects to refine predictions for the paths of comets. At this time the Central Bureau for Astronomical Telegrams (CBAT) moved from Copenhagen and Brian succeeded Dr Owen Gingerich as CBAT director in 1968. Daniel Green later became a student assistant and eventually took over as director in 2000. Brian was particularly proud of his studies of Comet Swift–Tuttle, associated with the Perseids, which had been discovered in 1862 and was expected to return in the early 1980s. However, when it failed to appear, he linked it to Kegler's comet of 1737, which led to a revised prediction that it would return later in 1992, which turned out to be correct. In fact, Brian had offered two new perihelion dates of November 25 and December 11; the latter assumed there were negligible non-gravitational effects, which might be the case if 109P/ Swift–Tuttle's nucleus was massive. As it turned out the 1992 December 11 prediction was just one day early!

Throughout the 1970s the Minor Planet Center, also based in Cambridge, was handling an ever-increasing volume of measurements of asteroidal positions and computing their orbits. Dr Paul Herget was due to retire in 1978, and so the IAU asked Brian to take over directorship of this area as well as CBAT. He initially worked with Conrad Bardwell who, on retirement in 1989, was replaced by Gareth Williams who became associate director.

The development, in 1996, of the Internet 'Near-Earth Object Confirmation Page' drew attention to candidates for Earth-Approaching objects but controversy followed in 1998 when Brian pointed out that 1997 XF11 might collide with the earth in 2040. Subsequent observations in 1990 ruled out this possibility, leading some to believe an error had been made, but in reality it was simply a lack of initial measurements over a suitable time span which had led to the debate.

In 1975 the author became editor of *The Astronomer* and during a discussion with



Marsden (right) with Guy Hurst at a BAA meeting in 2003. Photo by Hazel McGee.

egrams. However, most of all, Brian was a true friend to so many observers whose paths he crossed, particularly as he was often willing to spend a considerable time offering support and advice, despite his many busy duties.

Brian Geoffrey Marsden was a British astronomer who was born in Cambridge, England on 1937 August 5. His mother introduced him to the study of astronomy, when, during his first week in primary school in 1942, he returned home and sat with her watching a solar eclipse and was fascinated by how such events could be predicted in advance. At the age of 11 he entered the Perse School in Cambridge where he was already developing primitive methods for calculating the positions of the planets.



Brian Marsden we both recognised the need to filter out as many false alarms of potential discoveries as possible to avoid an excessive workload at CBAT. Frequent telephone calls and e-mails were exchanged in which many claims from Europe and beyond were investigated. The time zones worked well with some queries at noon in CBAT being passed on to the author at UK teatime and responses from England reaching Brian at CBAT in the evenings.

Brian often judged at the outset the likely validity or otherwise of suspects on a 'hunch' basis. One major exception was Comet Boethin of 1975, where the report arrived by letter with obvious delays which made Brian sceptical. However the observer followed it through the Full Moon phase and finally sent a telegram which allowed it to be confirmed. Despite one obvious approach of asking CBAT to check queries themselves, the staffing was minimal and in any case Brian often said that he thought the various teams on call were able to assist very effectively. I was also amazed during that period by what an extraordinary memory Brian had when queries, which were repeats of much earlier events, caused him to recall the original facts, without reference to the literature, and often right down to the original date.

One major false alarm was a report from a professional astronomer of a supernova in Messier 31 in November of 1987. This had created a degree of chaos at CBAT during one morning when Brian was away attending a meeting and on his return he questioned why an amateur astronomer had not seen it in such a popular object! The query was relayed to the UK where an image by Denis Buczynski showed no object at the reported position and the world-wide alert was cancelled.

The support Brian Marsden gave the amateur astronomy community continued to be very evident with personal letters written to discoverers such as John Hosty for his nova discovery in 1977. He also made occasional visits to see these observers such as in the case of George Alcock whom he called to see in 1959 when living close by in Cambridge. He again visited George in 1993, accompanied by his wife Nancy, and they were both enthralled by drawings of non-astronomical objects such as birds, cathedrals and clouds.

Brian made a point of attending meetings in the UK as part of international tours. This included his attendance at the 1989 Annual Meeting of *The Astronomer* in Basingstoke where he gave two talks, one on his recent discovery of a newly recognised sungrazer group of comets, now known as the 'Marsden Group', and later in the day, guidance on priority observing areas which he recommended amateur astronomers should follow to provide valu-

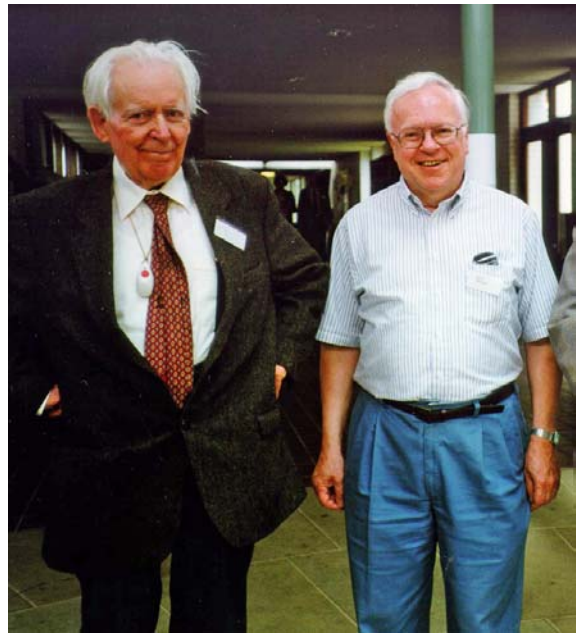
able science. Luckily recordings of these talks and an interview he gave at the 1989 meeting were made and watching these again even now is truly inspirational.

At a meeting of IAU Commission 6 in Manchester on 2000 August 15, Brian G. Marsden announced his retirement, effective the next day, as Director of the Central Bureau. His place was taken by Daniel W. E. Green. In recognition of his long service, he was given the honorary title of Director Emeritus.

Sadly, four months later, on 2000 Dec 15, George Alcock died, aged 88. I was very conscious of George's love of Peterborough Cathedral which was near to his home in Yaxley and speculated that it might be possible to have a plaque erected in his honour within the cathedral. However, at the time I had not appreciated the complexity of the task. David Tucker came to the rescue and prepared draft plans for discussion at BAA Council meetings and this process continued through my period as President of the Association. Brian Marsden asked to be kept in touch throughout the negotiations with the various committees of the Cathedral.

A joint meeting between the Royal Astronomical Society and the Association at the Open University in Milton Keynes took place on 2003 May 10 with the theme of comets, meteors and meteorites. Brian had agreed to attend and gave the first 'George Alcock Memorial Lecture'. Also present were John Alcock, brother of the late George, and Kay Williams, author of the Alcock biography *Under an English Heaven*. Brian was accompanied by his wife Nancy and I reviewed the drawings of the plaque as they were approaching the final stage with our various guests. It was a particularly memorable moment in my Presidency when I called John Alcock, Kay Williams and Brian Marsden on to the stage before the Memorial Lecture was given.

Further controversy occurred with regard to Pluto. In 1992 colleagues claimed the first discovery of what Brian referred to as the 'transneptunian objects'. He pointed out that actually Pluto was the first and subsequently other objects were found in similar orbits, thus suggesting they were all part of a group and that Pluto should be 'demoted' from its position as a major planet. This idea gained momentum when in 2005 Eris was found to be of a similar size to Pluto. With the discovery of Makemake and



With George Alcock at the IWCA II meeting in Cambridge, England on 1999 August 15. Photo by Martin Moberley.

Haumea, at the IAU meeting in Prague in 2006 it was decided to designate Pluto as part of a new group of 'dwarf planets'. At the end of his career, Brian noted that Pluto was retired as a planet at the same time he formally retired as an astronomer.

In truth people like Brian never retire and though suffering from leukaemia and later pneumonia and battling on with the associated intensive treatment, he still managed to work most days helping the Minor Planet Center. Until a week or so before his death he was issuing circulars about comets and his favourite transneptunian objects. We were in touch in the final week of his life when he helped with provision of information on behalf of *The Astronomer* to NASA ADS.

Brian will be sorely missed by so many astronomers around the world. He once passed to me a private document describing a typical week in his duties relating to astronomy which I still treasure. I was humbled by even considering that what I regarded as a busy week could ever compare with the extraordinary volume of events and queries he was able to handle.

Brian leaves his wife Nancy Lou Zissell, whom he married on 1964 December 26, his daughter Cynthia, who is now married to Gareth Williams, and son Jonathan, of San Mateo, California. A sister, Sylvia Custerson, continues to reside in Cambridge, England.

I would like to thank Martin Moberley for his invaluable help in checking the facts in this obituary.

**Guy M. Hurst**