

Brian G. Marsden (1937–2010)

Invited Memorial Service Talk, 2011 January 16

by Irwin Shapiro (*Director Emeritus, Harvard-Smithsonian Center for Astrophysics*)

Brian was a very good friend of mine. I knew him for almost 45 years and admired him greatly. He was always willing to respond to any request, no matter when in the day or night that it was asked and no matter how outrageous the request. I know because I was part of the problem, having made, I am embarrassed to say, many such requests.

Although I myself worked a rather long week, I never met anyone who worked as long and as intensively as Brian. From my vantage point, he never seemed to sleep. He seemed to be on the job 24/7, although of course that is not true. It only seemed to be true, but a good first approximation nonetheless.

Brian had several other characteristics that were very unusual, if not unique. He had a memory that was overwhelmingly comprehensive. Any fact about a comet or asteroid known to humankind was in Brian's mind subject to instant recall. I never asked Brian a question about either kind of object that he couldn't expound on knowledgeably and at length. These abilities of Brian's were recognized early in his career; for example, four of his colleagues in different parts of the continent, including the then head of the Minor Planet Center in Cincinnati, collaborated in honoring Brian by naming a minor planet after him — (1877) Marsden. Then, about two decades later, in 1995, came a unique honor from his colleagues. A set of six successive discoveries of minor planets were named after well-known people, including contributors to our heritage in literature, art, and science, such as Hendrik Ibsen, Edvard Munch, and Svante Arrhenius. What was Brian's relation to them or, for that matter, their relation to Brian? It just so happened, not exactly by accident, that the initials of their surnames spelled **B R I A N M**. No other person has ever been so honored.

Brian also had what seemed to be an absolutely uncanny ability. One could mention any date whatever in the Common Era and Brian would tell you, almost instantly, the corresponding day of the week. I used to test Brian's ability from time to time using outlandish dates. Only once did I catch him in an error: he was off by one day. He had been up almost the whole night before. Brian would never tell me the algorithm that he used to do this conversion so rapidly, even when exhausted. I very recently and serendipitously came across this algorithm. I was still quite impressed in retrospect with how rapidly he could do the calculation even with the algorithm firmly fixed in his brain.

My most intense and prolonged interaction with Brian came at a time only a few months after I became the CfA director. The comet C/1983 H1 (IRAS-Araki-Alcock) had just been discovered; moreover, its preliminary orbit showed that it would pass very close to the earth in only a few more days, missing the earth by less than 1/30 of an astronomical unit. This predicted close passage presented an unprecedented opportunity to observe a comet by radar. We couldn't afford not to seize it. But in order to observe the comet by radar, we needed an extremely accurate ephemeris. Four dimensions worth of information were required, the last two with reasonably high accuracy: two directions in space, one in the distance to the comet, and the fourth, the rate of change of this distance. It was also a time when instant communications via computer were not available: it was the spring of 1983. Hard copy had to be sent by express mail, in this case a magnetic tape. Brian worked furiously, incorporating all of the observations from optical astronomers worldwide, weeding out the bad ones, and producing an adequate ephemeris for my assistant to convert to the "language" required by the Arecibo radar in Puerto Rico, the most powerful one in the world then and still. In fact, several iterations of this process were made as new optical observations kept coming in from around the world, and we wanted to produce the most accurate ephemerides possible before a magnetic tape sent to Arecibo would be too late (the comet would then be out of view). The end justified the means. We obtained fantastic data and turned up startling information: The so-called dust tails of comets, or at least of this comet, contained a huge number of particles many centimeters in diameter and larger, a far cry from previous predictions that only fine dust populated the tails.

I soon appointed Brian as the Associate Director of the CfA to lead the Planetary Sciences Division. He held that position, serving with distinction for 15 years, a longer time than for any other Associate Director of the CfA.

Brian for many years was also a darling of the media. It soon became widely known among journalists that no one in the world knew as much about asteroids and comets as Brian. He was therefore the "go to guy" for journalists when any potential story involved asteroids or comets. Brian was therefore widely quoted in the media and called upon for personal interviews, especially given his great articulateness.

Brian was a singular, giant figure in the world of asteroids and comets. We are unlikely to see his expertise again any time soon in any other individual. He was a wonderful friend, always responsible, and he is sorely missed by all of us who knew and loved him.

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BRIAN G. MARSDEN: A REMEMBRANCE

by Joseph N. Marcus (*St. Louis, MO, USA*)

My main interaction with Brian Marsden was as the editor of the printed newsletter titled *Comet News Service*, which was published during 1975-1986 by the old McDonnell Planetarium in St. Louis and circulated to other planetaria, observatories, libraries, and interested individuals. Brian was *the* "go to" person to ensure that our coverage was as accurate as it could be. With his staggering knowledge of comets and orbits, Brian's behind-the-scenes input was