

David Allen—An Appreciation



David Allen 1946–1994

A few days after his death in July 1994, and within a few hours of his funeral, friends and family of David Allen came together in the library of the Anglo-Australian Observatory to celebrate his memory. What was remarkable about this informal gathering was the number and variety of people present. They came to honour a life cut short by an aggressive brain cancer that killed him a few days short of his forty-eighth birthday and within a year of its diagnosis. They came to share their memories of a man of remarkable character and intellect, someone who had made major contributions to astronomy and to Australian science, both as a practitioner and a publicist. The common thread in their remarks was a recognition of David Allen's endless energy and enthusiasm for everything he tackled. What was surprising were the widely different views they had of the nature of David Allen's achievements.

David Allen was born in Cheshire in 1946, a birth that was apparently difficult and protracted. It left him with a damaged hip which was misdiagnosed as TB and confined him to bed for the first nine years of his life, depriving him of contact with other children. However, home tuition gave him an intellectual advantage and an operation when he was 16 gave him mobility. Both these childhood experiences left their mark, most obviously as a distinctive limp, but also as a sharp mind, a broad general knowledge and a sometimes disconcertingly direct manner. The physical disability did not prevent him becoming an enthusiastic walker, and that in turn left him with an abiding love of the English Lake District where his ashes will be scattered. The mental agility found him a place at Manchester Grammar School, which has an excellent academic record, so it was no surprise that David

Allen found himself at Cambridge in 1964. He was eventually to complete a PhD under David Dewhurst at the Cambridge Observatories in the then unfashionable topic of infrared astronomy. It was while at Cambridge that he met and married Carol Andrews.

Astronomy and the infrared dominated David Allen's career, and were to come to the fore when he accepted one of the inaugural Anglo-Australian Observatory Fellowships in 1975. He was to work at a telescope that was neither obviously suited to infrared astronomy nor located on a site that was considered appropriate for such activity. Undeterred, he designed a series of innovative and increasingly sophisticated instruments that exploited the versatility of the Anglo-Australian Telescope, and, for a while, gave it a significant lead in what is now an essential part of mainstream astronomical research. While the instruments themselves were remarkably productive in many hands, it was Allen himself who produced the most remarkable discoveries with them. His final flourish was to create IRIS, an infrared imaging spectrograph, which, as its name implies, takes spectra and produces pictures. It was a matter of considerable pride to everyone at the Observatory that IRIS was designed and built in-house at the AAO, and the achievement was recognised with the Bradfield Award, the highest award the Institution of Engineers, Australia can bestow. In the last months of his life David's role in this was recognised by an individual and unique Honorary Award from the Institute as a tribute to his contribution to science and engineering.

David Allen's AAO Fellowship was turned into a staff position, which was renewed, but eventually he ran up against the AAO Board's rule that obliged him to leave after seven years. In response, he successfully lobbied for the creation of the first permanent scientific post at the Observatory, and in 1983 secured it against open international competition. From that effectively tenured position he became more involved in the day-to-day running of the Observatory and was Acting Director for two lengthy periods, between the departure of Don Morton and the appointment of Russell Cannon as Director in 1986, and again in 1992 when Russell Cannon took study leave, which was extended because of illness.

Despite his role as de facto deputy Director and later his Presidency of the Astronomical Society of Australia, his scientific output was undiminished and remained astonishingly varied, embracing everything from studies of archeo-astronomy, the Moon, comets and asteroids to the nature of active galactic nuclei

and the most distant quasars. Some of David Allen's most important scientific work was on the structure of the atmosphere of Venus, which he found to be partially transparent at infrared wavelengths. He also worked for many years on symbiotic stars and published detailed studies on several of them, helping to confirm their nature as interacting binaries. In the course of this he produced the standard catalogue of these intriguing stars. Even more enigmatic is the extreme star Eta Carinae, and David Allen worked with John Hillier on unravelling the structure of the Homunculus nebula surrounding it. He also had an abiding interest in what lies at the Galactic centre and showed that there is an unexpected population of massive young stars in the inner regions. Even younger stars were the focus of recent, widely reported work on explosive events in the Orion Nebula, which he undertook with Mike Burton. As always, new discoveries command wide attention if they are accompanied by an exciting picture, and in this case IRIS produced the 'Hand of God' image that appeared on the cover of *Nature* in 1993 where this work was reported.

David Allen's scientific work alone would have guaranteed him a place as one of Australia's great astronomers, but he also had a strong commitment to advancing the public understanding of the subject, and, more important, the ability to get his message across. He excelled as a radio scriptwriter, with lucid descriptions and endlessly inventive analogies to explain the extremes of distance, dimensions and dynamics of the often violent objects that fascinated him. For several years David and Alan Wright had a monthly, freewheeling discussion of some astronomical topic on ABC radio, again intended for popular consumption. He gave talks to the vast number of 'non-science' clubs such as Rotary and Probus that have an insatiable demand for interesting speakers, as well as giving much time to schools and community groups. His popular articles have appeared in many magazines that are intended for the general public and several have won prizes, and for the past 20 years has contributed an article to Patrick Moore's annual *Yearbook of Astronomy*. He also wrote two children's books, one on the stars, one on the atmosphere and with his wife Carol he wrote *Halley, the Once in a Lifetime Comet* and a popular book on eclipses. The most significant recognition of this aspect of his work came when he was already terminally ill. He received the ABC Eureka Prize for the Promotion of Science in November 1993, appearing on national television when clearly unwell.

The friends and colleagues who gathered to mourn him were treated to eulogies from Barry Jones, and Robyn Williams, representing the wider community, and from the historian David Christian, for whom David had for some years given talks on the ultimate historical question, the Origin of the Universe, the last delivered in March 1994, his final public appearance. Friends from his daughter's Fossil Club, of which David had been President, mingled with colleagues from the Astronomical Society of Australia, of which he was also immediate past President, and from the local Leisure Learning Centre, where David gave occasional talks. David's daughters read poems

to open the meeting, and his wife Carol closed it with some more personal remarks. Though there were some moving moments, it was not a gloomy occasion. It celebrated the accomplishments of the full, successful, though sadly incomplete, life of a leading astronomer who died at the peak of his career. It was fitting that his wife and children were there to remind us that we were also mourning the premature demise of a husband and father. He will be greatly missed by family and friends alike.

David Malin, November 1994