DOUGLAS WALTER NOBLE STIBBS

Emeritus Professor Douglas Walter Noble Stibbs was an astronomer and astrophysicist of international standing, who for thirty years held the Napier Chair of Astronomy at the University of St Andrews and the associated post of Director of the University Observatory. He was elected a Fellow of the Royal Society of Edinburgh in 1961 and served as a member of Council from 1970 to 1972.

A native of Australia, but with three Scottish grandparents, Walter Stibbs was born in Sydney on 17 February 1919. His father died three years later. He wrote: "with only a limited amount of suburban street lighting and no industrial contamination in the atmosphere, I had perfect access to the glorious constellations that surpass by a substantial margin those in the northern hemisphere. Accordingly, my interest in astronomy began at a very early age." Entering the University of Sydney in 1937, he was awarded the Deas-Thomson Scholarship in Physics in 1940, graduated BSc with first class honours and the University Medal in Physics in 1942, and MSc in 1943.

As a research assistant at the Commonwealth Solar Observatory on Mount Stromlo, Canberra, during the Second World War, he contributed to some of the earliest optical munitions work undertaken there. He designed a folded optical system for a gun sight, which went into production later in the war, as well as a sun compass for use in desert warfare. In 1942, at the age of twenty three, he was appointed assistant lecturer in the Department of Mathematics and Physics at New England University College, Armidale – later to become the University of New England. This period 1942–45 was interspersed with wartime research work on submarine detection for the Royal Australian Air Force. He was elected a Fellow of the Royal Astronomical Society in 1943.

In 1945 he returned to Mount Stromlo, where he held the position of Senior Scientific Officer. Some of his research papers published at this time have become classics, opening new horizons for stellar physics. In 1948 he started writing a highly- regarded textbook, *The Outer Layers of a Star*, co-authored with Dr (later Sir) Richard Woolley, which was published in Oxford by the Clarendon Press in 1953. This dealt mainly with the analysis of the observable radiation from a star, particularly with reference to the formation of the continuum and the line spectrum. In these early years, Walter Stibbs produced some of the most significant astronomical research of his time, both observational and theoretical.

In 1949 he married Margaret Calvert, also a science graduate of the University of Sydney, and the following year he was awarded the Radcliffe Travelling Fellowship in Astronomy by the University of Oxford, to carry out observations at the Radcliffe Observatory in Pretoria and to work at the Oxford University Observatory with Professor Plaskett. In 1951–52, at the Radcliffe Observatory, he undertook extensive observational work, using the Radcliffe 74-inch telescope, on Cassegrain spectroscopy of Cepheid variables in the southern hemisphere. All his observations were made in the days when astronomers had to wear padded clothing on winter nights, before the days of electronic controls inside warm rooms.

A member of New College Oxford 1952–54, he graduated DPhil in 1954 for his work on Galactic Cepheid Variables and the rotation of the Galaxy. It was mainly for this, as well as for subsequent work, that in 1956 he was awarded Oxford University's Johnson Memorial Prize and Gold Medal for the Advancement of Astronomy and Meteorology, thereby joining the ranks of distinguished previous recipients who included E A Milne and G L Camm. He wrote several papers and in addition worked on integral equations with Professor Titchmarsh in the Mathematical Institute, and lectured on galactic dynamics at the Oxford University Observatory. Walter subsequently worked for four years for the UK Atomic Energy Authority at Aldermaston, establishing a research group working in astrophysics in a classified context. His two daughters were born during this time in England.

In 1955, the Napier Chair of Astronomy at St Andrews University had fallen vacant following the retirement of Professor Freundlich, and in 1959 the University Court decided to fill the vacant Chair. Walter was appointed to the Chair and to the Directorship of the University Observatory. Several years of intense administrative work in the sixties saw the completion of the 38-inch James Gregory Cassegrain–Schmidt telescope (named after James Gregory, the first appointee to the Regius Chair of Mathematics at St Andrews) and substantial extensions to the University Observatory, including the Napier Building with two more research telescopes, and a new workshop. The 38-inch telescope was the largest optical telescope in the United Kingdom at the time, and with his research students he used it effectively on major observational programmes on distant galaxies at the forefront of research in surface photometry. With the help of Principal (later Sir) Malcolm Knox, he was also responsible for the installation and operation of the first-ever computer in St Andrews, an IBM Model II system with the largest magnetic core storage then available with that system, with three units of disc storage including the monitor, and with high-speed card input and printer. It was housed initially at the University Observatory and inaugurated in 1964. At that time it was the largest system of its kind in Europe.

He recruited several new staff members and updated the undergraduate syllabus, as well as resuming the training of research students. He became concerned at the degradation of astronomical observing conditions at the University Observatory by badly-designed street lights and other outdoor lighting, and used his understanding of light-scattering in the atmosphere to suggest improvements, which also saved energy and gave superior lighting on the ground. The St Andrews Town Council adopted these proposals for street lighting. His own research had to take second place during this time. On the occasion of his retirement in 1989, a colleague wrote: “He actually appeared to relish the task of administration, and was quick to seize the opportunities afforded in the sixties, for the development of the sciences in particular, to greatly expand the activities of the Department of Astronomy. He was tireless and successful in his pursuit of, and advocacy for, the resources to acquire additional staff, premises and equipment. He always kept closely in touch with all that was going on and maintained a lively and informed interest in the work of his colleagues, whom he was ever ready to encourage and support. Behind the scenes Professor Stibbs showed a deep concern for the welfare of the individual, student, staff or other who suffered any misfortune or needed help.”

Concurrently with his work at the University Observatory, as well as service on Faculty, Senate and numerous committees within St Andrews University, Walter also made substantial contributions organisationally to the wider world of Astronomy. As well as membership of the American Astronomical Society, in the seventies he was a member of the Council of the Royal Astronomical Society and its Vice-President (1972–73). He was Chairman of the Finance Committee of the International Astronomical Union and prepared and presented three Triennial Budgets to three General Assemblies of the IAU. He was also Chairman of the Astronomy Policy and Grants Committee of the former Science Research Council in succession to Sir Fred Hoyle, and Chairman of the Science Research Council (SRC) Northern Hemisphere Planning Committee in 1972–75. At that time he prepared the scientific case and technical specification for the La Palma Observatory and its 4.2-metre William Herschel Telescope, during the critical phase when British astronomy was in a state of flux concerning institutions, personnel and research direction, which the SRC sought to control. During this time, the Anglo–Australian Telescope was under construction and he was present at its inauguration in Australia by the Prince of Wales in 1974. He was also a member of several other SRC Committees and a member of the Council itself from 1972 to 1976.

He held several visiting Professorial appointments – at Yale University Observatory, the University of Utrecht and the Collège de France, where he was awarded the Médaille du Collège in 1976. He was also a member of the Centre National de la Récherche Scientifique (CNRS) Committee, Observatoire de Haute Provence, of which he was the first foreign member.

Walter Stibbs was a man of many talents. He was an accomplished organist and a fine sportsman. He played cricket for the Berkshire Gentlemen during his early years in England and he took up marathon running at the age of sixty two, when most people are thinking of conserving their energies, taking part in all the major events from Berlin to Boston. Music and photography were

his chief recreations. He was particularly interested in organ music, and whether at home or abroad would often seek out churches of particular interest.

In 1989 Walter retired from the University of St Andrews and in 1990, after an absence of nearly forty years, and at the age of seventy, he returned to live in Canberra, where he became a Visiting Professor in the Australian National University. For some years he contributed honours courses in the Mathematical Sciences Institute and also worked in the Research School of Astronomy and Astrophysics at the Mount Stromlo Observatory. The disastrous bushfire of 2003 destroyed his study at Mount Stromlo, which contained many of his historic and irreplaceable books and papers, and in the same year he also suffered the tragic loss of his younger daughter. Soon after this his eyesight began to fail, and shortly after his ninety-first birthday he passed away, on 12 April 2010.

A colleague wrote to me after his death: “During the years that Professor Stibbs was the Napier Professor of Astronomy in the University of St Andrews, the Department of Astronomy and Astrophysics was relatively small, but the true measure of its success is to be found in its work in teaching and research and the impact of these both within and beyond St Andrews. It turned out a remarkable number of successful astronomers and some of the most important and innovative projects of recent years are led by Walter’s former students, who may be found in observatories and universities worldwide.”

I have used Walter’s own records and I thank Dr T R Carson and Dr T Lloyd-Evans for their contributions to this Notice.

M L C Stibbs

Douglas Walter Noble Stibbs, BSc, MSc (Sydney), DPhil(Oxon), FRAS. Born 17 February 1919; Elected FRSE 6 March 1961; Died 12 April 2010.