

Arthur Francis O'Donel Alexander, M.A., Ph.D., F.R.A.S., died at his home in Dorchester, Dorset, on 1971 January 29. Due to serious illness he was forced to retire from active participation in the work of the Association in 1957, and so many of the younger members did not know him. His death deprived the Association, however, of one who was formerly among its most active members. He contributed to the work of many of the observing sections, and directed two of them with great distinction; he played a leading part in keeping the Association going during the difficult days of the Second World War, and in rebuilding it when hostilities had ceased.

Dr Alexander, who was born on 1896 November 9, was an historian by training and an educational administrator by profession. He won an open scholarship to University College, Exeter, in 1915, and obtained his B.A. degree in 1918; he was the first student of the College to obtain First Class Honours in history. After three years' teaching in the U.K. he went to Japan to teach English to science students at the Matsuyama National College, remaining there until 1924 when he returned to Northern Ireland as Education Secretary and Executive Officer to the Londonderry County Borough Authority. In 1927 he obtained, by thesis, the University of London external degree of M.A.

In 1930 September he moved to Dorchester to become Assistant Director of Education to the Dorset County Council, which post he retained until his retirement at the end of 1961. In 1934 he was awarded, by the University of London, the degree of Doctor of Philosophy for a thesis on the Franco-British war of 1377.

Dr Alexander was elected a member of our Association on 1937 June 30, and for several years contributed regularly to the work of the Solar, Lunar, Mars, Jupiter, Saturn, Comet and Variable Star sections. To the solar and planetary sections in particular he continued to submit observations for many years. He had a natural flair for the analysis of scientific observations; one of the earliest manifestations of this was, to use his own words, "trying to invent new methods of using sunspot statistics in the hope of results which may add to our knowledge of the solar cycle and solar physics generally". He applied novel techniques of statistical analysis to the data contained in many volumes of the *Greenwich Photoheliographic Results*, and published four papers in the *Journal* between 1944 and 1947 which summarized the results of his research into the areas, distribution and frequency of sunspots. The brevity of these papers belies both the tremendous labour which had gone into their preparation, and their impact—each led to a stimulating discussion when read at a meeting of the Association, and they were commended by professional experts also. There had been few comparable contributions from an individual member of the Solar Section for many years.

The 1941 opposition of Mars was the most favourable for observers in the United Kingdom since 1926; Alexander realized, however, that there was little likelihood of the planet being adequately observed during the apparition, most of the regular observers being engaged on war service. He therefore personally organized a team of observers—many of them specialists in other kinds of observation—who were fortunate enough to be still within reach of their telescopes. As a result of his efforts Mars was regularly observed by members of this team throughout the apparition and full coverage of its surface was achieved. The detailed report of the apparition was also largely Alexander's work, published as an interim report in 1942 and in expanded form as the last *Mars Memoir* (37, part 1, 1951).

His outstanding abilities in the organization and analysis of planetary observation being thus demonstrated, it was natural that most of his future work for the Association should lie in this field. In 1946 he was appointed Director of the Saturn Section, then virtually defunct as a result of the war. Starting with a first list of five members, he built a large and vigorous team of observers and drew up a detailed observing programme for the Section so comprehensive and up to date that it has remained in use, with little amendment, for a quarter of a century. In addition to his section reports, his paper, 'Saturn's Rings—Minor Divisions and Kirkwood's Gaps', published in the *Journal* in 1953, was a most valuable addition to the literature of the planet, containing both original work and a summary of previous results. In 1951 he handed over the Section to his great friend and collaborator, M. B. B. Heath, on being appointed Director of the Jupiter Section.

The Jupiter Section was at that time rather run down, for a variety of reasons. Under Alexander's direction it soon began to flourish once more, however: observers were recruited both at home and abroad, and the preparation of overdue section reports covering many apparitions was soon under way. The discovery, in 1955, that Jupiter is a source of radio noise, led to considerable collaboration between Alexander and leading radio astronomers, as a result of which his personal standing and that of the Section were much enhanced. When illness forced him, in 1957, to hand over direction of the now-thriving Section to his senior assistant, W. E. Fox, the arrears in the preparation of reports had been overtaken and a large team of enthusiastic observers were regularly studying the planet.

Dr Alexander's outstanding services to the Association were recognized in 1962 by the award of the Walter Goodacre Medal and Gift. The medal remained one of his most treasured possessions, not least because its Founder, Walter Goodacre, had been his "first friend in the B.A.A.". When accepting the award he recalled Goodacre as "a jovial old astronomer of about 82, full of kindness and encouragement to the raw recruit, as I then was. . . ." Goodacre would have been proud of the former recruit, who by then had attained a distinction rare among amateur astronomers. A conscientious and stimulating correspondent, and a gifted linguist, Alexander forged a number of valuable links with amateur and professional astronomers of many nations. In 1947 he led a

small party of B.A.A. members to the Pic-du-Midi Observatory—the first of many visits by British astronomers to work at the Pic; he was an Honorary Member of the Société Astronomique de France. From 1951 to 1957 he represented the Association on the British National Committee for Astronomy; he was a member of Commission 16 (Physical Study of Planets and Satellites) of the International Astronomical Union and attended several congresses of the Union. He was also the British representative on the I.A.U. sub-committee which was set up to revise the nomenclature of the surface features of Mars. In 1954 Alexander participated in the Joint R.A.S./B.A.A. Eclipse Expedition to Sweden, where his linguistic gifts were in great demand.

Dr Alexander also achieved considerable success outside the Association, especially as author and educator. His chapters on the planets and minor planets in *Astronomy for Everyman* (Dent, 1953) are invaluable summaries of the state of knowledge at that time: they were followed by his own books, *The Planet Saturn* (Faber, 1962) and *The Planet Uranus* (Faber, 1965). Both are sub-titled “a history of observation, theory and discovery” and fulfil this rôle admirably. They are models of meticulous historical research and masterly presentation, and have become accepted as the standard works of reference on these two planets.

Alexander was also very active in astronomical education: for many years he conducted regular evening classes at several centres in south Dorset. His lectures were scholarly and exceptionally thoroughly prepared; he set high standards for his students, but was unstinting in his efforts to help ‘lame dogs’. Predictably he based his teaching of a particular topic on the historical development of the subject, with biographical asides about the persons involved. Thus to his students many of the great astronomers of the past became living personalities, and the significance of their contributions fully appreciated. His delivery was measured and devoid of histrionics, yet he had the ability to hold the hearer’s attention. He required a ‘feedback’ from his class—former students will remember his habit of peering over his spectacles with a solicitous “D’you see?”

Alexander was gifted in many aspects of astronomical work, and unstinting in his use of these gifts, but he found time for many other spare-time interests, ranging from oriental art to music; for several years he was the much-respected President of the Dorset Players, and greatly enjoyed their performances of Gilbert and Sullivan operas.

Dr Alexander was a talented, conscientious and, above all, kindly person, whose work and example will long be remembered by all who knew him, and especially by members of this Association. He is survived by his second wife, Christine, a son and four daughters. Those who were privileged to enjoy the hospitality of their home will know how much Christine Alexander contributed to all aspects of her husband’s work, and will recall with admiration her devoted care of him during his last years. To her, too, we owe a considerable debt.