

humour were characteristic of his daily activities. He started several research projects in collaboration with other members of the staff and with students that were only beginning their training. Some of these projects were: (a) the study of the rôle of planetary nebulae in galactic evolution, in particular it was found that the total number of planetary nebulae in the Galaxy is of the order of 10 000 – a value considerably smaller than the accepted one at that time, (b) the study of the kinematical properties of O stars to derive the solar motion components and the galactic rotation constants, to achieve this goal Cruz-González, together with a group of collaborators, produced a catalogue of O stars, from this catalogue he derived kinematical properties of the Galaxy considering the low-velocity O stars.

Cruz-González was profoundly interested in the development of science and academic excellence in Mexico. He was very active in our incipient organizations such as the Union of Academic Workers of the National University and its local branch at the Institute of Astronomy. At the time of his death he was one of the editors of the *Revista Mexicana de Astronomía y Astrofísica* and he was also working on four papers related to galactic structure and stellar dynamics.

For the last two years of his life Carlos Cruz-González knew that he was afflicted with a terminal disease, yet during this time he showed great strength and carried on joyfully without any apparent stress. With the untimely death of Dr Carlos Cruz-González on 1977 April 8, we suffered a great loss not only of a promising young scientist but of a man dedicated to the best causes of our people. He is survived by two children and his wife Elsa Recillas-Cruz.

MANUEL PEIMBERT

HUGH ERNEST BUTLER

Hugh Ernest Butler died suddenly at his home in Peeblesshire on 1978 May 10. He was born on 1916 December 27 in Llandaff, Glamorgan, and was educated at Cardiff and Croydon before he went to Emmanuel College Cambridge with a major scholarship to read mathematics. Having become a Wrangler in Part II of the Mathematical Tripos of 1939 he was elected in 1940 into an Isaac Newton Studentship. In the same year he joined Professor (later Lord) Blackett's group at Richmond for operational research in anti-aircraft gunnery. In 1946 he returned to Cambridge as First Senior Observer at the University Observatories.

In the following year Hugh Butler moved as Chief Assistant to Dunsink Observatory in Ireland which had recently been re-opened as part of the Dublin Institute for Advanced Studies. There he found plenty of scope for his special interest in the instrumental side of astronomy. He became an expert in methods of photoelectric photometry and made some of the earliest photoelectric observations of stellar scintillation. He became also involved in the operation of the new Armagh–Dunsink–Harvard Schmidt Telescope which, mounted in South Africa, produced much valuable early material for galactic and extragalactic research.

In 1953 Butler was appointed Principal Scientific Officer at the Royal Observatory Edinburgh where, in co-operation with his colleagues, he managed to complete successfully a major spectrophotometric programme on early-type stars.

The launching of the first *Sputnik* in 1957 October fired Butler with enthusiasm for space research. He became one of the first British astronomers to devote his efforts to the new field of work which he championed vigorously at national and international Committees.

At Edinburgh he became responsible for the setting up of an outstation of the Observatory in Peeblesshire which was equipped with a large Hewitt Schmidt camera and which produced some very valuable material for studies of orbits of artificial satellites. As Head of a new Space Division in the Observatory Butler also built up a group which became engaged in the design and construction of photometric and spectroscopic instruments for ultra-violet observations. Some of these were flown in rockets, others were used in the instrumentation of the *TD-1* satellite.

Hugh Butler will always be remembered for the ever-present youthful enthusiasm which he displayed in all he did. His interest in country life made him wish to retire early and at the end of 1976 he moved away from Edinburgh to a charming cottage in Peeblesshire which he had largely built himself. From his election in 1959 until his death Hugh Butler was a prominent Fellow of the Royal Society of Edinburgh in whose affairs he took the keenest interest. He was elected a Fellow of this Society in 1940 and for several years served on its Council. Hugh Butler is survived by his wife Gwen and their only son John who is a computing officer on the staff of Edinburgh University.

H.A.BRÜCK