

## Simon Gavin George MacDonald MA PhD FInstP FRSE

5 September 1923 – 17 November 2019

Simon Gavin George MacDonald (known as Gavin) was born in Beauly, Inverness-shire, on 5 September 1923, but his parents moved to Edinburgh at the end of his first year. He was educated at Craiglockhart Primary and at George Heriot's (having been first in the school's bursary competition). There he thrived, sweeping many year prizes and going on to be Dux of the School as well as Dux of Physics, Chemistry and Mathematics. As well as being a Prefect, in a sign of a move he was soon to make, he was the First Flight Sgt of the Air Training Corps.

Gavin left Heriot's in 1941 and went on to the University of Edinburgh to study Mathematics and Natural Philosophy (Physics), winning a Spence Bursary in Maths and the Newton Prize in Physics at the end of his first year. After two years, as for many of his generation, the war intervened, and he was called up for service as a junior scientific officer at the Royal Aircraft Establishment in Farnborough, working on centimetre radar and anti-radar materials. He returned to the University of Edinburgh in 1946 and graduated two years later with a First Class Honours Degree in Mathematics and Natural Philosophy.

His first academic job was from 1948 as Lecturer in Physics at University College Dundee, then a part of the University of St Andrews. Dundee was already a leading centre for research in X-ray crystallography. This activity had been started by Professor George Dawson Preston FRSE when he joined the College in 1943. Professor Preston came from the National Physical Laboratory where he had spent 20 years and had been one of the first people to use X-rays and electron diffraction to study the crystal structures of metals and alloys, giving his name to the Guinier-Preston zone. Preston had built the first electron microscope in the United Kingdom and was to bring the second to Dundee for the use of a research worker who passed into the optical instruments industry, so it was not surprising that Gavin's research was in crystallography. This led to the award, in 1953, of a PhD for a thesis entitled *Theoretical and crystallographic investigation of the molecular structure of certain organic compounds*. His research interests would continue to be in the field of crystallography.

He married Eva Leoni Austerlitz, a German refugee, in 1948 (she died in 1999) and they had two children, Neil in 1950 and Carolyn in 1954. The family moved to Jamaica in 1957 where Gavin took up an appointment as Senior Lecturer at the University College of the West Indies. He quickly established an X-ray crystallographic unit in the Department of Physics as well as visiting the islands advising the local governments on the setting up of science departments in the schools.

During the late 1950s to late 1960s Gavin was active in the field of X-ray crystallography both in Dundee and the West Indies. This was a period in which the field of X-ray crystallography was making advances but before the advent of diffractometers and computers. Data were collected photographically and all calculations were done by hand so publishing the results for four crystal structures of pinnoite, benzo [1, 2: 4, 5] dicyclobutene, and two tetronic acid derivatives with co-authors F Paton and J L Lawrence (his research student) in Dundee and A B Alleyne in the West Indies was quite an achievement. He also wrote a theoretical paper proposing a method that was valuable in determining one or two complicated structures in the pre-computer days. Although he did no more active research in the field he made sure that the needs of the X-ray crystallographic group in Dundee were attended to by the appointment of a permanent member of staff responsible for the running of the linear diffractometer in Dundee. This paid dividends as the diffractometer in Dundee produced numerous datasets which resulted in many publications both from the Physics and Chemistry Departments in Dundee.

The arrival of the MacDonald family in the West Indies coincided almost exactly with the launch of the first Sputnik satellite. Gavin was one of the few people in Jamaica at that time who had studied satellites and space travel, having given several lectures on the subject in Scotland. After delivering a highly successful invited lecture on these topics, he was asked by an advertising agency to write a series of science fiction radio programmes which would make the underlying physics of space travel accessible to a wider audience. Three acclaimed series of *Space Rider* resulted during this time on the island. He also became a member of the brains trust panel on

Jamaican radio. Gavin had always been a keen bridge player and in Jamaica he became involved in the serious side of the game. With his partner, he won the Jamaican Junior championship and his university team twice won the league cup.

Gavin returned to Scotland in 1962 to a position as Senior Lecturer and he was promoted to a personal chair in 1973 by which time Dundee University had been formed by separation from St Andrews in 1967, having already been appointed Dean of the Faculty of Science (1970). In 1974, he became the first Vice-Principal of the University of Dundee, a post he served for the next five years. He was an exceedingly competent administrator. In his own discipline he wrote *Problems and Solutions in General Physics* 1967. One of his many teaching roles was to co-ordinate the teaching of Physics to medical and dental students with his colleague, Desmond Burns. Teaching physics, a highly mathematical discipline, to these groups would now be seen as a challenging prospect but he believed that, with an imaginative approach, its relevance to the world of clinical science could be made readily apparent. The result of his approach was the highly acclaimed textbook *Physics for Biology and Medical Students* (1970). A later version aimed at the USA called *Physics for the Life and Health Sciences* (1975) was a success on the other side of the Atlantic.

Gavin was on the Inter-University Committee that drew up the new entrance regulations to the Scottish universities when their number increased from four to eight. Thereafter, he was intimately involved in entrance to universities, first as a member of the *Working Party on Transition from School to University*, then on the *Scottish Universities Council on Entrance* where he finished as chairman. His most influential work on admissions was undertaken with the *Universities Central Council on Admissions (UCCA)* where he chaired the Technical Committee and Finance Committee before becoming Vice-Chairman of the whole body in 1983, overseeing the admissions process for around three quarters of a million UK applicants.

He was recognised for his contribution to scholarship and academia by Fellowship of the Institute of Physics (1958), Fellowship of the Royal Society of Edinburgh (1972) and by election as Chair of the Committee of Scottish Professors of Physics (1979). In his later years at Dundee, he appeared in *University Challenge* as a member of the staff team that unsuccessfully competed against the University's students, who had won the trophy in 1983. The interaction with Granada Television led him to become a trusted writer of hundreds of starter questions, which were used in subsequent series.

Gavin's intellect and interests were never restricted to academia. After his PhD was completed, he was able to indulge his interest in writing, first with science fiction stories and later short detective stories, of which he had written more than 300 by the time of his death. After his retirement he wrote a series of detective novels, all in the classic manner where the solution is arrived at by logical deduction.

His longstanding involvement in the theatre and amateur dramatics led to an invitation to join the board of Dundee Repertory Theatre and, shortly thereafter, in 1975, he became its Chairman. At that time, the theatre operated from an old church, after a fire had destroyed the original building, and moves to build a new theatre were in jeopardy because of disputes over the architectural design and escalating costs. Drawing on his considerable negotiating skills, and in collaboration with Artistic Directors Stephen MacDonald, and then Robert Robertson, a modified design was agreed and fundraising started. Gavin and Robert were then able to see the project through to a successful conclusion in 1982. The new theatre, opened by Peter Ustinov in 1983, stands as a permanent monument to their vision and hard work. He retired from the chairmanship in 1989, having been awarded Fellowship of the Royal Society of Arts (1976).

After retiring in 1988, Gavin became involved more fully with Dundee Bridge Club, having first joined in 1956, serving as President twice. He led the team that introduced beginners to the game and developed more advanced players. In competitive Bridge, he won many club and congress trophies, and notably had a long and successful partnership with Chris Garber, with whom he won the Balmossie Bowl. In the last few years, he formed a successful partnership with Bob Ross. He contributed to the *Slam* magazine regularly for many years, mostly bridge puzzles. His latest series, *Could You Have Done Better?* and *Could You Have Defended Better?* will continue for a number of months after his death.

The latter years of his life were spent very happily in St Andrews with his companion. These years saw him continue to write prolifically and travel regularly. By the time that he died, he had published 33 novels, three books of short stories, a book of short science fiction stories, three scientific mysteries and a book on Bridge. For many years he contributed detective stories for the *Dixon Hawke* series that appeared in the *Sunday Post* produced by DC Thomson publications. Although his physical health began to fail in his last months, his sharp intellect and humour remained undimmed. With the care of his companion, he was able to fulfil his wish to remain at home in his final weeks before passing away peacefully in his own bed.

**Simon R J Maxwell  
John N Low  
Arthur P Cracknell**

**Simon Gavin George MacDonald MA (Edinburgh) PhD (St Andrews) FinstP. Born 1923.  
Elected FRSE 1972. Died 2019**