

## Samuel James Thomson

Sam Thomson first developed his interest in science, and chemistry in particular, when as a pupil at Hamilton Academy, he was stimulated by his science master, whom he has described as the best and most profound teacher under whom he studied. This interest was further developed as an undergraduate at Glasgow University where he pursued a B.Sc.(Honours) degree in chemistry. His studies at Glasgow were interrupted for three years when, in 1943, he volunteered for service in the army; he was commissioned in 1944 and served as a lieutenant in the Royal Signals in India and Malaya. On his return from the army in 1946 he completed his B.Sc. degree and then proceeded to study for a Ph.D.. Here he developed his early interest in heterogeneous catalysis.

Following the successful completion of his studies, he was appointed to a lectureship in radiochemistry at Durham and worked with the late Professor F.A. Paneth on radiometric age determinations of meteorites to gain knowledge about their cosmic origins. At the same time, he developed an active interest in the use of radioactive tracers to study self- diffusional processes in inorganic and organic single crystals.

After 6 years at Durham, Sam returned to Glasgow as lecturer in chemistry. Here, in addition to maintaining his research interests in solid state and hot atom chemistry, he successfully developed his interests in the use of radioactive tracers for the direct observation of adsorption and catalysis at solid surfaces, a subject which was to attract much of his time and interest for the rest of his academic career. The main thrust of his researches was aimed at identifying the nature of the surface sites of a heterogeneous catalyst, which participated in the actual catalysis. The breadth of Sam's interests is clearly demonstrated when one considers the work he carried out with colleagues on such areas as direct monitoring of adsorption, catalysis and poisoning of metal surfaces; the formation and activity of carbonaceous overlayers during adsorption and catalysis of hydrocarbons on metal surfaces; the development of a molecular beam system to carry out one of the first beam studies of catalysis; application of the Occupancy Principle, developed by others for use in medical studies, to measure the size of the active pool on a catalyst surface; electrical conductivity of supported metal catalysts and exo-electron emission from metal surfaces during hydrocarbon adsorption.

The real significance of these studies is seen in the conclusions he wrote in his specialist periodical report on the Characterisation of Catalyst Surfaces; "Adsorption studies in static systems may not bear any relationship to catalysis, except in so far as adsorption creates the working surface of the catalyst; characterisation requires a detailed examination of the changes which occur in the surface during catalysis."

He was awarded a D.Sc. in 1966 for his research contributions and was elected to a Fellowship of the Royal Society of Edinburgh in 1974. His standing and contributions to research in the use of radiotracer techniques were also recognised the strong links he developed in the early 1960s and, for many years, maintained with the Institute of Isotopes of the Hungarian Academy of Sciences, and by his appointment to the editorial boards of *Advances in Catalysis* and the *Journals of Catalysis and Applied Chemistry*. He was, in 1971, a founding member of, and subsequently a Trustee of, the Rideal Trust, now administered by the S.C.I.

Throughout his academic career Sam was progressively promoted to Senior Lecturer, Reader and, in 1973, a Titular Professorship. During the latter part of his career, more of his attention was turned to administration in the University, an area where he had gained valuable experience during his army service. In 1970 he was appointed as the Assistant Director of the Chemical Laboratories and then, in 1978, as Director and Head of Department, a position he held for 11 years until his retirement. In addition to successfully running the department, he maintained an active research school in heterogeneous catalysis. He also served on a wide variety of University committees, including the convenorship, over the period 1964-72, of the committee for the design and building of the Boyd Orr Basic Science building. With a colleague, he wrote a "History of the Faculty of Science in Glasgow". He was, for 3 years, the Chairman of the S.C.E.B Chemistry Panel and served the university representative on the Board of Governors of Dollar Academy for over 20 years.

Sam was very proud of his *alma mater*, which he served with great dedication and distinction for over 30 years. He was meticulous in everything he did, always paying careful attention to the minutest detail. He was a fine and enthusiastic teacher whose lectures, covering subjects as widely apart as descriptive inorganic chemistry and statistical mechanics, were always well received by his audience. He was extremely kind, courteous and well-respected by both his colleagues and friends. As a research leader and Head of Department he was extremely supportive of his staff and students. He was always ready to discuss, often over many hours, the interpretation of results and new ideas both in research and teaching. Many of his colleagues, the writer included, in whom his interest extended well beyond his retirement, undoubtedly owe their success to the unstinting encouragement and support he gave. We will always owe him a great debt of gratitude.

Outwith the University, Sam was appointed as a University Scientific Training Officer for the Scottish Home and Health Department on defence against Nuclear Warfare and served as a Zone Scientific Adviser from 1959 until the service was disbanded in 1993. He also served as a Consultant on Catalysis to various U.K. companies and a Consultant to U.K.A.E.A.. He also developed considerable interest in Visual Perception,

collecting and perfecting a large number of demonstrations, as the basis for a lecture which proved extremely popular in both Universities and Industries.

Following his retirement from the University, Sam commenced a new career. He had held a lifelong interest in the railways in the U.K. and this led to him being invited to become a member of the British Railways (Scottish) Board, subsequently known as the British Railways Board – Scottish Committee, where he contributed reports on statistics, avoidance of buffer-stop collisions and component analysis of accidents. During this time he was invited to become an Associate of the Institution of Railway Signal Engineers and from 1994 -2002 he was appointed as an adviser, in turn, to Railfreight Distribution, English Welsh and Scottish Railways and finally Freightliner Scotland, where he was made a Director for his final year.

There is no doubt that Sam Thomson made a major contribution, not only to his field of research where he was a world authority, but also to the careers of those who worked with and for him, many of whom were present at the R.S.C. Surface and Reactivity Group meeting held in Glasgow in 1988 to mark his retirement.

The warmth of Sam's personality and his delightful sense of humour will long be remembered by all who knew him and who now sadly mourn his passing. He is survived by his wife Ina, his two children Fiona and Hamish and his three grandchildren. We extend our deepest sympathy to each of them in their sad loss.

**Geoffrey Webb**

***Samuel James Thomson BSc, PhD, DSc (Glasgow). Born 27 September 1922; elected FRSE 4 March 1974; Died 4 March 2006.***