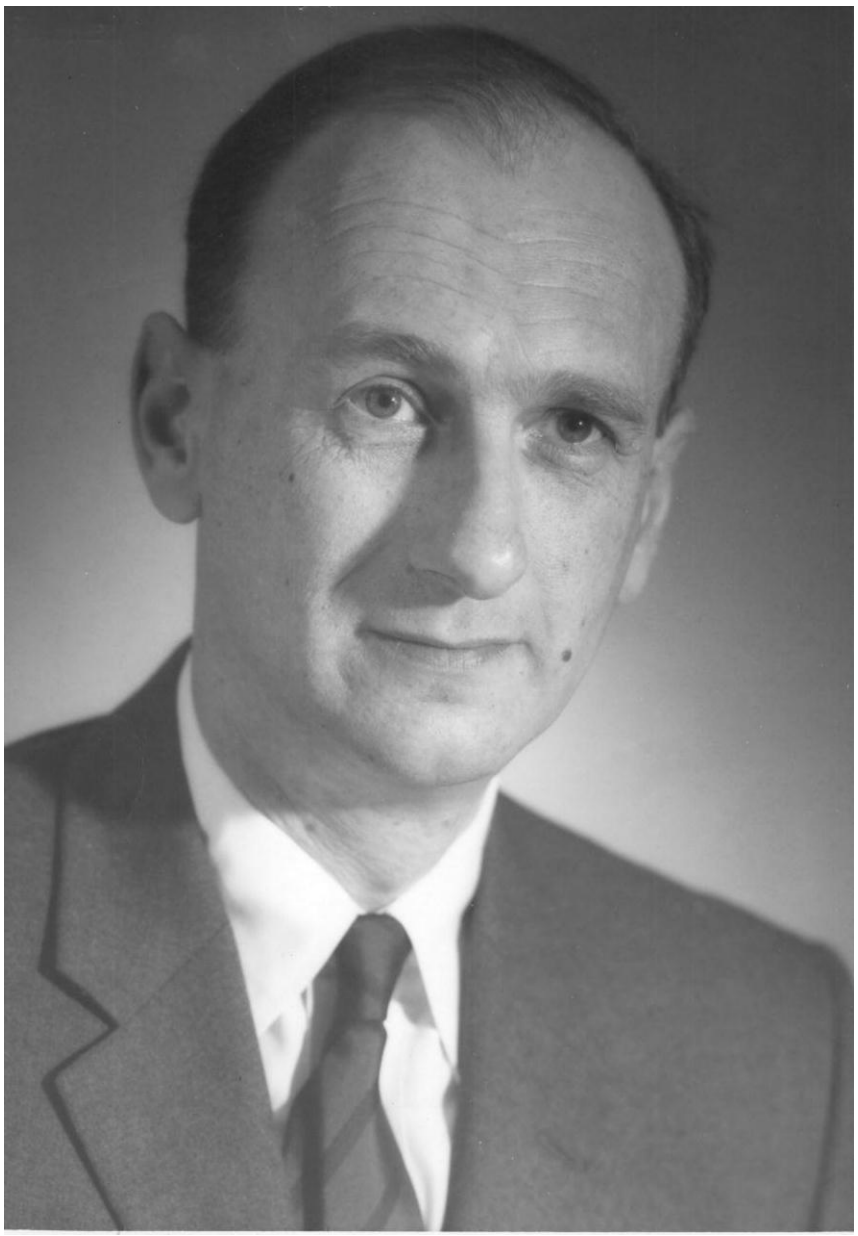
WALTER DAVIDSON, DAVID M. WILES & D. JAMES WORSFOLD

Stanley Bywater
1922-2003



Stanley Bywater was born on 7 June 1922 in Birkenshaw, Yorkshire, England. As an undergraduate he entered the University of Leeds and graduated from there with an honours B.Sc. degree in Chemistry in 1943. He then switched to studies in physical chemistry at the University of Leeds, receiving financial support from the Parkinson and Brotherton postgraduate scholarships. He graduated with the Ph.D. degree in 1946.

After his doctorate, Stanley Bywater (or Stan, as he was known) spent a post-doctoral year as research assistant in the Colloid Science Laboratory, University of Cambridge. It was during this period that he met his future wife Hilda whom he married in 1948. Stan worked in the period 1946-48 as a Research Assistant at the Royal Institution in London, England.

Stan came to Canada in the fall of 1948 as a NRC Post-Doctoral Fellow in the NRC's Division of Applied Chemistry. His talents were immediately recognized by Dr. E.W.R. Steacie, with whom he worked on photochemistry research. Here he was able to capitalize on his expertise in matters of polymer science from his early years at Leeds. He was then appointed Head (ultimately at the rank of Principal Research Officer) of the NRC's High Polymer Section in 1950, a position he held until retirement in 1987. He initiated significant research activities in polymer science – a subject which, at that time, was virtually non-existent in Canadian universities. This was a particularly propitious moment, for wind of so called "living anionic polymerization" arrived and was seized upon by Stan's new laboratory This led in the short term to advances in polymerization mechanisms, and through the greatly enhanced methods of polymer synthesis to the building of custom built polymers for the study of the effect of microstructure on the physical properties of polymeric organic materials. In the nuclear magnetic resonance (NMR) of polymer solutions Stan's insistence on the enhanced control of structure led to improvements in polymer identification.

Stan's research dealt mainly with the elucidation on the mechanisms of the numerous types of polymerization reactions, to which his impressive list of over 100 publications attests. His success merited his many invitations to be a featured speaker at conferences on polymer chemistry in Europe and North America. The very high calibre of Stan's research attracted a steady stream of first rate postdoctoral fellows/research associates from many parts of the world to work in his "centre of excellence" laboratories. As well, collaborators from industry and academe visited him in order to learn about his exotic techniques and to assimilate his vision for structure - property relationships in macromolecular materials. Strong connections were made between Stan and his colleagues at the NRC on the one hand and researchers at the Polymer Corporation in Sarnia, the Ontario Research Foundation in Toronto and senior scientists in the synthetic rubber industry in Ohio, to name but a few.

Significantly, in mid career, Stan was awarded a "Commonwealth Professorship" at the University of Aberdeen, Scotland for the 1972-73 academic year. He was able to spend a useful couple of months just before going to Aberdeen (and again after his stay there) at the Polymer Institute of the University of Strasbourg, France.

Stan was a long term member of the Faraday Society (1946), the Chemical Society (London) (1948), the Royal Institute of Chemistry (1943), and the Chemical Institute of Canada (1968). He was Chair of the NRC Associate Committee on High Polymer Research (1954-67). He took a

particular interest in the Gordon Research Conferences, serving as Chair and on their Council (1966-1969). Stan also served on the Editorial Boards of the Journal of Polymer science, the Journal of Macromolecular Chemistry, Polymer, and the European Polymer Journal.

Stan fully embraced the system of postdoctoral fellows, and developed research collaborations with several European universities. After his formal retirement in 1987, he was given an office and he continued to work in a mentoring capacity till his rather unexpected death. Stanley died on 15 July 2003 in Ottawa at the age of 81 years. He is survived by his wife Hilda and his daughter Susan Hurtubise. His death notice in the Ottawa Citizen mentions, poignantly, that he was the last surviving Fellow of the legendary NRC chemist and later NRC President, Dr. E.W.R. Steacie.

Written by
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(Authors titles given as of the time of writing)