Melvin A. Preston CD, FRSC (May 28, 1921 - Nov. 1, 2016)

Melvin Alexander Preston, Canadian scientist and academic leader, was born in Toronto, the eldest of six children of G. Alexander Preston and L. Hazel Preston (nee Melvin). His father taught high school mathematics and served as Principal in several Ontario communities. His mother graduated from Queen's University in Kingston, and taught at Ontario Ladies College prior to marriage. Mel grew up, from age 5 to 10, in Shelburne Ont. a village at the junction of Highways 10 and 89. He attended Earl Haig Collegiate in Toronto, and graduated at age 21 with a B.A. in Honours Mathematics and Physics from University of Toronto in May 1942. A point of pride is that in 1942 he became a Putnam Fellow, by placing in the top 5 candidates in the Putnam Prize examination in mathematics. (The Putnam Prize exam is an annual competition open to undergrads in the USA and Canada. Other famous Putnam Fellows include Richard P, Feynman and Ken Wilson (twice).)

Like most young men who graduated in wartime, Mel enlisted in the army, serving as a staff officer in the artillery corps during 1942-45. Among his assignments was to study the use of radar data to direct anti-aircraft fire. He completed his war service with the rank of Captain. Many years later he commanded the Hamilton militia 40 Battery for two years, retiring from the army with rank of Major.

Following the end of the war in 1945, Mel returned to his studies, completing an M.A. at U of T. in 1946, on radioactive alpha-decay. Formally he was supervised by Leopold Infeld, a Pole who had worked with Einstein, but knew little of nuclear physics, so Mel had to learn that from the literature. In 1949 he completed his Ph.D. at University of Birmingham, England under Prof. (later Sir) Rudolf Peierls, a refugee from Germany, like many others, in the 1930's. Peierls had studied with Sommerfeld, and made seminal contributions to both condensed matter and nuclear physics. He was among the first people to reliably estimate the critical mass of Uranium-235 for making an explosion. The Peierls-Fritsch Memorandum to the UK government lead to establishment of the British bomb programme ("Tube Alloys") that was later folded into the US Manhattan Project. In the 1950's, Birmingham had the most prestigious theoretical physics group in England, with a steady stream of visitors. For example, future Nobel Prize winners J.R. Shrieffer and D.J. Thouless held postdoctoral positions in the late 1950's.

Preston went to Birmingham holding the Priestley Fellowship, a scholarship created by Birmingham faculty in gratitude for U of T faculty members taking their children for safekeeping during the war years (including Gaby and Ronnie Peierls). Mel was the first person to hold this fellowship, which was open only to U of T graduates.

From 1949-53 Mel was an Asst. Prof. at U of T. In that period theoretical physics was divided between the Physics Dept. and Applied Maths. Watson, who was Head of Physics, did not support theory. In 1953, Preston was invited by Harry Thode (later the President 1962-1971) to join McMaster in order to build up a theoretical physics group. McMaster was a small Baptist college with enrolment under 1500 students, but Thode had ambitious plans, which were largely realized over the next 17 years. By 1969 the group comprised half a dozen faculty, five PDF's and a dozen graduate students.

In 1962 the theory group consisted of Preston, Sy Vosko (Assoc. Prof.), Doug Twose and Donald Sprung; a couple of PDF's and half a dozen graduate students. It had taken a while to recruit someone in condensed matter physics (Vosko) who would stay. Among people who passed through the theory group, was Rudy Haering, who later became Chair of Physics at Waterloo, then Simon Fraser, and finally UBC. Preston was always generous to the younger faculty members. Initially he controlled all the research funding, and for 20 years we pooled our grant money for maximum effectiveness.

From 1965-71, Preston served as Dean of Graduate Studies at McMaster. This involved him in the process of building up graduate studies across McMaster, and ultimately across Ontario. From 1971-75 he was Executive Vice-Chairman of the Advisory Committee on Academic Planning of the Council of Ontario Universities. In this role he instituted and oversaw a process for assessing the quality of new and existing graduate-level programs across the rapidly expanding Ontario system. I think this is the role he felt was the most important of his career.

From 1975-77 he returned to academic life as Chair of Applied Mathematics at McMaster. This Department belonged to both Science and Engineering, and had three foci: applied analysis, applied statistics, and computer

science. Several members held cross-appointments in Clinical Epidemiology and Biostatistics, in the Faculty of Health Sciences. CE&B played a key role in advancing evidence-based medicine.

From 1977-82 Mel was V-P Academic at U Saskatchewan. In this role he faced unionization of the faculty and was involved in negotiating their first contract. I think he saw this as an important contribution, but it made him few friends. After the VP role ended, he remained at U Sask. until 1986, when he retired and returned to McMaster with an appointment as Prof. Emeritus of Physics. In 1990-94 he supervised his last PhD student (from Libya; Abdalla Ruken, who has made his career in financial services with ScotiaBank.) Preston taught undergrads general relativity until 2004.

Preston was well known for his 1962 monograph "Physics of the Nucleus" (Addison-Wesley) and its revision as "Structure of the Nucleus" (1975) with his best known student Rajat Bhaduri as coauthor. Norman K. Glendenning did an M.Sc. with Mel in his first years at McMaster, then went on to a productive career in Berkeley. Other students made careers in Canada: J. Michael Pearson at U. de Montreal. Subal das Gupta at McGill, David Kiang at Dalhousie, Wytse Van Dijk at Redeemer College in Hamilton, Kailash Kumar in Australia, and Pierre Grange in Strasbourg, France. Mel's students uniformly praised his care and attention as a supervisor.

Mel married three times: Mary Whittaker (1947, d. 1965); Eugene Shearer (1966, d. 1996), and Helen Howard-Lock (1999). He is survived by two sons (Jon and Richard from his first marriage), and numerous family members on the Howard-Lock side.

Donald Sprung
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