

E. GORDON YOUNG

1897-1976

E. Gordon Young, whose association with the Nova Scotian Institute of Science spanned a period of half a century, died in Halifax on March 24, 1976. Dr. Young was born in Quebec City on January 5, 1897, son of James and Jane (Douglas) Young. Among Canadian biochemists he occupied a unique position: he was the first native-born Canadian, trained overseas, to teach biochemistry in Canada. (Courses called physiological chemistry and agricultural chemistry had been given earlier in Canada at Toronto and Macdonald College by A.B. Macallum and by J.F. Snell, respectively, Canadians who had received graduate training in the United States; courses designated biological chemistry or biochemistry had been taught previously by R.F. Ruttan, V.J. Harding, and A.T. Cameron, Britons trained at home.) Gordon Young saw the formation and growth of most of the present departments of biochemistry in Canadian universities and had personal knowledge of almost every senior biochemist in Canada during the first half-century of the science. Fortunately for posterity, (for he was one of the last links with the founders of the discipline), he worked for ten years, after his retirement, compiling data about Canadian biochemists, writing down his own recollections, collating them with those of others and organizing the material into a history entitled *The Development of biochemistry in Canada* (University of Toronto Press, 1976). No one else could have produced a record with so many personal touches and of such authenticity. His friends were saddened that, although he corrected the proof-sheets, Dr. Young did not live to see the final fruits of this labor of love. They regretted also that he died before receiving the E.W. McHenry Award of the Nutrition Society of Canada, which was awarded posthumously in Halifax on June 16, 1976. This award, which is sponsored by Canada Packers Ltd, recognizes distinguished service in nutrition by a Canadian.

Gordon Young attended Quebec City High School (senior matriculation, 1912) and entered McGill University at the age of fifteen. In 1916 he received his B.A. with First Class Honours in Chemistry and Biology. Gordon spent his summers of 1916 and 1917 at the Marine Biological Laboratories at Woods Hole, Mass. After three years of graduate work with Professor V.J. Harding, in Professor R.F. Ruttan's Department of Organic and Biological Chemistry at McGill, Gordon received his M.Sc. (Chemistry), winning the Governor-General's Medal that year (1919); he won also an 1851 Exhibition Scholarship and further distinguished himself that year by being awarded a Ramsay Memorial Fellowship (1919-1921), being the first Canadian student to receive one.

Young studied for his doctorate at Cambridge University, England, under Sir Frederick Gowland Hopkins, his thesis dealing with the preparation and properties of some pure proteins. Sir Frederick, one of the founders of biochemistry as a distinct field, was at the time famous as a pioneer investigator in the field of nutrition, having isolated tryptophane in 1901, having first recognized the essential nature of certain amino-acids, and having discovered accessory food factors (vitamins, 1906/07). Exposure to "Hop-pie's" enthusiastic curiosity about dietary substances doubtless aroused Gordon Young's life-long interest in nutrition.

After spending the summer of 1921 at the Pasteur Institute, Paris, Young returned to Canada as Associate Professor of Biochemistry in the recently reorganized Faculty of Medicine at Western University (now the University of Western Ontario) in London. He taught the first courses in systematic biochemistry given at Western.

In 1924 Young was invited by Dalhousie University to organize for them the newly-created Department of Biochemistry, made possible by a grant from the Rockefeller Foundation. Always a perfectionist, Young built up a department in which high stan-

dards of teaching were established; later he managed to overcome many difficulties to provide facilities for research. Dalhousie owes much to the wisdom and vigor of his guidance.

Gordon Young's formal education had not ceased when he received the Ph.D. from Cambridge in 1921. During the summers of 1922 to 1926 he attended lectures in the Medical School of the University of Chicago, completing courses in physiology, neurology, pharmacology, and pathology, and in most of the clinical specialties (medicine, surgery, obstetrics, gynecology, pediatrics and dermatology). Final qualification for the medical degree was never completed because certain clinical specialties were not given during the summer session. Also, Young did not feel that he could take off a whole year from teaching to do the necessary internship. These studies were not wasted effort, however, as they led to a broad appreciation of the interrelationships between biochemistry and the practice of medicine. His contributions to paramedical knowledge cover a wide range, from the chemistry and biochemistry of proteins and purines to microbial fermentations and from toxicology to human nutrition.

To keep abreast of current developments in biochemistry, Young spent the summer of 1933 at the Sir William Dunn Institute of Biochemistry, Cambridge, England, and the summer of 1938 at the Lister Institute, London.

During the Second World War, Dr. Young directed classified research, connected with chemical warfare, for the Department of National Defence.

Young remained Head of Biochemistry at Dalhousie until 1950 when he resigned to undertake the planning and development of the Atlantic Regional Laboratory of the National Research Council of Canada. He served as Director of the ARL until his retirement in 1962 and as consultant until 1965. He continued as a guest worker at ARL until November 1973.

The laboratory was opened in 1952 and by that time he had initiated active research in various fields of science related to the economy of the Atlantic Provinces. Dr. Young continued his research on proteins and nutrition. He had first displayed his active interest in dietary matters by publishing, in 1931, a study of the nutritional requirements of Canadian college students. In 1948 he presented a paper to the Royal Society of Canada on *Canadian dietary patterns, 1937-47* and in 1953 published *An appraisal of Canadian nutriture*. His work in this field continued throughout his career and he participated in the recent national survey (1971), by the Department of National Health and Welfare, of the nutritional status of Canadians. These activities have helped to establish dietary standards for Canada and are of value in planning public health programs.

At the Atlantic Regional Laboratory he instigated a broad program of research on the chemistry and biology of marine algae. Although the seaweed industry in Canada today is worth several million dollars annually, seaweed was at that time virtually an untouched natural resource. It was one of the aims of Dr. Young to bring the available resources of his laboratory to bear on the study of these natural products.

Programs were developed on the drying of seaweeds, the composition and properties of seaweed extracts, their potential uses in medicine, agriculture and nutrition, and their mode of growth. Under his direction, and in large measure because of his active participation in research, the Atlantic Regional Laboratory became one of the world's acknowledged centers for algal research. The work he pioneered in this field has been continued and extended by his successors.

In 1948 Dr. Young played a major role in organizing a Conference in Halifax on the Utilization of Seaweeds. The success of this Conference emphasised the need for further meetings at an international level and led to a series of International Seaweed Symposia which have been held regularly in various parts of the world since 1952. Dr. Young

played a prominent role in these arrangements and was Chairman of the Fifth International Seaweed Symposium held in Halifax in 1965. In 1973 the Nova Scotian Institute of Science published a volume dedicated partly to Dr. Young in recognition of his work on *Chondrus crispus* (Irish moss), a seaweed which grows abundantly in the coastal waters of Nova Scotia.

Dr. Young served as a member of the Canadian National Committee of the International Union of Biochemistry (1960, 1961) and also on the National Committee of the International Union of Pure and Applied Chemistry. During 1960 and 1961 he represented the Chemical Institute of Canada in the United Nations Educational, Scientific, and Cultural Organization (UNESCO). Always active in the local scientific community, he served for many years on the Council of the Nova Scotian Institute of Science, was its President in 1930-32 and Editor of the *Proceedings of the Nova Scotian Institute of Science* during 1967-72. He was an active member of the Nova Scotia Research Foundation, especially on the Fisheries Committee and the Library Committee.

Many scientific societies recognized Dr. Young's talents and contributions. He was elected to Fellowship in the Royal Society of Canada, the Chemical Institute of Canada, and the American Association for the Advancement of Science. He served as President of the Canadian Physiological Society (1949-50), of the Canadian Biochemical Society (1958-59), of the Canadian Federation of Biological Societies (1959-60), and of the Chemical Institute of Canada (1959-60). Dr. Young was a member of the Biochemical Society (London) since 1920, of the American Society of Biological Chemists (1925), of the American Chemical Society (1934), and was a founding member of the Nutrition Society of Canada. He was a member of the Canadian Council of Nutrition from its inception (1937) until 1956 and served on several national and international committees concerned with nutrition or with food preservation.

Dr. Young was awarded a D.Sc. (*honoris causa*) by Acadia University (1957) and an LL.D. by Dalhousie University (1965).

Dr. Young was an accomplished lecturer. His impromptu comments at scientific meetings were equally felicitous, usually serving to enliven the discussion period. His after-dinner speeches and public lectures were stimulating and enjoyable. One of his more popular lectures, *Adventures of a chemist in crime*, described in lighter vein his experiences as a forensic chemist for the R.C.M.P. His wry humor delighted the audiences as much as the stories appealed to their "detective" instincts. Subsequently he wrote up his medico-legal experiences in a manuscript titled *Adventures of a chemist in search of poisons*. This was not published.

On May 15, 1926, Gordon Young and Madge L. Musgrave, of Sydney, N.S., were married. The warmth of the hospitality of their home in Halifax became notable, for in spite of his many scientific and administrative commitments, Gordon found time to enjoy life. He and his wife shared an appreciation of good literature and of the arts, especially music. They were active members of the Ashburn Golf Club. It may surprise those who knew Dr. Young only through professional contacts to learn that both he and his wife were enthusiastic amateur figure-skaters.

Former students, professional associates, and closer friends will recall with affection his gracious manners and helpful ways. His meticulous grooming and precise speech were outward manifestations of a well-ordered mind. His contributions to Dalhousie University, to the A.R.L., to the science of biochemistry in Canada, and to the seaweed industry will all leave a lasting impression. He will be remembered with respect as a man of character and convictions, of meticulous scholarship, of wisdom and sound judgement.

Dr. Young is survived by his widow, Madge and his sister, Erva, of Quebec City.

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