

RAYMOND A. PRICE, FRSC

Digby Johns McLaren
1919-2004



Digby Johns McLaren, the 101st President of the Royal Society of Canada (1988-1990), born December 11, 1919 in Carrickfergus, County Antrim, Northern Ireland, died December 8, 2004 in Ottawa. He was pre-deceased in 2003 by his wife of 61 years, Phyllis Mary (Matkin), and is survived by their sons Ian and Patrick and their daughter Alandra.

Digby graduated from Queen's College, Cambridge University in 1940 with a BA in Natural Sciences. From 1940 to 1946 he served in the British Army, Royal Artillery. For 3 1/2 years he was as an artillery officer in the Middle East and in Italy. In 1948 he received an MA in Natural Sciences, Part II (First Class Honours) from Cambridge University. That year he joined the Paleontology Section of the Geological Survey of Canada (GSC) in Ottawa, and began his studies of the Devonian rocks of western Canada.

Digby arrived in Canada shortly after the 1947 discovery of the giant oil field in Devonian stromatoporoid-coral reefs at Leduc, Alberta that launched the amazing growth of Canada's oil and gas industry. By studying the superbly exposed Devonian strata in the nearby Rocky Mountains that are laterally equivalent to the Leduc reefs, he quickly mastered the regional and local reef-margin stratigraphy and the taxonomy of the Upper Devonian fossil brachiopods and corals that helped to elucidate important aspects of the nature and origin of the petroleum resource system. With encouragement and support from the GSC, he earned a PhD in Geology and Paleontology at the University of Michigan by 1951.

Digby's research gradually became focused on regional and global stratigraphic correlations and, in particular, on an abrupt mass extinction that occurred in the Upper Devonian, about 375 million years ago, and was marked by the disappearance of many species and families of organisms, including the reef ecosystem responsible for the oil pools at Leduc. In his 1969 presidential address to the Paleontological Society, he posited that the most likely cause was the impact of a giant meteorite. This bold hypothesis challenged prevailing ideas, but skepticism waned following an important discovery in 1980 regarding the famous extinction horizon that coincides with the disappearance of the dinosaurs. Widespread occurrence of anomalously high concentrations of platinum-group metals above the Cretaceous-Tertiary boundary in deep-sea sediments provided compelling evidence of abnormally high global influx of meteoritic material. Digby promptly organized and led a research project that demonstrated the occurrence of a similar platinum-group metal anomaly in the Upper Devonian rocks.

Digby McLaren's research leadership and management talents were recognized early in his career. In 1959 he was appointed Head of the Paleontology Section of the GSC, and in 1967, he became the first Director of the newly established Institute of Sedimentary and Petroleum Geology in Calgary. Digby's managerial skills, visionary leadership and international network of research colleagues in government and petroleum industry laboratories lead to the development of innovative new research programs in petroleum geochemistry, coal geology, and the assessments of Canada's endowment of oil, gas and coal resources, as well as the expansion of GSC research in the western Arctic. Digby's distinctive management style, enthusiasm, energy, curiosity, and interest in his staff earned him their confidence and loyalty.

Digby returned to Ottawa in 1973 as 14th Director-General of the GSC. During the next seven years, he skillfully guided the GSC through major modifications in the scientific range and geographic scope of its activities. In 1979, for these and his other achievements, he received the Gold Medal for Pure and Applied Science of The Professional Institute of The Public Service of

Canada. In 1980 Digby retired as Director-General to serve, until 1984 as Senior Science Advisor in the Department of Energy, Mines, and Resources. From 1981 to 1984, he was Visiting Professor at the University of Ottawa.

While in Calgary, Digby became active in extramural research and public policy activities, initially on a regional and national scale, but subsequently on a global scale. After serving as President of the Paleontological Society, an international association of paleontologists, in 1969, in 1971 he became President of the Alberta Society of Petroleum Geologists, which soon thereafter became the Canadian Society of Petroleum Geologists. From 1968 to 1972 he chaired the Silurian-Devonian Boundary Working Group of the International Union of Geological Sciences Commission on Stratigraphy. Under his leadership this Working Group negotiated the designation of the first “golden spike” - a Global Stratotype Section and Point that serves as a standard for the Devonian / Silurian boundary. From 1972 to 1976 he was Chairman of the Commission on Stratigraphy. Three decades later the importance of his contributions to stratigraphy and to the Commission on Stratigraphy of the International Union of Geological Sciences were commemorated with the establishment of the Digby J. McLaren Medal for international achievement in stratigraphy. When the Medal was awarded for the first time in August 2004, at the 32nd International Geological Congress, in Florence, Italy, Digby, although in failing health, was able to be there.

In 1973 Digby was a founding Member of the International Geological Correlation Programme, a very successful joint venture of the International Union of Geological Sciences and UNESCO that was aimed at fostering international collaboration, and especially participation from developing countries, in research projects that require global integration of regional geological studies. Digby McLaren served as President of the Board of the Programme from 1976 to 1980, then as advisor on Earth Science to UNESCO in 1981, and as a member of the Advisory Committee to the Director-General of UNESCO on Science and Technology in Society from 1981 to 1983. In 1981-82 he was President of the Geological Society of America.

Digby McLaren's concerns about the combined global threat of burgeoning growth in the human population and in profligate use of energy, mineral, water, land, and environmental resources were evident when he was in Calgary. However, population, resources and the environment gradually became a consuming passion that led to some of his greatest achievements. Inspired by his experience on the UNESCO Advisory Committee, in 1983 Digby submitted, in collaboration with Prof. Brian Skinner of Yale University, a proposal to the Dahlen Konferenzen in Berlin for a Dahlen Workshop on “Resource Dependence and Development: The Critical Years”. The objective was to examine the global resource base and the future resource demands of a rapidly growing human population. The outcome was two Dahlem workshops in 1986: one on mineral and energy resources, and the other on water and land resources, and also the book “Resources and World Development”.

As President-Elect in 1987, Digby launched a program to reinvigorate the Royal Society of Canada. The need was urgent. A commitment of financial support from the federal government was coming to an end. Digby rallied the Society during a series of visits with the fellowship that took him from coast to coast. In Ottawa, he won the support of the Minister of State for Science for a substantial increase in base funding for the Society. In 1999, as president, he was able to conduct an energetic and ambitious campaign to transform the Society into an effective national academy, responsible for providing expert information and advice for Canadian governments and

society. The Society generated new strategic, operational, and affirmative action plans, conducted a national study on “A Strategy for University Research in Canada”, and established a Canadian Global Change Program that involved participation from the humanities and social sciences, as well as the natural sciences and engineering. This program, largely supported by grants from the national research granting councils, was linked to the International Geosphere-Biosphere Program of the International Council of Scientific Unions. In a typical display of energetic enthusiasm he produced, with Constance Mungall, the 1990 Royal Society of Canada book: *Planet Under Stress: The Challenge of Global Change*. The Society also launched a number of other programs in areas such as Public Awareness of Science. Digby, recognizing that the Society needed financial resources to carry out activities on its own initiative, also stimulated a successful appeal for development funds.

Digby’s perception of Planet Earth as an evolving stable dynamic system involving continuous exchange among the atmosphere, oceans, lithosphere, and biosphere, made him acutely aware that humankind, as a rapidly growing and increasingly powerful component of the biosphere had already become a dominant geological agent of profound change and instability in the Earth system. Deeply concerned about the future, he campaigned vigorously during the latter part of his life for political action to protect our planetary life support system. He wrote and lectured extensively on the threat to the health of the planet posed by the global environmental consequences of continuing rapid growth in the human population and in per capita resource consumption, particularly fossil fuel energy resource consumption. Pointing out that humankind was both the agent and the victim of an impending crisis, he stressed the need for prompt action and he emphasized the immorality implicit in the fact the crisis arises mainly from the profligate actions of the wealthiest people, but the impacts fall most heavily on the poorest people.

Digby McLaren was a remarkable multifaceted individual: an imposing figure of regal demeanor, formidably erudite and articulate as a defender of his scientific interpretations and their public policy implications, he was also an innovative practical joker, an aficionado of exotic orchids, an avid gardener, a connoisseur of good wine and gourmet meals, and an entertaining raconteur.

*Raymond A. Price, FRSC
Professor Emeritus
Department of Geological Sciences and Geological Engineering
Queen's University*

(Author's title given as of the time of writing)