## Dr.TuzoWilson: First an Educator

Teacher, traveller, and scientist, John Tuzo Wilson would be on the short list of any Who's Who of international science. Born in Ottawa in 1908, Wilson attended universities in Toronto, Cambridge, and Princeton. A love of physics, wedded to an equally strong love of the outdoors, steered him to the discipline of geophysics in 1927. Wilson says the earth is his laboratory; but when he began, so few others felt as he did that at all three of his **almae matres**, the geophysics classes he took were the first ever offered.

Wilson, however, has made a habit of being in the forefront of things. He was among the first to see the significance of the new geological data being gathered in the 1930s by aerial photography and, in the 1950s, by deep-sea research ships. Geology then was static, contenting itself with description; Wilson was instrumental in making it a dynamic science, based on the arresting scenario of plate tectonics — crustal plates afloat on seas of liquid rock.

In 1974, Wilson became director-general of the Ontario Science Centre (OSC) in Toronto. The OSC, Ontario's project for the Canadian Centennial, is

neither a natural-history museum that catalogues species, nor a repository of science artifacts: it is the world's largest public facility for the core of science, which is experiment. Under Wilson, the OSC has branched out into teaching experiments as well, for Wilson regards himself as first and foremost an educator.

Wilson's office on the periphery of the Ontario Science Centre's office tower is fantastically cluttered: horizontal surfaces lie half a metre deep in books, while the walls have vanished behind rows of awards — the Blaylock Medal, Miller Medal, Ewing Medal, Huntsman Award, Bucher Medal, Wollaston Medal, Penrose Medal, Carty Medal, Vetlesen Prize, and the Order of Canada. Editor Bill Atkinson interviewed him there for SCIENCE DIMENSION in May.

**Science Dimension:** Dr. Wilson, how did the Ontario Science Centre evolve its experimental approach?

**Wilson:** By indirection. It was originally conceived of as a history-of-science museum, presenting key refurbished artifacts in the saga of science and technology.



"Experiment remains the vital thing"

But as the curators assembled their new collection, they came to realize that it would never contain really first-rate items, which were already in museums like the Smithsonian. That meant that Ontario would have had to be content with a regional museum rather than one of world class, which was deemed, wisely I think, unacceptable. At the same time, there were precedents for an institution that could instruct children and adults in an engaging way in the basic principles of science. So the Ontario Government assembled a hundred craftsmen, sat them down with scientists, and built the OSC as it is now. And it is a world-class facility.

Of course, that compresses a lot of agony! It wasn't easy to design experiments that could withstand exposure to a million visitors a year. The design manual for this place was written as it took shape. But last year we had 1.5 million visitors from 51 countries; which makes us, after the Rockies and Niagara Falls, the biggest foreign-tourist attraction in Canada.

**Science Dimension:** The Science Council of Canada recently issued a report on science education that recommended a much greater stress on science in Canadian schools. Do you have any comments on this report?

Wilson: It seems excellent, but I would add one element I don't recall having seen in the report summary: science, like swimming or playing the piano, can be learned only by doing. That means a lot of hands-on experiments to discover what laws the world works by. Without these experiments, you can study for years, and even get to be a competent scientific historian, without really grasping the essence of what you're studying. Science is an *activity*. It's an approach to questioning nature, by which you structure your questions so that (you hope) nature answers them unambiguously.

That must be the approach to get science into the public mind. We're not trivializing science; we're not changing it by making it popular; we're trying to