Introducing David Regan, the 2001 Recipient of the Proctor Medal

David Regan is one of the most creative and productive researchers in vision science. Before receiving the Proctor Medal he received the Prentice Medal of the American Academy of Optometry and the Dawson Medal of the Royal Society, which came with the following citation:

Professor Regan has made important and sustained contributions to the fields of human physiology, psychology and medicine. He is the world’s leading authority on human brain electrophysiology, and one of the world’s leading researchers in visual perception. He has long been noted for the prolific generation of original ideas in these three fields, and also for applying basic knowledge and technical innovation to solving well-recognized problems in diverse areas including medicine and public safety.

Just after receiving the Proctor award, Regan was named to the Order of Canada, the highest award Canada can bestow to recognize a lifetime of excellence in one’s chosen field.

Regan was born in Scarborough, England, on May 5, 1935, during the worst of the depression. Being on the coast, Scarborough was bombed and strafed on many occasions between 1939 and 1945, and children were not sheltered from the immediate experience of death. Regan’s most important academic experience was at age 11 when he wrote the examination that selected the few who would go on to grammar school, without which there was no possibility of university scholarships for the poor. He was taught by a cadre of female teachers, whose teaching skill, coupled with the daily use of the cane, ensured that boys worked very hard. Regan expresses lasting gratitude to those teachers.

Regan began playing cricket in high school. Cricket is an extraordinary game with batsmen, bowlers, wicket keepers, and an assortment of terms and activities that bewilders the average North American. Bill Bryson, in his book In A Sunburned Country, says: “The English invented cricket as a way of making all other human endeavors look interesting and lively” (Toronto: Anchor Canada; 2001:114). Despite this perception, cricket remains a very fast sport requiring the ability to detect objects moving in different directions, and in depth.

You will not be surprised to learn that Regan became an expert in depth and motion perception, elements of vision whose study form a very large part of his bibliography. We have no information on whether this scientific knowledge ever improved his ability at cricket.

Regan studied physics at Imperial College and took his Master’s of Science in color psychophysics under W. D. Wright and his PhD in physics (technical optics) in 1964. He taught physics at London University and in 1961 devised a phase-locked amplifier and used it to analyze the electrical responses of the human brain to sensory stimulation, innovating a research area he called “steady state evoked potentials.” Regan resigned from London and went to the Department of Neuroscience at Keele University. He continued the electrophysiological research, inventing the now widely used sweep technique, and added to his research efforts the psychophysics of color, motion, and the testing of neurologic patients. He crossed the Atlantic in 1975, and became the Killam Research Chair at Dalhousie University. In 1985 he moved to Toronto, where he is CAE Research Professor of Vision and Aviation at York University’s Center for Vision Research and Professor of Ophthalmology at the University of Toronto. He invented a cryogenic probe used in cataract surgery, the widely used eponymous low-contrast acuity charts, and the motion-defined letter test. He has more than 200 refereed papers and three single-authored books, the second of which is the definitive work on human brain electrophysiology (Human Brain Electrophysiology: Evoked Potentials and Evoked Magnetic Fields in Science and Medicine. New York: Elsevier; 1989:672). His latest book is an examination of how we see objects, and one sees in it Regan as teacher and mentor (Human Perception of Objects: Early Visual Processing of Spatial Form Defined by Luminance, Color, Texture, Motion and Binocular Disparity. Sunderland, MA: Sinauer; 2000:577). Besides the scholarly updates on how we process information about form, there are wonderful prefaces and appendices, written with a master’s wisdom and passed on to young initiates.

Regan has a wonderful family. Marian (a mathematician) has been his partner in life and in science, and they have shared authorship on numerous papers. Douglas, their older son, tragically died in an accident in 1997 at the age of 30. Their younger son Howard and his wife Lisa have two children, Jillian and Christopher, who are their grandparents’ delight.

With all of this, no more need be said, other than that David Regan richly deserves the Proctor Medal as a hallmark of an illustrious career.

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