In memoriam Professor Hugo Adrian

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In memoriam *Professor Hugo Adrian, born 1926, deceased 1994, in Santiago, Chile. After completion of his studies in veterinary medicine, he followed a successful career in neurophysiological research. He was Research Associate (1961–1962) and Visiting Professor (1973–1976) at the Neurophysiology Department University of Wisconsin, USA. He was the first Director (1958–1960) of the Institute of Physiology at the Austral University, Valdivia, and was Professor (1963–1973; 1977–1994) and Chairman of the Department of Physiology and Biophysics, University of Chile, Santiago, Chile, where he led a group of researchers in auditory physiology, introduced the use of computer techniques to physiological studies, and developed several projects of applied neurophysiology.*

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On behalf of the Society of Physiological Sciences, I have the honour to pay tribute to Professor Hugo Adrian, one of the most well known Chilean physiologists.

Hugo Adrian was born on December 4, 1926, in Santiago, and died in the same city on November 28, 1994.

During his lifetime, Prof Adrian performed a variety of tasks. He founded and headed several academic institutions. He formed a model family. He explored with passion the secrets of the auditory system. He pursued the promotion of culture. He always helped people almost anonymously, caring for the sick right up to his death. He taught thousands of students of different professions, particularly students from the University of Chile, some of whom became later his disciples. He shared generously real friendship, and –while doing all this– he grew in human kindness, and earned the respect and affection of all who knew him well.

Hugo Adrian studied in the Liceo San Agustín, where he became a cultivated person, probably under the influence of the great humanist, Father Alfonso Escudero. I think it was there where his great love for books was born. Some of his friends benefited greatly from this, with the gifts of books that Hugo brought us from time to time with his commendable modesty.

Moved by a genuine medical vocation, Hugo entered our cherished School of Medicine at the University of Chile, which he later had to leave because of failing health. When he recovered, he decided to study veterinary medicine, a closely related subject to his primary vocation, from which he graduated in 1957. At that time he was already engaged on physiology research at the Institute of Neurosurgery and Brain Research in Santiago, working with Earl Walker, a well known neurosurgeon, and also taught at the Institute of Physiology, University of Chile, from 1955 to 1958.

In 1958, Prof Adrian moved to the Austral University, in Valdivia, where he founded the Physiology Institute, becoming its first director until 1960. In 1959 he served as Secretary of the Faculty of Medicine of that University. Then, in 1960, he worked in collaboration with Prof Bruno Günther, from the University of Chile, branch Valparaiso (today University of Valparaiso).

In 1961, Hugo was invited to join –as Research Associate– the Department of Neurophysiology, University of Wisconsin, where a leading research group was working in sensory physiology. There, he collaborated with Drs Clinton Woolsey, Jerzy Rose, RW Guillery and JM Goldberg, as well as with his Chilean colleague and long–term good friend, Wladimiro Lifschitz. It was then when his scientific career developed rapidly, becoming a well known researcher on auditory evoked potentials and on the mechanisms of sound lateralization.

Prof Adrian continued this line of research in Chile between 1963 and 1973, working on auditory physiology. He also performed some studies on comparative physiology using llamas as experimental animals, a very unusual animal model in those days. He published several papers in the Journal of Neurophysiology, Experimental Neurology, Brain Research and other international journals. In addition, his presence in Chile served as a link between the Department of Neurophysiology, University of Wisconsin, and the Institute of Physiology, University of Chile. Eventually a joint and long-lasting grant (18 years) from the National Institutes of Health (NIH) was awarded to both research groups. This allowed the modernization of the research equipment at the Institute of Physiology, University of Chile, and the projection of these investigations to the rest of the Latin American countries, because of the introduction of computer systems into neurophysiology research. Those of us who worked in the Institute at that time remembered quite well the old LINC computer, one of the world marvels of yesterday, and a precious museum piece today.

Between 1973 and 1976, Hugo returned to Wisconsin, this time as Visiting Professor, where he continued with his studies and the training of undergraduate and post-doctoral medical students engaged in research. From that time is his pioneer work on the binaural columns in the primary auditory cortex. Years later, in 1982, when I was attending the IBRO First World Congress, in Lausanne, Prof Vernon Mountcastle –ad-

dressing a plenary conference– mentioned this work of Prof Adrian as a sound evidence regarding the columnar structure of the auditory cortex. On returning to Santiago, I told Hugo about Prof Mountcastle's words, as I have done in further conferences, and he was most pleased to hear about it.

While working in Wisconsin, Prof Clinton Woolsey offered Hugo a position as Professor of Physiology in the University of California at Davis, which he refused. He preferred to return to Chile instead. I was particularly benefited by his decision, because in 1977, while Prof Adrian was Chairman of the Department of Physiology and Biophysics at the University of Chile, he strongly supported my return from Mexico and my reincorporation to the University of Chile.

Working in Chile in association with Guillermo Ormeño and Carmen Palazzi, among others, Prof Adrian continued his studies on sound lateralization and developed a line of research on applied neurophysiology. This eventually led him to different research projects: design of a new type of earphone for deaf people; elaboration of a method for an early diagnosis of deafness; and development of a new therapy for the treatment of bruxism. His enthusiasm for these investigations was never lost and, even right before his death when I visited him in the Hospital JJ Aguirre, he talked about the next experiments to be done as part of a project in collaboration with Dr Jaime Pérez-Olea.

Professor Hugo Adrian achieved great recognition and won honours during his scientific career. Official lecturer in a meeting of the National Academy of Sciences of USA; official co-lecturer invited by the University of Columbia, New York; Honorary Professor of the National University of Asunción, Paraguay; Full Professor and Chairman of the Department of Physiology & Biophysics of the University of Chile, among other academic and scientific responsibilities. However, his major achievement was to be a good man. A man that assumed his family heredity of nobleness, and projected this quality through his life as a scientist.

Theologians have asked themselves about the reason that led God to create the world. St Thomas gave the following answer: "*Bonum ist diffusivum sui*" (Good is expansive by itself). That is, good tends to project its beneficial effects to others. This is the keystone of life. The full explanation of the meaning of the universe, even though we are not able to perceive it from our limited perspective. Hugo Adrian led a good life. Kind, gentle, generous, he adhered to his principles throughout his life. Now when he is not longer here, he will remain as an example to us all.

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