Laudatio

Professor Franz Halberg – the grand democrat in the global science. From the molecule to cosmos and back *

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The beautiful wavy highlands (inspiration to Halberg's cosinor?) of Transylvania, with its rich history of the Roman province Dacia under Trajanus, since 13th century becoming to one of new homes for Germans (Saxons) and later mentioned as the Siebenbuergen crown land of Austria, is guarded by two Carpathian peaks – Pietrosu and Petrosul from one side, and protected by Transylvanian Alps from the other. This lovely place had the privilege to see happy Franz Halberg's young years.

The beautiful wavy highlands of Transylvania (inspiration for Halberg's cosinor?), protected by twin Carpathian peaks and the Transylvania Alps, with its rich history as the Roman province of Dacia and early home to the Saxons was also the boyhood home of Franz Halberg.

The later giant of world chronobiology was born here in Bistritz, Romania, on July 5, 1919. The nature's beauty was combined with the nearby flourishing centre of multiethnic culture – Cluj – Klausenberg – Kolozsvár. Here obtained the young Franz general, classical education on an incredibly broad basis, what emanate from him his whole life. No wonder that his exact thinking navigated him at first to mathematics and physics (1936-7) and then to the happy connection with medicine (M.D. 1943).

Farnz Halberg, who was to become a legend in the world of chronobiology, was born in Bistritz, Romania, on July 5, 1919. The areas natural beauty combined with the nearby flourishing cultural center of Cluj (Klausenberg /Kolozsvar), in central Romania, provided the educational backdrop for young Franz's incredibly broad early education. The rewards of this rich and influential environment are abundantly apparent in all aspects of his life. With a sharp and analytical mind, it was no surprise that he was attracted to mathematics and physics (1936-7) and later to medicine (M.D. 1943).

After the war, Franz looked toward to West in the hopes of finding a place with a more conducive scientific climate and a land with better opportunities. His first stop was Austria; it was there that he met his beloved wife and scientific collaborator, Erna. Like her husband, Erna too, would become a professor and a valuable contributor to the world of chronobiology.

After the war, he moves towards West with the intention to find a place and possibilities for a better scientific climate. They emigrate soon (1948) to the United States, where their working institution at the start was Harvard Medical School, Boston, followed by the whole life head quarters of the happy family Halbergs (two daughters – Julia and Francine – also scientists) in Minneapolis, Minnesota where "water is blue like the sky".

More than half century ago, Franz Halberg coined the term "circadian", which was referred to by "chronoskeptics" as a "Halbergs's paranoia." Today, Halberg's authorship is forgotten and the term is in widespread use. His creativity in chronobiology has no limits – he worked "bahnbrechend" in biology, physiology, pathology, oncology, neuroendocrinology (he is the Honorary Editor of this

Journal – Neuroendocrinology Letters), psychiatry, pharmacotherapy, bioethical science, history, clinical medicine, laboratory medicine, bioengineering in connection with geophysics and cosmophysics (BIOCOS-The Biosphere and the Cosmos), molecular biology and genomics. The result of this incredibly diverse set of interests is a prolific 3152 publications (and counting) (http://www.msi.umn.edu/ ~halberg/).

Presently, Professor Halberg is director of the Halberg Chronobiology Center, University of Minnesota – formerly the Periodicity Analysis Laboratories, which has been officially affiliated, at various times, with the University of L'Aquila, L'Aquila, Italy; Réné Descartes University, Paris, France (under the presidency of Florian Delbarre); and the Faculty of Computer Science, Autonomous University, Madrid, Spain.

The following is just a sampling from his impressive and prestigious career: Career Award Professor of Laboratory Medicine and Pathology, University of Minnesota (from 1962); Professor of Physiology and Biology, Graduate School, University of Minnesota (from 1962); Professor of Oral Medicine and Bioengineering, Graduate School, University of Minnesota (from 1988); Coordinator of an international project on The Biosphere and the Cosmos (BIOCOS), mapping spectra of variables in and around us, currently in 23 countries; Editor-in-Chief, Chronobiologia (1974-1994); Editor, International J. of Chronobiology (1973-1984); Presently, *Honorary Editor,* Neuroendocrinology Letters; *Associate Editor,* Intl. J. of Prenatal and Perinatal Psychology and Medicine.

Professor Halberg is a classic example of a polyhistor and synthetical, holistic scholar. He has systematically built his astonishingly detailed knowledge through his deeply analytical approach, coupled with the prefect equilibrium between analysis and synthesis. This combination is not only rare, but also extremely progressive and is a hallmark of his intellect. Moreover, he is a true cosmopolitan, polyglot, and always ready to provide classical citations on just about anything.

Like the spectrum of his scientific interests, professor Halberg's personality is as extraordinary as the range of his expertise. His personality has drawn pupils, disciples and collaborators from the four corners of the globe. His humanity is unplagued by the failings of bias or prejudice. He is the embodiment of "*Let the least ones come to me*." Appreciation of his scholarliness, charity and compassion can be seen Russia and Ukraine (honored by Tchijevskij in chronocosmosociology), throughout all of Europe, and even in Japan, China and India, where The Halberg Hospital and Research Institute, in Moradabad, was founded to honor him. His scientific contacts over the globe are innumerable and increasing by the day.

Over his career, Professor Halberg has been honored with four honorary doctorates from the University of Montpellier, Montpellier, France (1980); University of Ferrara, Italy (1992); Masaryk University, Brno, Czech Republic (2000); and University of L'Aquila, Italy (2004).

We feel much honored by the opportunity to join with his friends, family and colleagues from around the world in wishing Franz good health, happiness and continued scientific success for many years to come, on this, his 90th birthday.

** Laudatio adjusted by the Editors of this journal*