



## Seppo Huovila

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**RESEARCH PROFESSOR** Seppo Huovila, who was elected to be a member of the Finnish Academy of Science and Letters in 1979, died on 24th March 2018 having almost reached the age of 90. He had been born in Sippola, in a prosperous country house where the library held many attractions for a small boy who had learned to read well before going to school. His favourite books were accounts of voyages of discovery to exotic lands.

Huovila began his studies in mathematics and physics at the University of Helsinki in 1949. At that time, the Department of Physics was located in the same building on Siltavuorenpenger as the Department of Meteorology, and Huovila was so impressed by the lectures given by the professor of meteorology, Vilho Väisälä, that he adopted meteorology as his main subject. When the time came for him to produce his master's degree dissertation, Professor Väisälä gave him the task of making regular micrometeorological observations in a field attached to the university's experimental farm at Viikki. The reason for this was that the professor needed about a hectare of flat land where he could assemble equipment for measuring winds in the free atmosphere, but the

area in question could only be obtained for research connected with agriculture. This was Huovila's responsibility, and he was largely given a free hand in designing and building the equipment he needed to measure the distribution of temperatures within the grain crop growing in the field and up to a few metres above it. This assignment, performed as a research assistant employed by the professor, was the first of his many experiences in the design of meteorological instruments.

In 1957 Huovila had an excellent opportunity to extend his horizons when the ICSU, the international umbrella organization to which the Finnish Academy of Science and Letters belongs, declared an "International Geophysical Year" for 1957–58. Finland contributed to the programme for this by setting up a joint atmospheric sounding station on Spitsbergen together with Sweden and Switzerland, with the aim of launching a radio sonde twice a day to make air pressure, temperature, humidity and wind measurements up to a height of 30 km. In a second experiment a sounding station was to be established on board a merchant ship plying between Finland and South America. Huovila was allowed to choose between these two projects, and

settled for the latter as being more exotic. The round trip from Finland to Argentina and back took 3 months and the programme included four such journeys, and Huovila took part in the first and last of these. The result was an exceptionally valuable body of recordings, especially with regard to the state of the free atmosphere in the tropical belt of the ocean.

When Professor Väisälä retired from his university position in 1958 and devoted himself entirely to the further development of his radio sonde system in Vantaa, Huovila decided to go with him. His principal task was to design equipment for testing and calibrating the sensors for radio sondes, equipment which was to be used in Finland and very extensively throughout the world for the next couple of decades.

Huovila's university career began in 1960, when he was appointed Adjunct Professor and acting Associate Professor of Physics at the University of Oulu, which had been founded a couple of years earlier. Here his main role was to plan the necessary laboratories and the acquisition of recording equipment. For the spring term of 1962, however, he was on leave to work for the United Nations' World Meteorological Organization (WMO) in Jordan as a trainer of those operating the Vaisala sonde system that had been donated to that country. It would have been impossible to imagine a better expert to do this work, and at the same time it gave Huovila himself an opportunity to broaden his experience of the world with an entirely new culture.

In autumn 1964 Huovila had a "once in a lifetime" opportunity to enter global research circles and engage in university teaching when, on the recommendation of

Academic Erik Palmén, he gained a place as a Visiting Research Scholar at the University of Wisconsin in Madison, where the head of the Space Research Unit was Professor Werner Suomi, whose family had at one time moved to the USA from Åland. Here his work involved designing and constructing equipment for calibrating radiation sensors. Fortunately there were no financial restrictions and the equipment was ready at the appointed time so that it could be used to calibrate the equipment for measuring radiation on board the Tiros and Explorer satellites before they were launched into space. Their main purpose was to measure heat radiation from the Earth's surface and from the cloud layer out into space in order to be able to calculate, for example, the thicknesses of the cloud layers. The method also produced images of tropical storms developing over the world's oceans, which greatly improved the reliability of hurricane warnings. In addition, Huovila developed a "space simulator" for improving the accuracy of radiation sensors in satellites. This was a device which enabled solar and terrestrial radiation at a height of 500 km above the Earth's surface to be simulated at varying air pressures.

Huovila was employed by the Finnish Meteorological Institute from 1966 onwards, first as a Meteorologist, then as a Head of Department from 1969 and finally as a research professor from 1989 until his retirement in 1992. He nevertheless continued to be actively involved in WMO projects alongside his regular work, chiefly in the form of coordinating meteorological activities in member countries in order to minimize problems caused by weather conditions. The general idea was to gather a body of the most reliable and

homogeneous data on the state of the atmosphere at a height of 30 km above the ground, a task that was coordinated by the WMO Commission for Instruments and Methods of Observation, which has almost 200 member countries. Huovila served as Vice-President of this organization from 1973–1981 and President from 1981–1989, during which time he ran a comprehensive global programme for the verification of measurement methods in order to guarantee the quality of the resulting observations. The programme was carried out in various parts of the world, of

course, so that Huovila was able to sample life in many of those countries that the early 20th-century explorers had written about.

Seppo Huovila was an Adjunct Professor in the University of Helsinki from 1966 to 1991, teaching meteorology to students specializing in this field and also to students of agriculture and forestry. He produced 69 scientific publications, amounting to more than 1600 pages altogether, and acted as an official opponent in the discussions of 6 doctoral theses in Finland and one in Sweden.

*Obituary by Erkki Jatila*