

In Memoriam – Vitold Belevitch

2 March 1921 – 26 December 1999

In one of the last days of 1999, Prof. Vitold Belevitch, a monument in the field of circuit theory and its applications, passed away.

He was born under dramatic circumstances on 2 March 1921 in the small Karelian town of Terijoki in an area which then belonged to Finland. His mother, who was of Polish descent, was fleeing from their home town of Petrograd (formerly Leningrad and now called again St Petersburg) from the Bolsheviks. His father, who was Russian and opposed the Bolsheviks, also tried to escape but was arrested and deported to Siberia and never returned. So he never saw his son Vitold. After giving birth, his mother took her baby and continued her journey to Helsinki, where she registered the birth. In 1926 Mrs Belevitch and her son emigrated to Belgium, where he received his education in French. At the age of 16 he started electrical and mechanical engineering studies at the Université Catholique de Louvain. After graduation during the Second World War in 1942, he joined Bell Telephone Manufacturing Company (BTMC) in Antwerp, Belgium. There he met Cauer who was working for a sister company Mix & Genest in Berlin. Cauer introduced him to the beauty of circuit theory and its applications. Under the influence of Cauer and sponsored by Charles Manneback, he obtained the doctoral degree in applied sciences from the Université Catholique de Louvain in 1945. In his thesis he introduced the revolutionary concept of scattering matrix, or repartition matrix, as he called it. In fact, this concept was discovered independently by American researchers during the Second World War. Already in 1951, he had also worked on the design of electronic computers. Upon completion of this project he became in 1955 director of the Belgian Computing Center, the 'Comité d'étude et d'exploitation des calculateurs électroniques' in Brussels. At the request of the director of research of Philips, Prof. Casimir, in 1963 he founded the Laboratoire de Recherche MBLE, later called Philips Research Laboratories Belgium (PRLB). He directed this very successful research center until his retirement at the end of November 1984.

Starting in 1953 Vitold Belevitch was appointed as a part-time professor at the Université Catholique de Louvain, where he taught subjects like circuit theory, electromagnetism, applied mathematics, information theory and coding. In 1960 he became extraordinary professor there and retired in 1985.

Certainly the major contributions of Vitold Belevitch are found in the field of circuit theory and its applications. In fact, he contributed substantially to the mathematical foundations and the systematic development of circuit theory. Let us mention here also substantial contributions to filter theory, modulator theory, theory of coupled lines, and non-linear circuit theory. He became a member of the editorial board of the *International Journal of Circuit Theory and Applications* when it was set up in 1973. In addition, he made major contributions to the fields of information and system theory, the design of electronic computers, mathematics and linguistics.

His total volume of scientific production is estimated at 4000 pages. He wrote four books. One of these dealt with his special interest in human and machine languages. In fact, he was

able to speak, and especially to read, an exceptionally large number of languages. His other three books were on circuits and filters. His most important book was certainly the Classical Network Theory that was published in 1968. It developed a comprehensive theory of passive multiport circuits and was written in a brilliant way. Both at his research laboratory and at the university he inspired numerous young people. About 30 of his former co-workers or former students are now well-known professors at recognized universities around the world.

Vitold Belevitch received numerous honours for his scientific achievements. He became a Fellow of the IEEE, and was awarded the IEEE centennial medal, and in 1993, the Society Award of IEEE Circuits and Systems Society. In 1975 and 1978, respectively, the Technical University of Munich, Germany, and the Ecole Polytechnique Fédérale de Lausanne, Switzerland, conferred upon him honorary doctoral degrees.

He is survived by a daughter and a grand-daughter. The circuit theory community will remember him as one of the outstanding scientists of the 20th Century. We are grateful for his contributions to our journal.

JOOS VANDEWALLE

Professor and Vice-Dean of Engineering, Katholieke Universiteit Leuven, Belgium
Editorial Board member of the *International Journal of Circuit Theory and Applications*