



J. Hatvany

Jozsef Hatvany

1926-1987

By Francis W. Boulger

Dr. -Ing. Jozsef Hatvany, pioneer and outstanding leader in the field of computer-integrated manufacturing systems, died after a long illness on July 11, 1987, in Budapest. For the preceding seven years he had been senior scientific adviser to the director of the Computer and Automation Institute of the Hungarian Academy of Sciences.

Dr. Hatvany made notable contributions to progress in the field of sensors, computer programming, and machine tool controls. By generous cooperation with specialists in other countries, he greatly advanced international progress in computer-integrated manufacturing systems. He was a leading force in the early implementation of such systems in Hungary.

Born in Budapest on November 18, 1926, to a prominent family with a long intellectual background, Dr. Hatvany received a broad education, mainly in Britain between 1938 and 1947, and studied physics at Trinity College at Cambridge. On his return to Hungary he taught philosophy at the University of Budapest but was soon arrested by the Stalinist authorities, and in the jail he founded a group to work on advanced mechanical engineering. After his rehabilitation he joined the academic groups that started to develop computer science and technology in Hungary and to establish new relations between computers and the mechanical engineering traditions

of the country. His research and development work in the 1960s was concerned with sensors and feed-back devices for digital control, and with industrial applications of systems for digital path-control of machine tools. Digital interpolators for numerically controlled machine tools also received attention. That early research by Dr. Hatvany and his colleagues bridged the gap between the numerical control (NC) of machines and the incremental or pulse technique needed to implement systems. The group developed the first successful continuous-path NC contouring unit in Eastern Europe. That effort was followed by the development of programming languages, and the graphic display software and equipment needed for electronic NC program controls. Although that development work was described by Hungarian-language patents and periodicals, the details were not well known in other countries. By 1958 Dr. Hatvany had patented a system for operating a machine tool directly by a computer (DNC) instead of by magnetic or punched tape. Subsequently, and probably for the first time anywhere, the Hatvany team successfully combined computer-aided design data, NC programming, and DNC into a manufacturing system. The group also installed four major computerized design and manufacturing systems in Hungary.

From 1964 until his death, Dr. Hatvany was an active staff member of the Computer and Automation Institute of the Hungarian Academy of Sciences. He was a head of a Department and then of the Division of Mechanical Engineering until 1981 when he became a technical adviser to the director. They were probably the most satisfying and rewarding years of his career.

The Hungarian Academy of Sciences named Dr. Hatvany a Candidate of Sciences (Ph.D.) in 1968. The Hungarian Society of Mechanical Engineers gave him its Gold Medal for Development of Technology in 1977. The State Prize for Science and Technology, the highest Hungarian honor for engineers, was awarded to Dr. Hatvany by the Council of Ministers in 1978. He received the Gold Medals for

Outstanding Inventions from the Hungarian Academy of Sciences in 1978, 1980, 1981, and 1982. The Computer Automation Institute honored him with its Benedikt Prize in 1983, and the following year he was designated a Titular Professor by the Budapest Technical University.

An ardent worker on behalf of his country's technical societies, Dr. Hatvany was active in the Hungarian Society of Mechanical Engineers and served on its Automation Committee from 1976 to 1983. He was chairman of the Computer/Controls Group of the Hungarian Society for Measurement and Automation from 1978 to 1980.

Dr. Hatvany was a talented native of a small country that has produced an unusually large proportion of able engineers and scientists. Like many other Hungarians, he became a leader in the worldwide technical community. His quick mind and eclectic education and experience stimulated unusual insights for identifying and solving important problems. His talent for friendship and his fluency in five languages enhanced those skills. He made good use of those assets in fostering international cooperation through technical organizations and publications. Between 1971 and 1983 he worked hard on committees that sponsored seven international conferences on manufacturing, and he lectured at eleven such meetings. Dr. Hatvany was a productive member of the International Federation for Information Processing (IFIP) and chaired the Committee on Discrete Manufacturing from 1973 to 1979 and the committees on Computer Applications and Computer-Aided Design for even longer periods of time.

The contributions Dr. Hatvany made to manufacturing engineering and to international cooperation in technical matters were widely recognized. The Soviet Union presented him with its Gold Medal for Advancing the National Economy in 1973. The following year he spent as a research scholar at the International Institute of Applied Systems Analysis in Austria. In 1977 IFIP honored Dr. Hatvany with its Silver Core Award. He spent 1981 as a visiting professor at the

Ecole Nationale de Electronique et Informatique in Toulouse and in 1985 received an honorary doctorate from that university. In 1984 Dr. Hatvany was elected to membership in the International Institute for Production Engineering Research (CIRP). Members of that small but influential organization are chosen from educators and research workers in twenty-nine countries.

The National Academy of Engineering elected Dr. Hatvany a foreign associate, the first from Hungary, in 1985. He was probably best known to NAE members as the senior author of the National Research Council's worldwide survey on the status of computer-assisted manufacturing published in 1981. He also contributed to the 1984 publication *Computer Integration of Engineering Design and Production—A National Opportunity* issued by the National Academy Press.

Dr. Hatvany was a successful leader of research and development teams and a dedicated member of many technical committees. Such activities undoubtedly accelerated technical progress but it is difficult to trace specific contributions to particular individuals. The case for Dr. Hatvany will be easier to establish, however, because he had a talent for friendship. He is remembered with admiration and deep affection by his colleagues and acquaintances. More than twenty-five engineers from eleven countries are preparing articles for a *Jozsef Hatvany Memorial Issue of Computers in Industry*. The authors will describe his contributions and the current status of the fields he pioneered.

