George Vladutz, 1928–1990

This issue of the *Journal of Chemical Information and Computer Sciences* is dedicated to the memory of George Vladutz, a friend of many in chemical information, who passed away on September 3, 1990.

George Vladutz was born in Oradea, a Hungarian-speaking enclave of Romania, in 1928. His studies began in the Department of Chemical Engineering at the Polytechnical Institute, Bucharest, Romania, in 1946. He gained an M.Sc. in Chemical Engineering and Organic Dyestuff Chemistry at the Leningrad Technological Institute in 1952, took his Ph.D. in Organic Synthesis at the Mendeléev Institute for Chemical Technology in Moscow in 1956, and gained his D.Sc. in Chemical Information Science at the Institute for Organic Chemistry of the Elements, Moscow, in 1967. His theses were entitled "The Synthesis of Bz-isoquinoline Alkaloids" (Ph.D.) and "The Design and Development of Information Retrieval Systems for Organic Chemistry" (D.Sc.).

His main professional activity prior to emigrating from the Soviet Union was at the All-Union Institute of Scientific and Technical Information (VINITI) of the USSR Academy of Sciences, Moscow, where he was active in various roles from 1958 until 1974. He was variously Director of Chemical Information Systems, Head of the Laboratory of Chemical Information Systems, Head of the Department of Semiotics, and Professor of Information Science there—acting as *Doktorvater* to no fewer than 14 doctoral students.

In 1974 ("on the occasion of Dr. Kissinger's first visit to the Soviet Union", as he liked to put it) he took the momentous step of applying for an exit visa from the Soviet Union. This resulted in his removal from all official posts. It was only after Dr. Kissinger's return to Moscow in 1975 that the exit visa for him and his family was granted. He did not return to Russia until 1989.

He held an honorary post with the Consiglio Nazionale della Ricerca in Rome until he was able to take up a British Library Visiting Research Fellowship at the then Postgraduate School of Librarianship and Information Science (now the Department of Information Studies) at the University of Sheffield. Here he joined in research which resulted in the development of a new approach to the automatic indexing of organic reactions. This approach, which is based on the use of the maximal common subgraph isomorphism algorithms, now forms the basis for many operational reaction database systems. He was also involved in lecturing and teaching in the department and more widely in the U.K.

His ambition of living in the United States was realized in 1976 when he joined the staff of the Institute for Scientific Information (ISI) in Philadelphia as Senior Research Associate in the President's Office. During the next 6 years, he worked on a range of textual and chemical documentation problems, most notably the application of his expertise in indexing languages to the development of a new type of subject index for ISI products—the Key Word/Phrase Subject Index. In 1981, he became the Manager for Basic Research at ISI, where he was responsible for the direction of a wide range of research projects in automatic indexing and retrieval. Of particular note is the development of the bibliographic coupling techniques studied previously at ISI to allow associative searching of very large files of journal citations, techniques which have recently been applied to his old love, the searching of databases of chemical reactions. During the latter part of his time at ISI, he was also responsible for an extended evaluation of the structure of Soviet science.

He published three monographs, among them one of the first on computer-based chemical information systems, "Automatic Information Systems in Chemistry", published with Geyvandov in 1973, and over 70 articles. Perhaps his most significant contribution was in the paper "Concerning One System of Classification and Coding Chemical Reactions", which was published in the West in *Information Storage and Retrieval* (Vol. 1, pp 117–146, 1963) and which was finally to bear fruit as a result of his stay in Sheffield over a decade later. This was certainly the most widely cited of his papers, and deservedly so, since it was the first publication to suggest that computers could be used to index chemical reaction data and, moreover, to process such data so as to allow the automatic identification of synthetic pathways. During his time at ISI, he gave many conference papers and these opened up new and imaginative frontiers for researchers to aspire to. Of particular note in this context are the papers which participants at the York Conference in 1985 and at the two conferences held at Noordwijkerhout in The Netherlands were privileged to hear.

He was the organizer and chairperson for several meetings of the Chemical Information Division of the American Chemical Society. His many contributions to chemical information science were marked by his receiving the Patterson-Crane Award of the Dayton, OH, Branch of the American Chemical Society in 1989.

These are the facts relating to George Vladutz, but they barely give the flavor of the real George: the savant, the linguist (he was fluent in Romanian, Hungarian, Russian, English, French, Italian, and German), the intellectual, the generous host, the involved conversationalist, and the visionary, particularly as regards the possible directions for more responsive chemical information systems for the future. Indeed, it was in large part due to George's inspiration that one of us was first drawn into information research. He leaves a wife and two children and to them we offer our deepest sympathies on the passing of a man to whom we owe a great intellectual debt and whom we felt privileged to have as a close friend.

Michael F. Lynch and Peter Willett
University of Sheffield

0095-2338/90/1630-0349$02.50/0