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In Memoriam

S. M. KUPCHAN
1922–1976

Professor S. M. Kupchan died in October, 1976 at the height of his powers and when he still had many more years of creative work before him. It seemed to a number of his friends and colleagues that the occasion of his untimely decease should not pass without a mark of tribute to the man and to his great contributions to chemistry. The dedication of papers in this volume of Bioorganic Chemistry is such a token of respect and admiration.

Professor Kupchan was an active leader in the field of bioorganic chemistry, and especially natural products chemistry, for more than 30 years. He began his independent career at Harvard in 1948 with an appointment as Research Fellow and Instructor. In 1955, he became Professor of Pharmaceutical Chemistry at the University of Wisconsin until he moved, in 1969, to the University of Virginia as John W. Mallet Professor of Chemistry.

In his earlier work at Harvard and later at Wisconsin, Professor Kupchan played an important role in the elucidation of the structures of the very complicated and biologically interesting *Veratrum* alkaloids. Most of these alkaloids have structures which were determined by him, as recounted in more than sixty publications. In an important tangential study of the rapid hydrolytic reactions of *Veratrum* alkaloids, he discovered the first nonenzymatic case of intramolecular general acid catalysis of ester hydrolysis.

Professor Kupchan's main, and more recent, scientific contributions were the isolation and structure determination of tumor inhibitory agents from plants. In this field, he was a world leader, and a number of the compounds he isolated and characterized show great clinical promise.

He was an excellent administrator, co-ordinator, and organizer of a large research team. His approach was always systematic fractionation coupled with biological testing, which was followed by isolation of the active substance. The determination of structure was then made using all the chemical and physical procedures available, especially X-ray crystallography.

Several of Professor Kupchan's compounds are in advanced stages of testing, and to mention just one case, maytansine is believed to represent one of the most promising antitumor agents ever discovered.

Not all compounds that are biologically active have structures that are interesting to the synthetic chemist. It was, however, remarkable that a very high proportion of the substances that Professor Kupchan isolated had complex and novel structures, but with molecular weights that did not make efficient synthesis inconceivable. One of his compounds, vernolepin, has become the target of many academic research groups. Maytansine, in particular, is a challenging synthetic objective. This compound is available in only very small amounts from an obscure Ethiopian tree.

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In his most recent work, Professor Kupchan was also interested in model reactions for the biosynthesis of benzylisoquinoline alkaloids. He had completed some very elegant and efficient oxidative couplings just before he died.

We all regret the parting of someone who was an outstanding scientist at an age when he still had so much to contribute.

DEREK BARTON