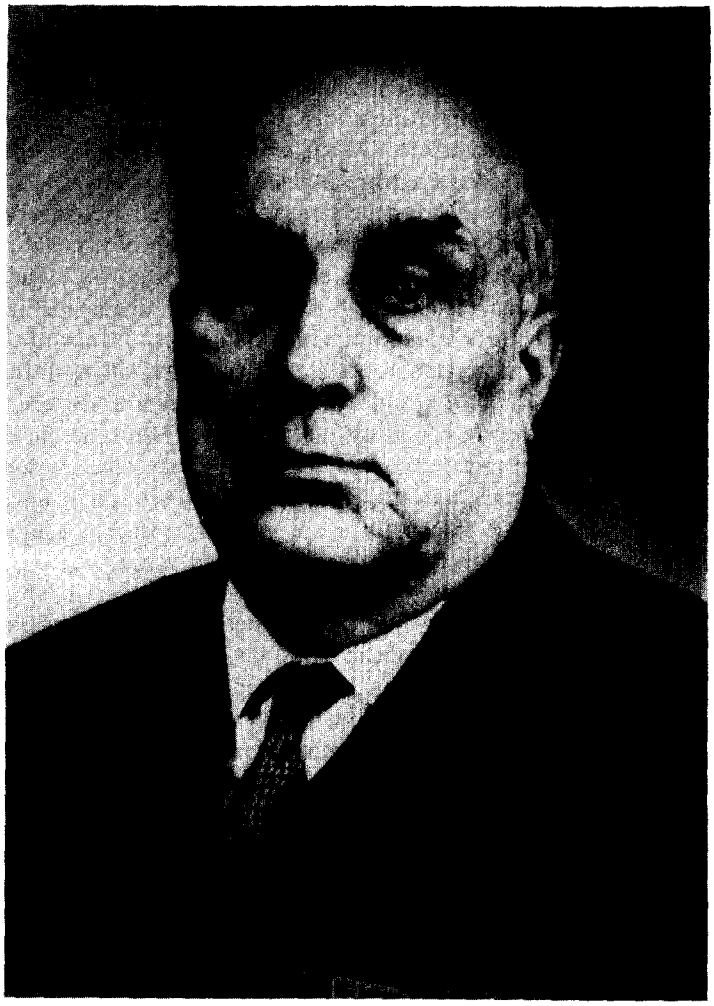
Tetrahedron Vol. 38, No. 14, pp. 1973 to 1974, 1982
Printed in Great Britain.

0040-4020/82/141973-02$03.00/0
Pergamon Press Ltd.

IN MEMORIAM



ALEXANDER NIKOLAEVICH NESMEYANOV (1899–1980)

Prof. A. N. Nesmeyanov, Full Member of the Academy of Sciences of the U.S.S.R., Director of the Institute of Organo-element Compounds, passed away on 17 January 1980, at the age of eighty.

For many years A. N. Nesmeyanov had been a recognized authority in the Soviet chemical community. He founded and headed the world-famous school of organometallic and organo-element chemistry.

A. N. Nesmeyanov was born on 9 September 1899 in Moscow to the family of N. A. Nesmeyanov, a well-known teacher. In 1922 he graduated from the Department of Natural Sciences of the Moscow State University and was offered a vacancy as a junior research assistant at the laboratory of Prof. N. D. Zelinsky. Later he worked at the Chemical Department of the Moscow State University, where he was successively an Assistant, Assistant Professor and Professor, titular of the Chair of Organic Chemistry (1941–79), Dean of the Department of Chemistry (1945–48), and Rector of the University (1948–51). In 1939 he was elected a Corresponding Member of the U.S.S.R. Academy of Sciences and in 1944 a Full Member of the Academy. Since that time he continued research both at the Academy and the University. In the Academy he was in charge of the Institute of Organic Chemistry (1939–54) and later of the Institute of Organo-Element Compounds which he founded and headed since 1954 until his death. The Institute has been named after A. N. Nesmeyanov. Since 1948 A. N. Nesmeyanov was a member of the Presidium of the Academy of Sciences, President of the Academy (1951–61), Academician-Secretary

of the Branch of Chemical Sciences (1946–48) and of the Branch of General and Applied Chemistry (1965–75). From the very beginning of his scientific career A. N. Nesmeyanov directed his efforts to development of the chemistry of organo-metallic, and in a more general sense, organo-element compounds. And it is to this field that his fundamental contribution had been made. He constantly followed this line of research and founded a well known scientific school in this field.

His first studies were concerned with the synthesis of organo-metallic compounds, and the well-known Nesmeyanov "diazo-method" was elaborated (1929), which made available aromatic derivatives of mercury, thallium, germanium, tin, lead, arsenic, antimony and bismuth. Later A. N. Nesmeyanov directed his attention to the problem of substitution of one metal by another and extended further the number of organometallic compounds available. Much work was devoted to the chemistry of unsaturated organometallic compounds, in particular, β-chlorovinyl derivatives of mercury and other metals. This led to an important concept of non-reversion of the geometric configuration of unsaturated organometallic compounds in the reaction of electrophilic substitution of a metal at the double bond, along with the general concepts of "reaction site transfer" and "dual reactivity". These studies led A. N. Nesmeyanov to the discovery of true metallotropy exemplified by organomercury, organolead and organotin derivatives of nitrosophenols, arylsulfonylaminopyridines and 3,5-dimethylpyrazoles.

Since 1955 A. N. Nesmeyanov concentrated on the chemistry of derivatives of transition metals and, in particular, that of metallocenes. He made a fundamental contribution to the chemistry of ferrocene, elaborated reactions of electrophilic and radical substitution of the ferrocene nucleus and studied the behaviour of ferrocene as a superaromatic compound. After ferrocene, other cyclopentadienyl, aromatic, carbonyl and mixed complexes of transition metals were thoroughly studied, including their interconversion, reactivity towards electrophilic and nucleophilic reagents and its metal or ligand dependent nature. As a result, an elegant concept was developed concerning reactivity of transition metal complexes as organic compounds.

The scientific interests of A. N. Nesmeyanov were not limited to the chemistry of organometallic and organo-element compounds. He also made significant contributions in synthetic organic chemistry. He developed the chemistry of β-chlorovinyl ketones; radical telomerisation; onium compounds (in particular, he discovered diarylchloronium and -bromonium salts).

Special mention should be made of A. N. Nesmeyanov's concern over developing synthetic food. As a true humanist he could not pass by this problem which is of great social importance. In the mid-sixties on his initiative a complex programme was started. The studies organized in the Soviet Union by A. N. Nesmeyanov resulted in the development of a number of synthetic food products, including the famous "synthetic caviar".

A. N. Nesmeyanov was a contributor and Editor of the multi-volume "Methods of Organo-Element Chemistry". He was an author of "Basic Organic Chemistry", a textbook for students, which he wrote together with his son N. A. Nesmeyanov.

A. N. Nesmeyanov was the permanent Regional Editor of *Tetrahedron* and *Tetrahedron Letters* since their foundation until 1978. His activity in these journals was highly appreciated and marked by the award of a special Gold Medal. He was a member of many Academies and scientific Societies, in particular he was a Foreign Member of the Royal Society and of the New York Academy of Sciences and a Doctor *honoris causa* of many universities. In the Soviet Union. A. N. Nesmeyanov was highly honoured and was awarded the Lenin and State prizes and the Lomonosov and Mendeleev Gold Medals (1961 and 1977). He was twice decorated with the highest Soviet awards—the order of Lenin and the title of Hero of Socialist Labour. He received as well other Orders of the U.S.S.R. and other countries.

Everyone who had the pleasure of knowing A. N. Nesmeyanov personally was impressed with his brilliant intellect and comprehensive and profound knowledge as a humanist, subtle humour and inexhaustible energy as an organizer. These outstanding qualities in one person made A. N. Nesmeynov the man and the scientist who will never be forgotten by his numerous friends and pupils.

N. K. KOCHETKOV
M. I. KABACHNICK