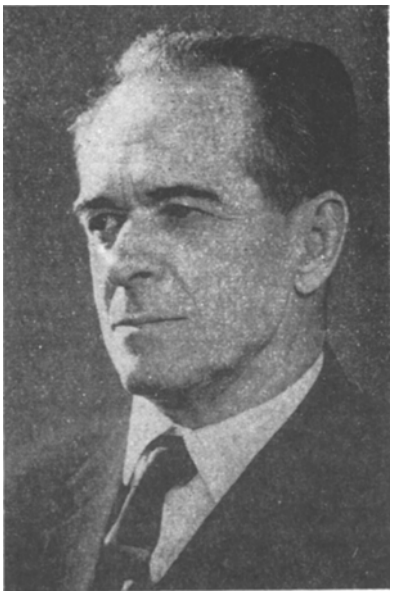
MIKHAIL ADOLFOVICH STYRIKOVICH ON THE OCCASION OF HIS SEVENTIETH BIRTHDAY



On November 16, 1972 was the seventieth birthday of Academician Mikhail Adolfovich Styrikovich, the outstanding Soviet scientist and heat engineer, member and secretary of the Department of Physical and Technical Problems in Energetics at the Academy of Sciences of the USSR.

Mikhail Adolfovich Styrikovich was born in Petersburg into the family of a county clerk. After completing his secondary education, he enrolled at the Mechanical Department of the Leningrad Institute of Engineering and graduated there in 1927 with the title of Heat Engineer.

Already during his senior student years he was inspecting the heating installations in Leningrad factories, and since 1926 he worked as heat engineer at the Leningrad Optical Glass Works studying various types of ovens and driers.

In 1928 M. A. Styrikovich joined the Bureau of Thermotechnical Research at the LOSNKh in the capacity of an engineer. During the 18 years he worked there, the Bureau first became the Leningrad Institute of Engineering and then the Central Boiler and Turbine Institute with Mikhail Adolfovich heading the boiler laboratory.

His earliest scientific interests covered a wide range of diverse thermotechnical problems, including fuel combustion and radiative heat transfer in furnaces as well as conductive heat transfer in boiler aggregates. Later on Mikhail Adolfovich focused his attention on processes of steam generation or, as they are called, internal boiler processes. First on the list here were studies concerning the hydrodynamics of two-phase systems: flow of vapor–water mixtures through pipes, vapor bubbling through water, and vapor extraction from a vapor–water mixture. On the basis of data acquired, standard procedures were set up in 1937-38 for the thermal and aerodynamic design of boiler aggregates.

Under the direction of Mikhail Adolfovich, extensive work was done toward developing methods of design optimization in the area of high-power boiler aggregates with due consideration given not only to the technical and economic aspects but also to the latest achievements in thermophysical research.

Translated from Inzhenerno-Fizicheskii Zhurnal, Vol. 23, No. 5, pp. 933-935, November, 1972.

The creative scientific activity of M. A. Styrikovich was very well recognized in those years: in 1936 Mikhail Adolfovich became an active member of the Scientific-Research Institute (equivalent to being named Professor) and the degree of Doctor of Technical Sciences was conferred on him in 1939 with the requirement of a dissertation waived.

In 1938 M. A. Styrikovich was chosen to head the Chair of Boiler Apparatus at the Moscow Power Institute and he began to organize the Laboratory of High-Properties Steam at the G. M. Krzhizhanovskii Power Institute.

Aware of the drawbacks of using water vapor for the conventional heat cycle, the scientist-innovator M. A. Styrikovich began to search for new working substances. Thus, a series of studies was made during the 1935-1940 period concerning the generation of mercury vapor and, for the first time then, the basic laws of heat transfer with liquid metal were studied along with the hydrodynamics of mercury-vapor flow.

At the beginning of the Great Patriotic War, M. A. Styrikovich was dispatched to the Urals in command of a scientific workers' brigade with the assignment to raise the output capacity and the operational reliability of thermoelectric power plants.

After his return to Moscow in 1943, Mikhail Adolfovich resumed his scientific activity in the laboratories at the Moscow Power Institute and the Moscow Branch of the Central Boiler and Turbine Institute while also teaching at the Moscow Power Institute.

In 1946 M. A. Styrikovich was elected to the USSR Academy of Sciences as Corresponding Member.

During the post-war years he directed complex research on internal boiler processes at the Moscow Power Institute and the ÉNIN. The hydrodynamics of two-phase flows was studied then as well as the heat transfer during boiling and in the near-critical state of liquids, also the physicochemical processes involved in the behavior of mixtures during steam generation from boiler water.

Application of the radio-isotope method to research in hydrodynamics and, particularly, to studies concerning the solubility of substances in high-pressure vapor had made it possible to greatly improve the sensitivity and the accuracy of measurements and thus to extend the test range. Very accurate experiments have shown that water vapor dissolves even substances for which water is a poor solvent, including metal oxides. On the basis of this research, Mikhail Adolfovich developed an entirely new branch of physical chemistry: that of vapor solutions.

In 1960, while the High Temperatures Laboratory (now the Institute of High Temperatures) was organized within the Academy of Sciences of the USSR, M. A. Adolfovich set up the Department of Mass Transfer here and remained in charge of it. Complex research is conducted now under his direction concerning the hydrodynamics and the heat transfer, also scale formation, in two-phase flows, the physicochemical processes and the mass transfer in magnetohydrodynamic apparatus, and the structure of water in the near-critical state.

M. A. Styrikovich's activity is not limited to work at one Institute only. He directs projects in a number of other institutions in Moscow, Leningrad, Irkutsk, and Tbilisi. He devotes much attention to problems in thermal energy all over the USSR: the overall fuel-energy balance in the country, the overall profile of the electric power plant system, and also to new methods of generating electric energy (steam power, MHD generators).

Mikhail Adolfovich, a prominent expert and highly erudite scientist, was in 1964 elevated by the USSR Academy of Sciences to the grade of Active Member, and at the end of that year he was appointed Head of the Academy's Department of Physicotechnical Problems in Energetics.

Mikhail Adolfovich is the author of over 200 scientific works, which include a few textbooks and monographs, and he is well known abroad. Often and with distinction he has represented Soviet science at international conferences, symposia, and teaching sessions. At the present time he is representative at the National Committee on Heat and Mass Transfer.

He is still full of vigor, his inexhaustible creative activity amazes everyone. We wish him good health, many years, and the fulfilment of his scientific goals.