

## OBITUARY

VIKTOR OLIMPANOVICH KONONENKO



Viktor Olimpanovich Kononenko, well-known scientist and mechanical engineer, Director of the Institute of Mechanics of the Academy of Sciences of the Ukrainian SSR, Academician of the Academy of Sciences of the Ukrainian SSR, Doctor of Technical Sciences, Professor, and member of the Communist Party of the Soviet Union, died suddenly on July 29, 1975, at the age of 57.

V. O. Kononenko was born on September 11, 1918, in Korocha, in the Belgorod region. After graduating from the Khar'kov Institute of Railroad Engineers in 1942, he worked as an engineer under the Ministry of Rail Communications. In 1946, V. O. Kononenko started his scientific activity as a graduate student in the Institute of Structural Mechanics of the Academy of Sciences of the Ukrainian SSR (now the Institute of Mechanics of the Academy of Sciences of the Ukrainian SSR).

Working as a senior scientific associate in the Institute of Structural Mechanics of the Academy of Sciences of the Ukrainian SSR (Kiev, 1949-1952), in the Laboratory for Measuring Instruments of the Academy of Sciences of the USSR (Moscow, 1952-1956), and in the Institute of Machine Science of the Academy of Sciences of the USSR (Moscow, 1956-1962), V. O. Kononenko carried out intensive scientific work, involved both with applied and research investigations in the field of the theory of vibrations.

His Candidate's Dissertation (1949) was devoted to the development of the theory of vibration machines for fatigue tests of materials, based on the use of a rotating magnetic field. These were new machines proposed by V. O. Kononenko; their schemes and working principles were registered by author's certificates.

In 1953, V. O. Kononenko defended a Doctoral Dissertation on the theme "Autooscillations in mechanical systems, due to friction." In the dissertation, methods are developed for the analysis of autooscillations in mechanical systems, of the generation and damping of autooscillations, and investigations are made of various processes of the interaction of autooscillations, including relaxation vibrations with harmonics, etc.

Collaboration and communication with specialists in various fields of science and technology in the scientific institutions of Moscow and Leningrad was the fruitful soil in which projects for new scientific work were formulated and grew, and in which new scientific trends appeared. Thus, there appeared, grew, and matured a new branch in the theory of vibrations, the theory of the interaction between vibrational systems and sources of energy, developed by V. O. Kononenko. During this same period, he

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carried out extremely interesting investigations on little studied questions of nonlinear mechanics, i.e., almost-periodic vibrations of nonlinear systems with variable parameters (including with a large depth of the modulation of the parameters). Such systems are widely used in the theory of vibrational gyroscopes, parametric amplifiers, and generators.

Starting in 1962, V. O. Kononenko directed the division of theoretical and applied mechanics in the M. V. Lomonosov Scientific-Research Institute of Moscow State University.

In 1964, V. O. Kononenko was elected an Academician of the Academy of Sciences of the Ukrainian SSR. During this same period there was organized the division of the theory of vibrations in the Institute of Mechanics of the Academy of Sciences of the Ukrainian SSR, which V. O. Kononenko directed toward the development of the theory of three-dimensional vibrations and the theory of the vibration of shells made of metallic and polymeric materials, with different dynamic actions. V. O. Kononenko, together with his students, developed the theory of three-dimensional vibrations of solids, and established a number of new phenomena of a resonance character.

Heading the Institute of Mechanics of the Academy of Sciences of the Ukrainian SSR, V. O. Kononenko paid a great deal of attention to and exerted much energy on the organization of promising scientific investigations in the Institute; he was constantly interested in raising the scientific level and the scientific potential of the Institute, and in increasing the efficiency of scientific work.

A distinguishing special characteristic of the investigations of V. O. Kononenko was, above all, the originality and novelty of the problems which he posed, with the appearance of qualitatively new physical phenomena. He was the author of more than 80 publications, including 3 monographs.

V. O. Kononenko being not only a scientist and theoretician, but also an excellent engineer, his theoretical investigations were always accompanied by experimental confirmation. His works have entered into the world scientific and technical literature, are widely used in engineering practice, and are the basis for the statement of new problems. A very erudite specialist in the field of mechanics and machine building, V. O. Kononenko was of great aid to industry as a scientific director and consultant in the creation of a number of the objects of present-day technology.

V. O. Kononenko paid serious attention to the training of scientific cadres. He prepared a number of candidates and doctors of scientists, among whom are well known specialists in the field of mechanics.

V. O. Kononenko did a great deal of teaching work, lecturing in Moscow and Kiev state universities.

Along with his great scientific and teaching activity, V. O. Kononenko carried out scientific-organizational work: he was a member of the Division of Mathematics, Mechanics, and Cybernetics of the Academy of Sciences of the Ukrainian SSR, a member of the editorial board of the journals *Izvestiya Akademii Nauk SSSR*, *Mekhanika Tverdogo Tela*, *Prikladnaya Mekhanika*, and *Mekhanika* (a collection of translations of foreign articles), and chairman of the Scientific Council on the problem of General Mechanics in the Academy of Sciences of the Ukrainian SSR.

The many-sided and fruitful activity of V. O. Kononenko was illustrated by his numerous government awards.

The premature death of Viktor Olimpanovich Kononenko is a heavy loss for science.

His shining memory, true son of the Communist Party, well-known scientist, teacher, and sensitive person, will be retained forever in the hearts of those who knew him.