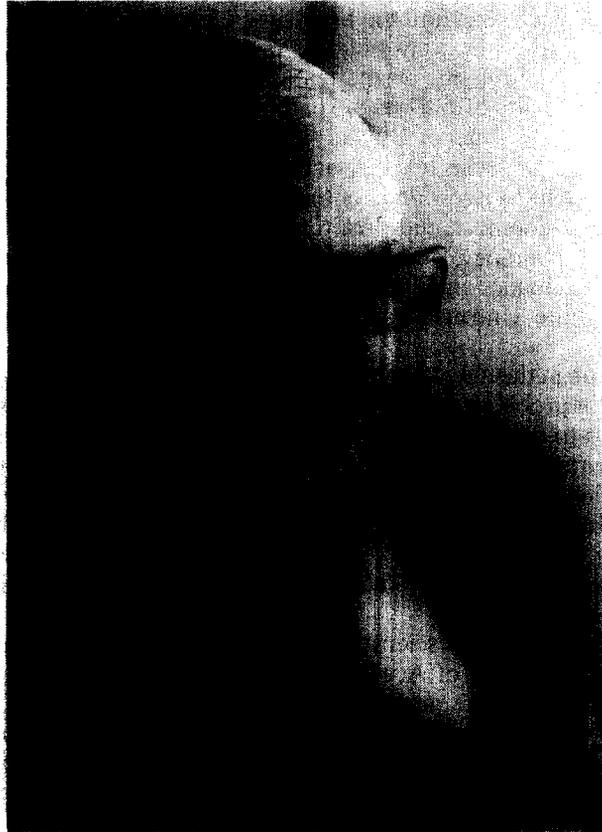




ALEKSANDR YUL'YEVICH ISHLINSKII†
(06.08.1913–07.02.2003)



Russian science has suffered an irreplaceable loss. On 7 February 2003, in the ninetieth year of his life, Academician of the Russian Academy of Sciences Aleksandr Yul' yevich Ishlinskii, a renowned specialist in the field of general mechanics, the theory of gyroscopes, the theory of autonomous control and inertial systems, solid mechanics, and mathematical physics, died.

His life was one of great effort in terms of energy and intellectual input, and in terms of importance to Russian science and technology. The bare facts – 11 monographs and over 300 scientific publications – do not do justice to the contribution he made to the development of science and education. He was lucky to work in the most “romantic” period of the science development, related to the space technology. For his huge contribution to the solution of this most important problem of the present time, he, together with other outstanding scientists and engineers, was awarded the Hero of Socialist Labour Star.

He is rightly considered to be one of the founders of the school of Russian instrument making. His research in this field of mechanics earned international recognition and will occupy a deserved place in the history of Russian science. He is regarded by specialists of many scientific and production organizations as their scientific leader and a source of ideas and procedural approaches. These specialists include developers of space technology and also marine and aviation navigational gyroscope systems.

The style of his work and the variety of his scientific interests are clearly reflected, in particular, in the two-volume monograph “Applied Problems of Mechanics”, published in 1986. The first volume deals

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with problems relating to the mechanics of plastic, viscoelastic, and incompletely elastic bodies. It contains papers that deal with the study of rolling friction, the fracture of viscoelastic bodies, including fracture by a dynamic load, the vibration of a rod of material possessing inherited properties, the construction of general relations of the theory of ideal plasticity, the stability of viscoelastic flows, rolling and drawing at high deformation rates, the impact of a viscoplastic rod against a rigid obstruction, the rolling of rigid and pneumatic wheels over deformable ground, the motion of sand, etc. In the second volume, problems of the mechanics of elastic and absolutely rigid bodies are examined. It contains sections on dynamic forms of the loss of stability of elastic systems, the crack propagation, steady motions of a rigid body suspended on a string, and the branching of stable positions of dynamic equilibrium of such mechanical systems, on the vibrations of a top having a cavity filled with fluid, on the motions of gyroscopes and gyroscopic instruments, on the features of inertial navigation and instruments for its implementation, on the instability of systems of spatial inertial navigation, on non-holonomic motions of gyroscopic systems, on the features of Gimbal suspensions, etc.

He invested considerable effort in his teaching activity which began in 1930 in the L. B. Krasin Electromechanics Technical School in Moscow and continued uninterrupted until the end of his life. He was a professor at the Moscow Automechanics Institute, at the Bauman Moscow Technical High School, at Institute Physics and Technology, and at other universities. For about 50 years he headed the Department of Applied Mechanics and Control in the Mechanics and Mathematics Faculty of the M. V. Lomonosov Moscow State University, which has produced many highly qualified specialists in mechanics.

His creative participation in the development of important areas of science and engineering, his clear and concise formulation of problems, his brilliant presentation of material, his ability to obtain, by the simplest methods, clear up-to-date results, so necessary for engineering practice, and his personal charm, sensitivity, and *joie de vivre* attracted young people seeking new ideas and wishing to apply their creative efforts. His students and successors are developing his ideas and using the results he obtained to design different kinds of mechanical devices and systems, and many of them have themselves become great scientists and engineers.

He made a considerable contribution to the solution of organisational problems in the development of Russian science.

In the period from 1947 to 1956, his scientific activity was closely tied to the Ukrainian Academy of Sciences. In 1947, on the invention of Academician M. A. Lavrent'yev (then Vice-President of the Ukrainian Academy of Sciences), he moved to Kiev, and in 1948 he was elected a member of the Ukrainian Academy of Sciences. During his time as Director of the Institute of Mathematics, research on mathematical physics, the theory of non-linear vibrations, mechanics, and computer technology was extensively developed at the Institute. Later, working in Moscow, he maintained his scientific ties with his Kiev students and colleagues, and systematically came to Kiev for scientific consultations; from 1956 to 1964, on a voluntary basis, he ran the Department of General Mechanics at the Institute of Mathematics of the Ukrainian Academy of Sciences.

In 1958 he became the Head of the Department of Mechanics at Moscow State University and took an active part in organizing the new Institute of Mechanics at Moscow State University; in 1959 he was appointed its first Director.

An important period of his life and activity involved his brain child – the Institute for Problems in Mechanics of the Russian Academy of Sciences, which he headed from the day it was founded (1964) until 1990. Under his supervision, the institute became the leading scientific centre in Russia in the field of mechanics.

For over 40 years he was a member of the editorial board of the journal *Prikladnaya Matematika in Mekhanika*, and also the Chief Editor of the journal *Izvestiya RAN. Mekhanika Tverdogo Tela*, and a member of the editorial board of a number of scientific journals and publications.

His scientific, organizational, pedagogical, and public activity was highly valued by his country. Along with the title of Hero of Socialist Labour, he was a winner of the Lenin Prize, the State Prize, the Russian Prize, and a number of nominal prizes, and was awarded orders and medals, including three Orders of Lenin, an Order of the October Revolution, and the Order of the Red Banner of Labour.

He was the first President of the All-Union Council of Scientific and Technical Societies, and Honorary President of the Russian Engineering Academy. He also commanded great respect and authority outside his country, and was elected a foreign member of the Polish and Czech Academies of Sciences, Engineering Academies in Great Britain and Mexico, and President of the World Federation of Engineering Organization.

He was in the thick of events in his scientific and public life, and was an active participant in all of them. He had a sharpness of mind, a competence, a correctness, a benevolence, and a keen intellect, and from this stemmed his extraordinary intuition, depth of judgement, and sober assessment of people. He was a steadfast, fearless person. With him has passed an entire epoch of the development of Russian science, and an empty place has been left in the hearts of those who knew him well.

If a man is a scientist by calling, and not by some confluence of circumstances, then he will stick to his cause no matter what. The truth of his thought, once expressed by him himself, was demonstrated by his entire life as a scientist and a man.

May his memory be blessed.

Translated by P.S.C.