MIKHAIL DMITRIEVICH MILLIONSHCHIKOV

(ON HIS SIXTIETH BIRTHDAY)

On January 16, 1973, was the 60th birthday of Academician Mikhail Dmitrievich Millionshchikov, the prominent scientist and twice recipient of the Lenin Prize and Hero of Soviet Labor.

The scientific activity of M. D. Millionshchikov began 40 years ago, when as a graduate of the Groznyy Petroleum Institute he became teacher at the same Institute. After having completed his fellowship at the Moscow Institute of Aviation, Millionshchikov worked there as lecturer till 1943. In 1944 he transferred to the Institute of Mechanics at the Academy of Sciences of the USSR, and in 1949 to the I. V. Kurchatov Institute of Atomic Energy as Vice-Director.

In 1953 M. D. Millionshchikov was elected to the Academy of Sciences of the USSR as Corresponding Member and in 1962 he became Academician in the Department of Technical Sciences.

The numerous research projects undertaken by Mikhail Dmitrievich in various areas of continuous-media mechanics have brought him well deserved recognition in the Soviet Union and in other countries as well. His work on the degeneration of isotropic turbulence serves as the basis in modern research in the entire area of turbulence. The well-known "Millionshchikov hypothesis" is now included in any monograph or textbook on turbulence. This hypothesis that the fourth semiinvariants are equal to zero was proposed by Millionshchikov in his article "On the theory of homogeneous isotropic turbulence" in the Doklady Akademii Nauk SSSR (1941). It became the basis of a more general hypothesis that the higher-order velocity semiinvariants vanish, from which a sequence of increasingly complex methods of closure could be derived for a more accurate description of the development of a turbulent flow field. Almost every analysis of turbulent flow in continuous media starts out with the "Millionshchikov hypothesis." His method of calculating turbulent flow through circular pipes with smooth or rough walls has subsequently been proved out experimentally. Quite recently he has extended this method to the case of flow with heat transfer. His paper "On turbulent transfer" was presented at the Fourth All-Union Conference on Heat and Mass Transfer and aroused tremendous interest among all other participants.

Millionshchikov's achievements in the theory of filtration and in applied gas dynamics have also received universal recognition. In the theory of filtration he has worked out problems related to the operation

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of oil wells, in applied gas dynamics he did reserach on gas ejectors. Under his guidance, a theory has been developed concerning the partition of multicomponent isotope mixtures in cascaded multistage apparatus. The distinguishing feature of M. D. Millionshchikov's creativity is his striving toward broadest generalizations, formulating scientific problems in the most general terms; his mathematical analysis is brilliant and his problem solving is intimately related to real life situations.

M. D. Millionshchikov is an excellent teacher and science adviser. He generously shares his knowledge and experience with the young generation of scientists, he makes his associates pay attention to the most urgent problems the solution of which will open new prospects in the major fields of science and engineering – he skillfully mobilizes their efforts toward such goals.

His inexhaustible energy allows Mikhail Dmitrievich to combine intensive scientific efforts with a fruitful activity as teacher at the Moscow State University and at the Moscow Institute of Physics and Engineering.

M. D. Millionshchikov is not only an outstanding Soviet scientist but also an able science administrator, prominent in Societies and governmental activity. Having been appointed Vice-President of the Academy of Sciences of the USSR in 1962, he carries out tremendous scientific-administrative tasks.

M. D. Millionshchikov is always concerned about the development of science in various Soviet republics. His helpful personal attention has benefitted scientists in Belorussia as well. During the Institute's Conference on Heat and Mass Transfer organized by the Academy of Sciences of the Belorussian SSR, he made several valuable recommendations concerning the most effective ways to expand the Institute.

M. D. Millionshchikov heads the editorial boards of the journals Atomnaya Énergiya and Vestnik Akademii Nauk SSSR. Since 1967 Academician M. D. Millionshchikov presides over the Supreme Council of the Russian Federation. His many years of fruitful activity in the international Pugwash movement of scientists for peace and detente have made the name Millionshchikov known in the progressive world community.

On April 27, 1967, Academician M. D. Millionshchikov was named Hero of Socialist Labor for his outstanding achievements in the fields of mechanics, nuclear physics, and nuclear energy, for his creative scientific-administrative activity, and for his great contribution to the training of highly qualified scientific cadres. M. D. Millionshchikov has also received high-degree state awards: three Lenin Orders, Red Star Labor, other orders and medals. He was twice the recipient of the State Prize and the Lenin Prize.

M. D. Millionshchikov is honorary member of the American Academy of Arts and Sciences since 1968, he is foreign member of the Academy of Sciences of the German Democratic Republic, he is recipient of the Gold Medal of Red Star Labor of the Hungarian People's Republic and of the Gold Medal of the Czechoslovak Academy of Sciences – all attesting to the international renown of his scientific achievements.

Mikhail Dmitrievich Millionshchikov's entire life is an example of unrelenting service to his country. We sincerely congratulate him on his 60th birthday and wish him further scientific accomplishments as well as further fruitful societal and governmental activity for the welfare of our great Fatherland!