NIKOLAI IVANOVICH SYROMYATNIKOV

(ON HIS 60th BIRTHDAY)

B. I. Kitaev, A. S. Nevskii,
V. P. Skripov, and V. M. Baboshin

December 9, 1974 marked the 60th birthday of Professor Nikolai Ivanovich Syromyatnikov, an eminent Soviet scholar and thermophysicist.

The working activity of Nikolai Ivanovich has been continuously connected with the S. M. Kirov Ural Order of the Red Banner of Labor Polytechnic Institute (Sverdlovsk), where he travelled the path from student to professor, department head, and director of scientific work.

In 1940 he graduated from the Ural Industrial Institute and became a graduate student. The Great Patriotic War interrupted N. I. Syromyatnikov's scientific activity. He was in a series of active armies from 1942 to the end of the war. He was wounded three times. For bravery and heroism at fronts of the Patriotic war Nikolai Ivanovich Syromyatnikov was awarded the high title of Hero of the Soviet Union (1943) and many orders and medals.

After demobilization N. I. Syromyatnikov finished his graduate work at the Ural Polytechnic Institute. He defended his candidate's dissertation in 1949 and his doctoral dissertation in 1956. From 1960 to the present Nikolai Ivanovich has headed the Department of Theoretical Thermophysics.

N. I. Syromyatnikov is one of the pioneers of work devoted to the study of processes of heat and mass exchange in dispersed systems (a medium and solid particles).

The book Processes in a Boiling Layer, which immediately became popular, was published in 1959. This was the first work in the Soviet Union in which questions of the hydrodynamics, heat exchange, and practical use in industry of a fluidized layer were generalized.

N. I. Syromyatnikov performed the most important scientific research in the following fields: the theory of the reactive motion of fuel particles; the statistical theory of the structure of a boiling layer;

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the theory and method of organization of thermal processes in vibrating dispersed media; the fundamentals of the theory and method of high-speed combustion of solid fuel in a centrifugal force field; the high-speed nonoxidation heating of a metal in a boiling and vibration-boiling layer; the high-frequency method of studying atomic reactors having a boiling layer; a means of using dust—gas media as the working substance and intermediate heat carrier in industrial apparatus, turbines, atomic energy stations, and magnetohydrodynamics.

Broad original research on heat exchange and the hydrodynamics of fluidized systems, gas combustion in them, and processes of heat and mass transfer in vibrationally moving layers and in streams of gas suspensions is presently being performed at the Ural Polytechnic Institute under the guidance of Nikolai Ivanovich, and work is being done on the thermodynamics of dispersed systems.

The results of the research performed are widely used in the design of technological and heat-exchange devices and are introduced into industrial enterprises.

In 1965 the Exhibition of Achievements of the National Economy of the USSR (VDNKh) awarded N. I. Syromyatnikov a gold medal for the development and introduction of industrial installations for the high-speed nonoxidation heating of a metal in a boiling layer. And for the introduction of his work into industry and his contribution to scientific and technical progress he was awarded the title "Excellent Worker of Socialist Competition of the RSFSR."

N. I. Syromyatnikov created the Ural Scientific School on Heat and Mass Exchange in Dispersed Media and Their Application in Industry, whose works are widely known not only in the USSR but also abroad. The awarding to N. I. Syromyatnikov in 1973 of the honorary title of Honored Scientist and Technician of the RSFSR is evidence of his great services in the area of science and technology.

Professor N. I. Syromyatnikov has written 245 original works, including four monographs, and has obtained 12 author's certificates.

Nikolai Ivanovich does great scientific-organizational and teaching work in the preparation of highly qualified scientific workers and engineers.

The scientific and teaching activity of N. I. Syromyatnikov is always combined with social work. He is a member of the Communist Party of the Soviet Union, has been elected several times as a deputy of the Sverdlovsk City Council of Workers' Deputies, and is a member of the coordinating council for the Council of Ministers of the USSR on the problem "Composite Use of Fuel." He was elected a deputy of the Supreme Soviet of the USSR. He is an honorary citizen of the city of Sverdlovsk.

The peace work of N. I. Syromyatnikov has been recognized by the government awards of the Order of Lenin and the Badge of Honor.

We heartily congratulate Nikolai Ivanovich on his 60th birthday and wish him health and further creative successes in behalf of Soviet science.

The Editorial Board of the Journal of Engineering Physics heartily congratulates Nikolai Ivanovich Syromyatnikov on his glorious anniversary and wishes him firm health and further creative successes.