

Personalia*ALEKSANDR SAVVICH PREDVOTILITEV (on his eightieth birthday)*

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ALEKSANDR Savvich Predvoditelev, corresponding member of the USSR Academy of Sciences, Doctor of Physical and Mathematical Sciences, winner of State Prize, Professor and Director of the Molecular Physics Department of the Moscow State University, celebrated his 80th birthday in December 1971.

Predvoditelev was born to a poor peasant in the village Bukrin in the former Ryazan' Province. He completed the village school, the Ryazan' secondary school, and the Physics and Mathematics Department of the Moscow University. His scientific and pedagogical activity is closely connected with the Moscow University, where he has been working since 1916, starting first as an assistant and instructor, and serving since 1930 as professor and department head. During the period from 1937 through 1946 he was the dean of the Physics department and director of the Physics Research Institute of the Moscow State University.

Predvoditelev is an outstanding Soviet physicist and initiated several original scientific trends in molecular physics, the theory of heat, physical gas dynamics, and the physics of combustion.

His work on the nature of the liquid state of matter is widely known. An original approach to the analysis of the main aspects of this problem has led him to a formulation of general relations and conclusions of practical importance concerning the thermodynamic and kinetic properties of liquids and gases.

A basic contribution was made by Predvoditelev and his students in the field of the physico-chemical principles of heterogeneous combustions, a task that required a solution to the urgent problem of intensification of combustion of coal and its gasification. This work was awarded a State Prize in 1950. He devised a special approach in the theory of homogeneous combustion, developing the well known views of V. A. Mikhel'son on the propagation of the flame front in combustible media. Great importance is attached to the work of Predvoditelev and his students on gasdynamic problems raised by rocket and space engineering. One of the main results of this work was the publication in 1957–1962 of detailed tables of gasdynamic and thermodynamic quantities for air at temperatures up to 20,000°K and pressures from 0.001 to 1000 atm.

The results of Predvoditelev's research have been published in three monographs and approximately 200 scientific articles.

No less significant is his work as the organizer and trainer of scientific staffs working successfully in many scientific and teaching institutions. These include such major institutions as the G. M. Krzhizhanovskii Power Institute, the All-union Heat Engineering Institute. Offshoots of Predvoditelev's school can be found in Lenin-grad, Odessa, Kazan', Baku, Saratov, Voronezh,



Yaroslavl', Tomsk, Tashkent, and elsewhere. One of Predvoditelev's major accomplishments is the training of highly skilled scientific cadres and young specialists. His students include many with doctor's and candidate's degrees.

Notice must be taken of Predvoditelev's incessant and fruitful activity in the field of the methodology and history of physics. He systematically publicizes the role of Soviet scientists and of Soviet science, both in the Soviet and in the foreign press, and edits many works on the history of physics.

Predvoditelev has carried out much scientific-organization and social work. During the second world war there were many mentions in the Soviet press of Predvoditelev's activities and the work done under his direction at the Physics Institute of the Moscow State

University. He did a tremendous amount of work as the chairman of the Scientific and Technical Council of the University on the construction and equipment of the new buildings in the Lenin Mountains.

Predvoditelev was elected many times to the Moscow City Council and to the Krasnopresnensk regional council of Moscow.

Predvoditelev's scientific, pedagogical, and social-organizational activity has been highly valued by the government. He was awarded an Order of Lenin, four Orders of Labor Red Banner, a Red Star Order, and many medals.

Translated by J. G. Adashko
