

Personalia

## ANATOLII BOLES LAVOVICH MLODZEEVSKII

(on his seventy-fifth birthday)

S. N. RZHEEVKIN

Usp. Fiz. Nauk 66, 145-146 (September, 1958)

A. B. Mlodzeevskii celebrated his 75th birthday on April 11, 1958. His father was Professor B. K. Mlodzeevskii of the Moscow University, a great mathematician famous as a lecturer. An uncle of his was also a professor at the Moscow University.

Mlodzeevskii began his scientific work while still a student, in the laboratory of the renowned physicist P. N. Lebedev. His first scientific work, a highly refined experiment, led to the proof that the velocity of sound is constant in air at all frequencies up to ultrasonic.

During the 55 years of his scientific and pedagogical activity, Mlodzeevskii made many original scientific investigations in various branches of physics.

Mlodzeevskii's principal field of scientific research was geometric thermodynamics, i.e., the thermodynamic basis of one of the most important branches in physico-chemical analysis, namely the study of the diagrams of state of systems in equilibrium. This study began with Gibbs's researches at the end of the 19th century.

Mlodzeevskii adapted creatively the ideas of the originator of the theory of the equilibrium of heterogeneous systems (Gibbs) and of the founder of physical-chemical analysis (N. S. Kurnakov). His extensive original and profound research on the most important problems of geometric thermodynamics has greatly enriched this science.

Mlodzeevskii made an exhaustive analysis of the basic problem of the shape of the thermodynamic potential curve of a binary system in which a chemical compound is formed. This analysis resulted in his theory of the singular points on the melting curve. This theory provided a thermodynamic foundation for the experiments of N. S. Kurnakov and his school. Particularly important is Mlodzeevskii's investigation of the shapes of the melting curves of chemical compounds that form solid solutions with their components. One of these very interesting investigations concerned the thermodynamic surfaces of single-component systems, in which he established the connection between the four characteristic functions — the total energy, the



free energy, the enthalpy, and the thermodynamic potential — using a brilliant application of “contact transformations.”

After encountering in his experimental work an exceedingly complicated and previously unobserved phenomenon, namely the existence of liquid crystals with two dissociation temperatures (upper and lower) in the ketyl alcohol-chloresterin system, Mlodzeevskii succeeded in finding a correct interpretation of these phenomena through his deep insight into the theory of phase equilibrium.

Mlodzeevskii has been engaged for several decades in extensive fruitful pedagogical work in higher institutions of learning. His profound scientific erudition and inherited talent as a brilliant lecturer place him in the forefront among the professors of the Moscow University. He always delivers his

lecture material clearly and concisely and accompanies it with brilliant demonstrations. His lectures are always very popular among the students. During his career at the University Mlodzeevskii devised more than 200 new demonstrations in physics, of which more than 100 were original.

During his many years at the University and other higher institutions of learning, Mlodzeevskii lectured on general physics, electrodynamics, thermodynamics, physics of metals, phase theory, crystal optics, vector analysis, procedures of physics, and others. He wrote many texts of university level, including "Molecular Physics," "Thermodynamics," and "Phase Theory." Particularly noteworthy is the college text he edited for instructors, "Lecture Demonstrations in Physics," in eight volumes, four of which were written by him personally.

Mlodzeevskii's scientific-social activities began even before the October revolution. He participated actively in the organization of the publicly-endowed library of the Moscow Physical Society. This library played a very important role during the period when the Moscow physicists, headed by P. N. Lebedev, struck at the Moscow University in protest against the reactionary politics of the Tsarist Minister Kasso. During the first imperial war, Mlodzeevskii actively organized x-ray divisions in hospitals. After the October revolution, he engaged constantly in various social activities at the Physics Faculty and in the House of Scien-

tists. He delivers annual lecture-demonstrations for students and teachers in secondary schools.

A. B. Mlodzeevskii is a man of high culture and inexhaustible energy. In him we have a foremost scientist, working without fatigue in the field of urgent scientific problems, and a brilliant pedagogue and professor, giving more and more of his knowledge and experience to the younger generation.

For the many years of selfless work for the benefit of the Fatherland, Mlodzeevskii was awarded the Order of Lenin and medal "for valor in work."

On April 23 a celebration was held at the physics faculty of the Moscow University in honor of the famous hero of the day. Mlodzeevskii gave a summary report of his activities and showed many beautiful lecture demonstrations. The Ministry of Higher Education, the Administration of the Moscow State University, and the Administration of the Physics Faculty congratulated the guest of honor and thanked him for his many years of fruitful scientific-pedagogical activity. The attending representatives of many organizations, his co-workers, and his friends warmly congratulated Mlodzeevskii and wished him vigor and health, that he continue to follow with his customary energy the fruitful scientific and pedagogical activity for the benefit of our great Fatherland.

Translated by J. G. Adashko