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Vladimir N. Bolshakov

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On the 275th Anniversary of the Russian Academy of Sciences

This issue is devoted to the 275th anniversary of the Russian Academy of Sciences. Established by order of Peter the Great, it was a result of economic reforms in Russia and was a reflection of all the progressive changes in that period. Since the foundation of the Academy, prominent European scholars were involved in its activities. Regarding biologists, we may name P.S. Pallas, S. Gmelin, and K.F. Wolf; the scientific genius of M.V. Lomonosov was universally acclaimed. The Cabinet of Curiosities set up by Peter the Great became the basis for the Zoological Museum, and the Chemist's Garden gave birth to the Botanical Institute.

Studying the history of Russian science, V.I. Vernadsky noted that it had been developing continuously, sometimes spontaneously, despite all the difficulties and obstacles posed by the historical conditions. The development of scientific ideas in Russia, as well as in the entire world, was not a simple, monotonic process. The Academy has survived periods of flourishing and collapse, and an obvious regress of scientific thinking is characteristic of some periods. It was neither traditions nor continuity that maintained the permanent research activity. Rather, there were fresh shoots of scientific thought and the drive of prominent, outstanding persons who stood in place of those who had gone. In the 18th and 19th centuries, the Academy of Sciences played a noticeable role in social life; we may follow its history by the names of talented scholars whose ideas and developments contributed to the progress of science in Russia and became an integral part of world science.

An invaluable contribution to biology was made by K. Baer and A.O. Kovalevskii, founders of embryology; K.A. Timiryazev, who dramatically improved the theory of photosynthesis; A.N. Severtsov and I.I. Schmal'hausen, who set up the basis of the evolutionary morphology of animals; and many others. Works by V.I. Vernadsky, the author of the concept of biosphere, and V.N. Sukachev, the founder of biogeocenology, were of special scientific and conceptual importance. Their works are notable for the fact that they still serve as sources of new ideas and help to acquire new knowledge.

In the 20th century, science became, according to Vernadsky, "a planetary factor." The concept of ecology becomes increasingly more important in terms of both the biosphere and the human society, with all the multiplicity of mutually intervening relationships. The eco-

logical field of research was dramatically developed by Academician S.S. Shvarts, a prominent ecologist who founded the journal *Ekologiya* (Russian Journal of Ecology). He has not lived to see his 80th anniversary, which will be celebrated on April 1, 1999. S.S. Shvarts also set up the first academician Institute of Plant and Animal Ecology, the first ecological institute in our country. He and his followers largely contributed to the development of theoretical ecological problems, such as mechanisms of evolutionary processes, patterns of substance and energy migration in the biosphere, and structural and organizational changes in populations of living organisms. Shvarts always emphasized the importance of the strategy of implementing the theoretical ecological conclusions of ecology in practice.

In this connection, it will be interesting to go over the editorial of the first issue of our journal (1970):

"When determining the main fields of research, ecologists face a curious problem. The point is that a strict definition of ecology is still lacking. This inevitably results in theoretical and practical difficulties. There are still controversies as to what ecology is, whether it should be regarded as a single science or plant and animal ecologies are independent disciplines, and whether biocenology is a part of ecology or it is a separate scientific field. It is not by mere chance that, presently, handbooks on ecology based on fundamentally different principles appear almost simultaneously. Some of them regard ecology as modern natural history; some others, as a kind of modernized A. Brehm; some as a concept of the structure of nature in which individual species are considered mere tools for substance and energy transformation in biological systems; some as a science of populations, etc. The final solution of these questions is still to be achieved; however, we believe it necessary to determine our own attitude to the general objectives and prospects of ecology. None of the aforementioned definitions contradicts the main idea that ecology is the science dealing with laws of animal and plant life in the natural environment, while taking into account anthropogenic factors.

Currently, the Editorial Board of the *Russian Journal of Ecology* considers its main task to be publication of the theoretical and experimental studies that are of fundamental importance and thereby favor higher standards of special research."

Academician V.N. Bol'shakov,
Editor-in-Chief, *Russian Journal of Ecology*