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THE SCIENTIFIC SCHOOL OF BARANSKY—KOLOSOVSKY AND ITS ROLE IN THE DEVELOPMENT OF SOVIET GEOGRAPHY

The term of “scientific school” is commonly applied to a trend in science that is characterized by the unity of the basic methodological views, the entirety and succession in the principles and methods of research.

Before examining the scientific school of Baransky—Kolosovsky and showing its role in the development of Soviet geography, it is necessary to formulate briefly the basic criteria of a scientific school in general. We counted ten such criteria; probably some new ones may be added:

1. A scientific school, as a rule, is deeply rooted in the history of the given science. When “scientific schools” grow like mushrooms before our very eyes, this is not quite justified. Scientific schools do not appear without a history, as a rule, and an appreciation of the history and its thorough analysis are characteristic of the genuine scientific school.

2. A scientific school is connected with the revolution in a given science, with sharp turns in its history, with new, very important conceptions which appear in its historical course. Usually, these sharp turns and new conceptions are closely associated with social revolutions and the new stages of social development.

3. A scientific school is progressive, it leads forward, upholding advanced views, opposing reactionary ideas and convictions. Not a single really scientific school besmirch itself by supporting, for instance, the Malthusian, geopolitical and other reactionary ideas. The true scientific school is based on progressive philosophical positions and it examines reactionary philosophical ideas critically.

4. A scientific school is connected with life, with the requirements of society, the needs of people, the demands of national economy, taking into consideration their changes in the perspective.

5. The combination of scientists’ collective work with the promotion of outstanding leaders, capable of generalizing fruitful original ideas is a characteristic feature

of a scientific school which allows to create, on this basis, a firm "theoretical foundation" ensuring the crash development of a given scientific trend for many years. Baransky and Kolosovsky, with whom this paper is concerned, possessed, for example, immense strength of thought, will, energy, culture, great conviction, invincible devotion to their Motherland and science, intrepidity in posing new scientific and practical tasks.

6. A scientific school is a "tree" with many "branches", which give new "sprouts" all the time. As a rule, the growth of such a "tree" is connected with training young specialists, and is peculiar to the professors of the higher school. It is no coincidence, for instance, that Baransky and Kolosovsky began to form their school at the Moscow University, and only later its new "shoots" appeared at the Institutes of the Gosplan of the USSR and the RSFSR, the Institutes of the USSR Academy of Sciences, including the Siberian Branch, at numerous universities and other higher educational institutions, projecting organizations, and so on.

7. A scientific school is in its own way, a "nursery of talents" and not only bright but also independent ones. Talents that do not repeat their teachers' achievements but are capable of developing their own ideas, discarding those that are out dated. The concentration of outstanding scientists of all generations, including the youngest one, proves the significance and vital power of a scientific school.

8. A scientific school is distinguished by the definite style of activity, the "climate" of its collective. The historian, N. I. Rodny, points out the following major features in the style of those scientific schools where original investigators and innovators in science are trained: "democratism of creative work, absolute absence of the 'table of ranks' in their scientific work, the recognition of the strength and originality of the scientific worker's thought being the decisive value, not his official status; the spirit of partnership in solving problems, in seeking truth; supporting daring initiative; respect for criticism, training the ability towards self-criticism"¹. That is why the school does not spread "by correspondance": one should personally feel its style by working together with the founders of the school or their immediate pupils.

9. The struggle of the scientific school against other trends, against chance people in science, careerists, and other opponents of the given school is also characteristic. This struggle sometimes lasts a long time and embraces several generations. As we shall see, the Baransky—Kolosovsky scientific school struggled for their trend and this struggle is still continuing at the present time.

10. A scientific school is conceived as a national school, but then any genuine school gains international recognition as a collective, as a "tree" with many "branches". There exist lots of "halfbaked" schools but among them one can find only a few which have international significance. However, the international significance of a scientific school is one of the most important criteria of its appreciation and recognition.

¹ N. I. Rodny, *Essays on the History and Methodology of Natural Science*, Nauka, Moscow 1975, p. 415.

Thus, major scientific schools are formed, as a rule, at the “turning” stages in the development of science and society, when the need arises for a change in the stable trends of the scientific activity established earlier. The Soviet economic-geographical school of N. N. Baransky (1881-1963)—N. N. Kolosovsky (1891-1954) was formed during the period of the fundamental reconstruction in the social life and the economic activity of Russia brought about by the October Revolution. This was due to the fact that the socialist Revolution was not only the great turning-point in the social structure of millions, but also a strong smithy of new ideas. The revolutionary epoch was distinguished by the greatest force of creation—the growth and development of a new type of state, the establishment and strengthening of new production relations, the reconstruction and revaluation of all the branches of social science on the basis of the world outlook of the most progressive class in society—the working class—which had taken the power firmly into its hands for the first time. The reorganizing genius of V. I. Lenin left a strong mark on every undertaking which could promote the strengthening positions of the arising socialist society. The establishment and development of the N. N. Baransky and N. N. Kolosovsky scientific school is closely connected with the scientific heritage of V. I. Lenin, with his dialectico-materialist approach to the complicated problems of science. V. I. Lenin’s plan for the building of socialism on the basis of the electrification of the whole country and for its accelerated scientific-technological progress served as the basic initial point for the formation of this school. Of particularly great importance were V. I. Lenin’s ideas on the need for the rational distribution of industry in Russia and his instructions concerning the economic regionalization of Russia.

The immense-scale work that developed in the early 1920s to fulfil the plan for the electrification and economic regionalization of the country produced a great volume of factual and theoretical material to be tackled by different branches of science first of all, by economic geography.

The reconstruction of geography as a science on the grounds of these basic ideas is connected mainly with the name of N. N. Baransky—an outstanding scientist and professional revolutionary of the Leninist school, who first introduced the course of economic geography into the system of the Communist universities then being created. In the 1920s he organized the department of economic geography in the famous “Sverdlovka”—the smithy of Party and Soviet workers, where V. I. Lenin, M. I. Kalinin, E. M. Yaroslavsky, A. S. Bubnov, and other great statesmen delivered lectures. It was the department of economic geography in “Sverdlovka” headed by N. N. Baransky, that became the ancestor of the reconstructions in economic geography.

N. N. Baransky skilfully applied the new ideas of economic regionalization to the theory of economic geography, to the teaching of it in secondary and higher schools, and, through scientific research at academic and university levels, to forecasting the territorial organization of productive forces. Baransky was the first Soviet scientist to show clearly that the chief objective of economic geography as a science was a system of economic regions linked by the territorial division of labour peculiar to them. This science began studying the combinations, correlations

and interactions between branches of economy over a certain territory. As opposed to the view dominant at that time that economic geography studies the state of the branches of economy in their geographical distribution ("placing conception"), and serves only as a supplement to economic history, being part of the cycle of economic sciences, Baransky developed the idea of an independent material objective of economic geography, *viz* territorial combinations (complexes) of productive forces in their unity with the environmental conditions and natural resources and with a specific historical mode of social production. That was a revolution in the science. The old scientific discipline acquired a new basis and a new content. From the definition given by Baransky, a close relationship logically ensued between economic geography and physical geography, which studies the laws of the natural environment development, and also cartography, which represents by specific methods the natural environment, and the distribution of population and economy on the earth's surface. Thus, N. N. Baransky introduced economic geography into the cycle of geographical sciences, asserting its independence and its specific objectives and regularities. Genetically, Baransky's conception in Russian geography is closely associated with the scientific heritage of K. I. Arsenyev, N. P. Ogarev and P. P. Semenov-Tyan-Skansky.

The new view on the content of economic geography, its structure, methods, and connection with other sciences, was naturally not instilled into science quietly, like everything new, but in great struggle with the obsolescent metaphysical conceptions of the placing trend, strongly expressed in the pre-revolutionary stage in the works by A. F. Fortunatov, V. A. Den and other representatives of the bourgeois economic geography in Russia. In the early 1930s, under the conditions of the personality cult, the adherents and supporters of the old placing conception, under the cover of the new phraseology, strongly criticized Baransky, attempting to separate economic geography from the system of geographical sciences and to give it back its old content, true in a new form, determining it as political economy "in concreto".

Such policy could strongly undermine the general educational, cultural, and scientific significance of economic geography, lead it away from the specific objectives in studying the systems of economic districts peculiar to it with the purpose of their planned, scientifically grounded reconstruction. This attack against the economic-geographical science was especially dangerous because the new transformational trend, which had the economic district in the centre of its attention, was only being formed and determined. "Under such circumstances, an 'unimportant' at first sight mistake may cause regrettable results", V. I. Lenin wrote, "and only short-sighted people can find fractional debates and strict differentiation of nuances inopportune and unnecessary"². Baransky, like a true Marxist-Leninist, understood that the future of the science, its fate, and success in the world arena depended on the establishment of this or that "nuance". He accepted the challenge and, in keen scientific debate, he took away the veil of political sophisms from his opponents, thus unmasking the true roots of the "new prophets" who were trying to return into the lap of old metaphysical notions of the bourgeois geography. He called this trend "Den's

² V. I. Lenin, *The Complete Works*, Moscow, v. 6, p. 24.

political deviation”, thus exposing the relationship with the trend which knew nothing but the distribution of branches on territory; he defined this trend as the “leftist deviation” in science. As a result of this debate, the word “leftist” in economic-geographical literature became the synonym of scientific failure, as a reminder of how N. N. Baransky, with his strength of logic, discrowned his opponents. The defeat of the leftist positions by Baransky was very meaningful for the development of all branches of Soviet geography, as L. S. Berg, A. A. Borzov, B. B. Polynov, and other great geographers have said many times. Since this discussion the concealed and evident supporters of the leftist deviation have not played great roles in economic geography, but returns of this trend at different times and with different force have taken place and still appear up to now³. This compels us to pay particular attention to their criticism from the theoretical view points created by N. N. Baransky.

Putting aside the scientific autarchism of the leftists, Baransky acquainted Soviet geographers with the best examples of the world geographical science, expressed in the works of the bourgeois foreign geographers, such as A. Veber, A. Hettner, H. Baulig, P. Gourou, E. Romer, P. James, and others. He gave their works a deeply critical evaluation emphasizing that the “task consists not in passing by, but in overcoming”⁴.

Contrary to the conception of A. Hettner and some other Western scientists, Baransky, introduced the historical method into geography. At the same time he justly believed that the essence of geography consists in investigating the spatial regularities together with the peculiarities of the historical development, that the spatial aspect determines the specificity of economic geography. Baransky considered territorial social division of labour to be the main process in economic geography; this process unites intrinsically the historical and the spatial aspects. He advanced the idea of the economic-geographical situation, and introduced this concept into science. It was raised by his scientific works and the works of his pupils as the most important category of economic geography. During his long creative life, Baransky made a great contribution to all the branches of economic, political and general geography, and to economic cartography, and established the basis for creating a new scientific school.

The American geographer Preston James justly said about Baransky: “For the development of geography in the Soviet Union Baransky was the right man, in the right place, at the right time”⁵.

N. N. Kolosovsky was a gifted engineer, one of the authors of the projects for the Ural-Kuznetsk, Angaro-Cheremkhovo, and other complexes. He gave a constructive character to the study of economic districts by the complex projected works. Fully sharing Baransky’s methodological views on economic geography, Kolosovsky was the first in this science to analyse the spatial multiformity of the existing industries from the standpoints of the links between the individual stages of production:

³ See, e.g. in *Methodological Questions of Economic Geography*, Moscow 1962.

⁴ A. Hettner, *Geography, its History, Essence and Methods*, Leningrad-Moscow 1930, p. 5 (Foreword of Editor).

⁵ Preston E. James, *All Possible Worlds. A History of Geographical Ideas*, New York 1972, p. 293.

he considered production processes according to their interdependencies on the basis of combining the leading types of power and raw materials. Kolosovsky worked out the theory of power-production cycles (chains) in industries, and distinguished their basic specific types. In considering the territorial combinations of the given power-production cycles, he introduced the concept of the territorial-production complex (TPC), treating it as the economic basis for an economic region.

Kolosovsky deepened and extended Baransky's teaching about the economic region. And as early as the beginning of the 1940s, he initiated the introduction of mathematical methods into economic geography, calling upon geographers to model the production processes that take place in the territorial-production complexes. Encouraged by Baransky, he devoted much effort to the qualitative transition of economic geography to the course of strict and accurate scientific experiments. Priority belongs by right to Kolosovsky as the founder of the scientifically integral general geographical conception of the complex expedition; it was he who first posed the question about the third type of regionalization, the natural environment, which differs from the physical-geographical environment. The necessity for such regionalization increases yearly in connection with the urgency of environmental problems.

N. N. Kolosovsky made a valuable contribution to the theory of geographical forecasting as witnessed by his correct prognoses in questions regarding the territorial organization of productive forces in East Siberia.

The new trend in the theory of economic geography, worked out by Kolosovsky together with Baransky and other scientific workers at the department of economic geography of the Moscow University, was subjected to serious practical testing during the planning of territorial-production complexes in different parts of the country. The creative collaboration between these two outstanding scientists laid the foundation for the most powerful scientific school in Soviet geography, distinguished by the unity of methodology, by a definite uniformity of approach for the solution of economic-geographical problems both in methods and practice.

Traditionally, the study of territorial systems of production focuses attention of the Baransky—Kolosovsky school. That is why it is often called the regional school in Soviet economic geography. This school produced a great deal of scientific literature on the study of countries, economic districts, industrial districts and centres, agricultural areas, according to the systems of placing and transport and, recently, according to the territorial systems in the service sphere. The apportionment of such systems, that is, regionalization, the establishment of their structures, the study of genesis and dynamic, formed the "soul" of this scientific school. The following are inherent to this school: the historical method, the examination of systems in the process of territorial social division of labour in the light of the determining influence of the social production type on their development, definite social-economic formations. Peculiar to the whole school is the integral relationship of the investigated territorial social-economic systems with the geographical environment, the inclusion of natural resources and processes used by the production into these systems as the natural basis for the material-technical foundation of social-economic systems. And, finally, the Baransky—Kolosovsky school stands out for its constructivity, for

the examination of systems with regard for their perspectives, for putting to the forefront problems of their development, and the scientific substantiation of solutions and proposals on the territorial organization of placing production, and the non-productive sphere.

The basic principles underlying the scientific trend of the Baransky—Kolosovsky school can be formulated as follows: territoriality, complexity, historicity, and constructivity. Later, in considering the economic-geographical phenomena, the economic region began to be regarded as a system yielding to mathematical treatment and to modelling, which fact secures the accurate forecast of economic processes.

The chief distinction of the Baransky—Kolosovsky scientific school in Soviet geography is to regard economic geography as a force capable of aiding people to transform life and production in their aspiration for a better future, rather than as a source for the mere interpretation of phenomena.