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## Russian economic thought on agricultural issues<sup>1</sup>

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**Abstract.** The author of this article, the remarkable Russian economist Nikolai Makarov (1886–1980), is one of the brightest representatives of Chayanov's organization-production school, who had a long and dramatic life. After graduating from the Faculty of Economics of the Moscow University, he conducted economic-statistical studies of the Russian peasantry and cooperation, and taught a number of agrarian-economic disciplines at the universities of Moscow and Voronezh. Makarov took an active part in the preparation of agrarian reforms during the 1917 Revolution. During the Civil War, he emigrated to the United States and wrote books about American agriculture. In 1924, at the invitation of Alexander Chayanov, Makarov returned to Soviet Russia — as a well-known professor and influential expert in the comparative studies of rural development in various regions of the world<sup>2</sup>. The fruitful scientific work of Makarov and his colleagues from the organization-production school was stopped in 1930 — when Stalin accused Chayanov and Makarov of sabotaging collectivization and preparing a counter-revolutionary coup in the USSR. Makarov spent several years in prison, and in the mid-1930s, he was sent to work as an economist at the state farms of the Black-Earth region. In the late 1940s, he was allowed to return to research and teaching, and in old age, he published a number of books on the Soviet agricultural economy.

The article presents the emigrant period of Makarov's life, when he collaborated with the editorial board of the *Peasant Russia* journal published in Czechoslovakia in the 1920s. Makarov conducts a political-economic analysis of the main issues and topics in the Russian agrarian thought of the late 19th — early 20th centuries. First, he describes the features of the Narodnik and Marxist theoretical-methodological approaches to the study of the Russian rural evolution. Then, in the spirit of the Chayanov school, Makarov looks for a fruitful compromise between these two ideologies. He notes the

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1. Макаров Н. П. (1923). Русская экономическая мысль в вопросах сельского хозяйства // Крестьянская Россия. Прага. Т. 4. С. 24-45.  
Reprinted in: *Historical-Economic Almanac*. Ed.-comp. by D. N. Platonov. Issue 2. Moscow: Academic Project; Gaudeamus, 2007. Pp. 422–456.
2. See, e.g.: Makarov N. P. (2019). At the great crossroads. The comparative analysis of the evolution of agriculture in China, the United States of North America, the USSR, and Western Europe. *Russian Peasant Studies*, vol. 4, no 1, pp. 6-21.

important impact on Russian agrarians of the international, primarily German, studies of the agricultural organization and evolution. The final sections of the article explain Makarov's original classifications and typologies of the forms and directions of the agricultural evolution. Today, a hundred years later, this Makarov's work helps us to better understand the debatable roots of the Russian and global agrarian ideologies in the early 20th century.

*Key words:* agrarian question, Narodniks, Marxists, differentiation of peasantry, agricultural evolution

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There are two main directions in the works and development of the Russian economic thought in the field of agriculture: the first direction focuses on social relations within agriculture; the second direction — on the organization of agriculture.

In the Russian economic thought, two directions have developed — social-economic and organization-production. The first direction considers primarily the issues of distribution and social-economic relations that develop on the basis of the appropriation of national income; the second direction emphasizes the issues of production in order to identify the principles of a reasonable organization of production.

The first direction developed earlier and enjoyed great attention and influence in the Russian educated society. The works of this direction and the wide interest in it were stimulated by the struggle of sentiments and ideologies of Slavophiles and Westerners, *narodniks* and Marxists, and by the ongoing social-political struggle in Russia.

The second direction developed later and received less attention of the wider public. It develops together with the Russian peasant economy which shows some signs of significant progress; it developed together with the social and state agronomy in Russia, and later with the agricultural cooperation. The works of the organization-production direction were stimulated by the technical-practical interest in agriculture, primarily in the peasant economy; this direction was nourished by the desire to help the peasant economy rationalize its production and to improve its market conditions. The most general and abstract questions posed and studied by the economic thought of the second direction were to finally ensure the success of these practical tasks.

The article aims at outlining the main features of the Russian economic thought of both directions in the formulation and solution of the questions on the evolution of agriculture and on the most important content of the challenges that agriculture faces in its development.

## **1. The study of social relations in agriculture**

In the first period of the study of the rural social life, which started with the liberation of peasants from serfdom and continued until

the late 1880s, researchers focused on the question whether the village was poor or rich after the reform of 1861. Most researchers decided that the village was impoverished. The features of the land allotment to peasants, taxes and payments, land rent and state policy, etc., were considered as factors of the impoverishment of the Russian countryside.

Sometimes researchers studied life inside the village and found many 'poor' peasants and a few 'rich' ones. In such cases, researchers were interested not so much in social relations between the 'poor' and the 'rich' as in revealing the very fact of poverty or wealth and their quantitative measurements. Pessimism prevailed in both research approaches and results.

Only some aspects of the Russian rural life were considered optimistically, although due to the social philosophy of researchers rather than to the facts of life. Such optimism was determined by the Slavophile sentiments that were previously so strong in the aristocratic strata of the Russian intelligentsia: when searching for the true Slavic and true Russian features, Slavophiles 'discovered' the peasant land community that owned land and 12–15 years later redistributed it among its members. Members of the peasant community used arable and hay lands individually, while other lands (pasture, forest, etc.) were shared. The egalitarian land community was considered by Slavophiles as an inborn feature of the Russian people.

This attitude towards the peasant community remained in later generations of the Russian intelligentsia. The *narodnik* direction of the Russian thought argued that 'social truth is created in the peasant community'. When socialist sentiments intensified among the intelligentsia, it announced that the country would pass to socialism without the horrors of the Western-European capitalism, without 'boiling down in the pot of capitalism' — the peasant community with its justice and egalitarian land redistribution would lead the country directly to the socialist organization of society. When such an attitude towards the peasant community developed, social relations in the countryside became of particular interest, acuteness, and philosophical meaning.

In the 1890s, Marxist ideas entered Russia, deeply influenced the wider intelligentsia and quickly won positions with economists — researchers of the countryside. One of the central Marxist ideas was the idea of the class stratification of the contemporary society; Russian Marxists argued that capitalism was developing in Russia in the same way as in other countries, and that in the countryside, the peasant community was disintegrating, while a bourgeois class and a proletariat class were developing. In order to confirm their arguments, Marxists started to study proletarianization of the countryside.

The *narodnik* direction of the Russian economic thought, which originated with Slavophiles and later was reinforced by the methods and techniques of the German 'revisionists' (David and Bern-

stein), tried to prove that capitalism in Russia had little chance of success, that in the countryside, there was no growth of proletariat or bourgeoisie, but, on the contrary, the social leveling was obvious as the redistribution community was developing rather than disintegrating.

Already in the 1870s–1880s, *zemstvos* began statistical studies of peasant economies; when processing the huge statistical data, researchers got the opportunity to consider how agriculture was organized in different social groups. However, *zemstvos* had little interest in this issue and preferred to solve the riddle whether capitalization of the village was taking place.

Not only through statistical research, but also as a result of the preliminary theoretical work on the statistical data, the disputing parties began to come to increasingly similar conclusions (for example, the Marxist P. P. Maslov and the *narodnik* N. P. Oganovsky). The main conclusion was as follows: if the productivity of labor increases, the number of the well-to-do economies grows together with the general regrouping of all peasant economies on the basis of enrichment and enlargement. If the productivity of labor in agriculture declines, there is a general regrouping of all economies ‘downward’ — towards the lower social classes.

Marxists and some *narodniks* identified Russian regions with the differentiation of economies, i.e., with the growth of both extreme social groups due to the decline of the middle ones. This was usually typical for the land-rich areas with young grain farming and signs of relatively high labor productivity.

It is important to conclude by emphasizing that both disputing sides — *narodniks* and Marxists — recognized that there was no single way for the evolution of social relations: in different cases, evolution took different paths.

## 2. Types of economies and theories of the consumer economy

Under the above-described disputes about social relations in the countryside, many classifications of peasant economies were developed.

The techniques for statistical grouping of economies by social types were the most diverse and elaborate in the Russian agricultural statistics. At first simple, elementary groupings prevailed — by the number of working horses or by the area of land used by the economy. Later there were groupings by the size of the peasant family or by the number of workers in the family as an important feature for studying the labor family economy.

However, the most interesting groupings were introduced later — by the use of agricultural wage labor and by the tearing off one’s labor forces from one’s economy. These groupings allowed to identify

purely labor economies that did not use wageworkers and had sufficient income from agriculture; such economies did not have labor forces that left on seasonal, third-party earnings. Moreover, these groupings allowed to identify economies of a more capitalist type and economies of a more proletarianizing type, which did not involve all family labor forces.

Thus, the following social scale of economies was developed, which significantly resembles the well-known scale of the German agricultural economists:

I. Proletarianizing	II. Labor	III. Capitalist-labor	IV. Capitalist
Small economy. Working hands surplus. Leaving for seasonal, third-party earnings. Family consumption is partly based on the income from agriculture	Agriculture absorbs working hands of the peasant family. No or insignificant leaving on seasonal, third-party earnings. Family needs are satisfied by the income from agriculture	Agricultural needs surpass the labor force of the peasant family, but its members take part in agricultural works. Wage labor is used. The peasant economy accumulates wealth	Agriculture is so large that the economy owner acts as an organizer — the head of the economy. Most works are done by wage labor

Marxists and some other economists had as if a presupposition that the peasant economy was an acquisition economy in its spirit — it always strives to increase its income like any commercial economy; interests and needs of the family do not affect the life of the household and its motives; by striving for wealth, this economy becomes capitalist as soon as objective conditions permit.

*Narodniks* introduced a completely different interpretation of the peasant economy, which was later taken up by other agricultural economists and developed into an independent and fairly complete concept. At first, *narodniks* spoke of the labor economy in the objective perspective, i.e., they defined it as an economy in which all works were done by its family labor force. However, later they developed an understanding of the ‘consumer economy’ in almost the same sense in which in Germany W. Sombart developed the theory of the consumer craft economy for the Middle Ages. According to Sombart, ‘to live on income from one’s own hands’ was the economic motive of the medieval craftsman.

Farming as a source of income for the subsistence of the peasant family became the theoretical concept of many Russian agricultural economists, which led to a new, subjective interpretation of the peasant economy. This interpretation as if had an objective reflection in those redistributions of land within the peasant community, in which land was distributed among its members in proportion to

eaters; however, a significant share of peasant communities distributed land in proportion to work force. At the same time, researchers identified the trend that the more successful agriculture the more often land was redistributed in proportion to eaters, i.e., the consumer principle prevailed.

Thus, the consumer-labor family became the central point for understanding the peasant economy; family labor forces and consumer interests determined the life of the economy.

In the 1890s and later, statistical studies (very detailed) of incomes and expenditures of individual peasant economies developed tremendously. Economists were closely studying the consumption budget of the peasant economy; later they started to study its productivity with the budget analysis of individual economies.

As if the theoretical completion of these studies in the perspective of understanding the peasant economy as a consumer economy was the following statement (by A. V. Chayanov): the peasant economy is a consumer economy because its size, organization and labor efforts are determined by the family consumer needs. This statement was confirmed by the statistical analysis which showed that the growth of 'the worker's burden of eaters increases this worker's productivity'; and this was confirmed by the analysis of the worker's productivity in both monetary units and annual labor hours.

This dependence was tested on the Swiss (Lauer budgets) and German data and showed the same results. However, calculations on the income-expenditure data for workers' households and middle-class families (Germany) did not confirm this trend; therefore, the conclusion was made about the specific applicability of the 'consumer' understanding of the economy in agriculture. This understanding of the peasant economy as living for a 'consumptive motive' was used by many researchers.

It is hardly necessary to consider the 'consumer' and 'acquiring' interpretations as mutually exclusive; the consumer definition alone, without a description of the objective situation, is not sufficient. Only by combining this definition with the objective conditions in which the peasant economy exists as a labor economy, we get a complete picture of the 'consumer-labor economy' as an economy that provides the family labor force with enough work, does not use wage labor, and its organizational plans are determined by the family consumption motives. Such an understanding makes the consumer-labor economy one of the social types discussed above. People's needs are not only flexible but also can grow constantly; even for the peasant family, this growth does not have limits just like the incentive to expand the economy and increase its production. To a greater extent, this is a matter of objective conditions, and when such conditions exist, the accumulation of wealth overtakes the growth of needs and becomes an end in itself — the economy becomes capitalist, and in the intermediate state it is capitalist-labor. The overwhelming majority of Amer-

ican farms remain in this capitalist-labor state which is almost completely devoid of purely 'consumer' motives.

Thus, there is a synthesis of two conflicting theoretical approaches.

### **3. Systems and branches of agriculture**

Let us leave social issues aside for the moment and consider completely different issues — organizational — in order to return to social issues later.

In Russia, the theory of the organization of agriculture was largely borrowed from Germany and partly from France and England. One of the central points in this theory was the concept 'economic system'.

The system of agriculture is determined by a combination of three main factors of production: labor, capital, and land. Various quantitative combinations of these factors create different systems of agriculture; extensive systems are based on low expenditures of labor and capital per land area, while intensive systems, on the contrary, — on large expenditures of labor and capital.

Intensification of the economy leads to an increase in gross income per unit of land. If the law of the diminishing productivity of the successively increasing expenditures of a factor is true, then intensification is to be accompanied by a decrease in the productivity of labor and capital. Many agricultural economists educated in the English political economy supported the law of diminishing productivity. This abstract idea of extensive and intensive agricultural systems was applied to the specific data from the history of agriculture. Researchers used such historical data and, when analyzing it in the perspective of the ratio of labor and capital expenditures per land area, calculated the intensity of specific economies.

In the 1890s, the practical difficulty of such an analysis together with the influence of the German historical school led to a different interpretation of the agricultural system. This system is determined by its specialization, i.e., by those branches that ensure the main part of the economy's income (thus, there is grain, meat, flax, potatoes, dairy production, etc.). The entire organization of the economy is considered through its production priority; all parts of the economy are considered not as independent but, on the contrary, as subordinate to the main branch or branches on which the economy as a whole depends.

As a ratio of three factors of production, the agricultural system as if contradicts the above-mentioned definition of the economic system through its specialization. However, this dispute was resolved by a synthesis of two approaches; in Russia, this synthesis was facilitated by the works of Aeroboe, Lauer and other researchers from Germany and Switzerland, who also came close to this synthesis.



Any specialization of agriculture is an indicator of the intensity of its organization. Any part of the economy can be assessed in terms of intensity, i.e., the ratio of labor and capital expenditures per land area.

Thus, the following features can be placed in order of increasing intensity:

Agricultural lands in order of increasing intensity	Methods for restoring soil fertility	Field crops in order of increasing intensity	Individual types of animal husbandry in order of increasing intensity
1. Pastures	1. Layland	1. Grains	1. Sheep
2. Hayfields	2. Fallow land	2. Cultivated herbs	2. Young horses in herds
3. Forests	3. Manure fertilizers	3. Sunflower, corn	3. Young small cattle
4. Arable land	4. Manure fertilizers + sowing nitrogen fixers	4. Potatoes, beets, cabbage, garden crops	4. Pigs
5. Farmstead	5. Manure fertilizers + purchased chemical fertilizers + crop rotation		5. Cows

Even without a quantitative estimate of each feature but with different combinations in order of their increasing intensity, researchers can conduct an in-depth analysis of the specialization intensity of a particular agricultural system.

The territorial expanses of Russia with a huge amplitude of agricultural forms — from the nomadic pastoral life to the highly intensive gardening near the capitals — allowed to consider these issues broadly — both statistically (A. Chelintsev) and theoretically (B. Brutskus). Even statistical methods for assessing the intensity factors for agricultural systems were developed.

Russia — both European and Asian — was analyzed by regions, and each region was considered as a stage in the evolution of agriculture; the geographical change of regions as if represents a historical evolutionary change of systems. To clarify this idea, we can make a list of agricultural systems in order of increasing intensity:

- 1) Nomadic pastoral economy –
  - a) sheep breeding dominates (the most extensive)
  - b) horse breeding dominates (transitional)
  - c) beef cattle husbandry (the most intensive)
- 2) Grain-virgin or fallow-land economy with beef cattle husbandry
- 3) Grain-out-of-crop economy with beef or dairy cattle husbandry
- 4) Out-of-crop-grain economy with sheep breeding (on fallow pastures)

- 5) Out-of-crop-grain economy with pig husbandry
- 6) Grain-root-tuber-crop economy with pig husbandry
- 7) Grass-root-tuber-crop economy with pig and dairy husbandry

These seven steps are arranged in order of increasing intensity; geographically, they are stretched across Russia, starting in Asia from the depths of the Kyrgyz steppes on the border with China, passing through Siberia and stretching across the entire Black-Earth strip of European Russia to the Kiev and Podolsk Provinces inclusive.

The specific changes and features of the agricultural system are determined by many factors; however, the important thing is that these changes exist and are observed with both historical and geographical methods. If the geographical method is not abused, it provides the agronomist-researcher and political economist with many practical instructions and inspires predictions of the coming evolution of every district according to the subsequent district of a more intensive stage of agriculture.

Thus, the synthesized understanding of the agricultural evolution as another way for expressing the system and, consequently, the intensity in the organization of agriculture, provides us with a valuable methodological tool for the analysis of reality.

#### **4. Some special issues concerning agricultural systems**

When speaking of agricultural systems, we separate their extensive and intensive types. Extensive types involve a lot of land and a small amount of labor and capital. Intensive types consist of inverse quantitative combinations and can be divided into two groups: a) labor-intensive — a lot of labor, a small amount of capital and land; b) capital-intensive — a lot of capital, a small amount of labor and land.

Certainly, these three types — extensive, capital-intensive and labor-intensive — do not exhaust all basic variations; there are other combinations in which two of three factors are needed in large quantities compared to small expenditures of the third one.

Furthermore, even these other types do not exhaust all logically thinkable combinations; there are many more of them, since each factor has a lot of quantitative options; and each new quantitative version of each factor can create a new combination of three factors. This is how we consider the diversity of life.

Nevertheless, theoretical thought, insofar as it is possible at all, by its nature is schematization and identification of patterns among all the options for combining the factors of agriculture. We have already mentioned one such basic generalization — the statement about the diminishing productivity of labor and capital inputs under an increase in intensity is widely recognized in the Russian agricultural works. Now this statement should be deepened and detailed.

Each factor, while remaining in the same qualitative form but being used in an ever-increasing quantity, loses its productivity. At the same time, every other factor presented in the smallest quantity will have the greatest productivity due to being used to the maximum. Therefore, the following regular relations can be identified:

1. The more extensive the agricultural system, the less productive a unit of land, but the higher an hour of labor and each ruble invested in the production capital is paid.
2. The more capital-intensive the agricultural system, the lower the productivity of each ruble spent in capital and the higher the payment for labor and land.
3. The more labor-intensive the agricultural system, the lower the productivity of one working hour and the higher the payment for capital and land.

It is obvious that intermediate, quantitative combinations of factors create transitional types of changes in their productivity.

All these patterns may not take place when the form and method of paying for and using a factor change; we agree to call these changes technical and qualitative rather than quantitative. Changes in technology are qualitative rather than quantitative, i.e., they as if suspend the 'law' of diminishing productivity for the factor spent in an increasing amount, and can also suspend the increasing productivity of the quantitatively least expended factor. One should not confuse with this the diversity of life, which sometimes occurs as if in contradiction with the regularities described.

Let us take for example field crops: wheat, clover, corn and potatoes. They are arranged in order of increasing labor intensity; at the same time, every next crop pays higher per a unit of land. However, if we consider the payment for one working hour spent on each crop, then in America we will find a completely different situation than in Russia or Western Europe: in America, potatoes often pay more for one hour of work than corn, and corn — more than wheat; in Russia or Western Europe, the opposite is often observed. The difference is determined by the fact that in America labor intensification is accompanied by capital intensification — by the use of fertilizers, machines and horses, while manual work dominates in Europe. And if capital intensification overtakes labor intensification, we get an increase in hourly wages for the more intensive crops.

Since there are many branches in agriculture, and every branch is a version of intensity, it is extremely difficult to follow and observe all the above-mentioned regularities in real life. However, it is important to recognize these relations in principle; they can be used as a working tool in the analysis of real life.

All that has been said sheds light on one more question — of the economic evaluation of both organization and results of the econo-

my. When two or more economies are compared and one is said to be better organized, the arguments are as follows: 'income from capital spent is higher', or 'income per unit of land is higher', or 'owners got a higher income from work'.

In Russian agricultural studies, we often see the assessment of the economy in terms of income per unit of land; in America, the assessment in terms of the so-called 'labor income' or income from capital prevails. Since the American 'labor income' is gross income without household expenditures, expenses for the maintenance of the family and the owner, wages of family members and interest on the capital invested, such a labor income is as if payment to the owner for his work and his 'entrepreneurial profit'.

Such a difference between Russian and American methods for estimating the economy and its income is partly determined by the fact that in Russia, the 'consumption-labor' type of agriculture prevails, while in the United States — 'capitalist-labor'; consequently, the motives of the economies are different, as was explained in Part 3.

There is another deeper explanation for this difference, which consists of economic considerations on the increasing and diminishing productivity of each factor under changes in their quantitative ratios. The owner assesses each factor, on the one hand, in terms of its availability, and, on the other hand, in terms of its relative productivity. For instance, in an extensive system, the owner will value each acre of land less, will easily start a careless and unreasoned use of land and even its partial plunder; at the same time, he will highly value labor and capital expended, which he has little compared to land; the evaluation of objects in terms of their redundancy and lack will guide the owner.

As if to meet this assessment, the owner estimates the same objects in terms of their productivity or usefulness for the economy; the owner as if makes each factor 'responsible' for a share in total income. We already know that more 'rare' factors are of higher productivity, and, on the contrary, quantitatively better represented factors are of lower productivity; the evaluation of each factor in terms of 'rarity' will correspond to its evaluation in terms of 'productivity'.

Thus, in an extensive economic system, the organization of the economy will be evaluated in terms of capital and labor expended; in an intensive economic system, on the contrary, the organization of the economy will be evaluated in terms of payment for land.

Since in the United States the land endowment of farms in the same agricultural areas as in Russia is much higher (3-6 times), certainly, in the United States, the organization of the economy is assessed in terms of wages or capital expended, while in Russia, the evaluation in terms of land used prevails. However, in the United States, in the areas of more intensive agriculture, for example, in New England, in addition to the evaluation of wages or capital expended, one can meet the evaluation in terms of payment per acre; and, accordingly, in Russia, in the land-rich regions (Siberia, South-

East), the assessment of the organization of the economy in terms of payment per *desiatina* does not help to understand the economy, and wages should be an important principle of such an assessment.

Thus, there is no single assessment of the qualitative perfection and rationality of the economic organization, even if we take for comparison only 'consumer-labor' or only 'capitalist-labor' economies; the system of the economy largely predetermines the choice of a factor for assessing its organization within the specific social type.

### 5. Systems of the economy and social evolution of the village

Our division of the main systems of agriculture into extensive, labor-intensive, and capital-intensive is very important for understanding the evolution of social relations in the countryside.

The agricultural organization varies by social types of the economy within the same region, which can be observed in Western Europe, Russia and America. However, it is obvious that larger economies are organized more extensively, smaller farms — more labor intensively, and the capital intensity is usually more typical for larger economies. The following example from America clearly illustrates this relation.

Groups of economies

Average acres per economy	Labor expended per acre in \$	Capital expended in production per acre in \$	Capital expended per \$100 of labor input in \$	Total income per acre in \$	Income per \$100 of capital in production (without the expended capital)	Income per \$100 of labor (without the costs of labor)
21	19.9	13.8	69	26.1	89	31
49	8.1	7.6	94	14.2	86	75
89	5.6	6.3	112	12.5	98	98
124	4.5	6.1	135	11.6	90	123
177	3.9	5.2	133	10.9	109	157
261	3.3	5.2	157	10.9	109	179

Economic groups differ in land availability; it turns out that the larger the farms, the less labor-intensive they are, and their capital-intensity also decreases but more slowly than labor-intensity; thereby, capital expenditures increase in comparison with labor inputs with the transition to larger economies. As a result of this difference in the economic organization, smaller economies receive higher pay-

ment per acre but lower payment per dollar invested in production capital, and especially lower payment for labor inputs; on the contrary, larger economies receive lower payment for land, higher payment for capital, and especially higher payment for labor.

This relationship between the size and organization of economies is not accidental; further, we will outline the main features of this relationship in the evolutionary context.

Schematically speaking, the evolution of agricultural systems consists of the transition from extensive to intensive forms. If this evolution is accompanied by an increase in labor intensity, then, as we already know, labor productivity decreases, which is enough to stop the development of the capitalist-labor type in the countryside, and, on the contrary, to determine the predominance of the consumer-labor type. Under the declining labor productivity, it becomes increasingly difficult for the owner to hire workers; he is forced to pay reduced wages to wageworkers; for the owner, such wage labor becomes less profitable. All this hinders the use of wage labor.

On the other hand, under labor intensification, wealth is accumulated more slowly; therefore, the quantitative growth of the capitalist-labor group (which requires primarily the concentration of wealth in such economies) should be curbed.

Finally, it should be noted that with the growth of labor intensity, the family economy (and the consumer-labor economy is a family economy) receives new benefits: in more labor-intensive systems, labor is often distributed evenly and is needed in larger quantities, i.e., such systems involve all the family labor force fully.

There is a completely different situation under the development of the capital-intensive system, because such a development requires an ever-increasing amount of capital that the capitalist-labor economies should provide. This, in turn, requires a preliminary accumulation of wealth, which accelerates with an increase in capital intensity — the productivity of labor grows, and the accumulation of wealth per capita accelerates. Thus, economies with a more capital-intensive system can benefit greatly from the use of both their labor force and wage labor, because labor becomes more productive; and even more than that — with the growth of capital intensity and, consequently, the growth of labor productivity, wages of agricultural wageworkers can be increased without slowing down the accumulation of wealth by households using wage labor.

It is clear that in other matters — such as struggles between economies for land by means of land rent, competition between economies by means of agricultural products prices, etc. — all this puts different social groups of economies in unequal positions depending on the organizational content of evolution.

These are two main paths of the evolution from extensive to intensive economic systems. It is obvious, that these two paths are rather two poles for all other intermediate evolutionary types.

Each branch of agriculture has its intensity coefficient  $p = \frac{\text{labor} + \text{capital}}{\text{land}}$ . Some branches were evolutionarily reconstructed into other; in real life, changes in the coefficients and types of intensity are infinitely diverse. Therefore, attempts to find a single trend in the evolution of social relations are unsuccessful — this evolution is determined by the conditions of the social order, on the one hand, and by the conditions of the technical order, on the other hand (the choice of a path for the economy in every place at each new level of intensity); there is an interaction between these conditions, which further confirms the impossibility of a single trend of evolution.

Indeed, in different regions and countries, and even in different social groups, the same branch of agriculture is organized differently: for instance, dairy animal husbandry in Western Europe and Russia is more labor-intensive than in America in which its capital intensity is somewhat more emphasized; however, within the same region in Europe and America, dairy farming is organized more capital-intensively in capitalist-labor groups and more labor-intensively in consumer-labor groups.

Thus, the above mentioned formula (Part 3) of the Russian agricultural economists, who studied the evolution of social relations, receives a more detailed and precise explanation, and we also see a synthesis of two approaches: it is impossible to understand the evolution of social relations without the evolution of agricultural systems; and, conversely, the evolution of agricultural systems cannot be understood without the evolution of social relations; these two evolutions, being synthesized, cannot exhaustively cover one another, because each meets only a part of the conditions given for the analysis and independent of the other.

We must finally give up faith in a single evolution of social relations already for the mere fact that it is impossible to identify a single type of change in agricultural branches or a single trend of change in the coefficients of agricultural systems; thereby, social relations manifested in the changes of branches and systems cannot have a single evolutionary scheme<sup>3</sup>.

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3. Based on the data from the North American United States, let us consider an illustration of how different types of evolution can be identified at different times within the same national economy. When taking an average value for the whole country, we certainly make a big methodological mistake; we make another mistake by assuming that 'the population employed in agriculture' stands for the whole labor force in agriculture; and our third mistake is that we consider not all land of farms but only the cultivated land. Finally, the last assumption that reduces the qualitative value of our observations is that we consider capital invested in the economy by using its estimates for each new census. Nevertheless, due to keeping in mind the illustrative meaning of the further calculations and despite all the above-mentioned mistakes, we can identify the following interesting changes in the types of evolution in the US over the last 40 years. In the US, the period from 1870 to 1890 was a period of the extensive economic growth, but capital intensity grew faster than labor intensity; and, unfortunately, for this period, it is impossible to identify the nature of changes in social relations. This can be seen from the following data:

## 6. Factors of the evolution of branches, systems and social relations in agriculture

In this matter, we are under the changing influence of several theories from both Western Europe and Russia.

Basically, three main factors were identified at different times by different Russian economists: market, population density, and natural-historical conditions.

The well-known theory of the German economist Thünen presented in his book *Die isolierte Stadt* (*The Isolated State*) had a particular-

Annual Growth Percentage

Years	Cultivated land	Capital invested in live and dead stock	Number of employed in agriculture
From 1870 to 1880	5.1	5	3
From 1880 to 1890	2.6	2.2	1.9

This period of the extensive economic growth with the predominant growth of capital inputs over labor inputs ended and was replaced by the period of the general predominance of capital intensification, while the increase in labor inputs continued to lag behind the growth of 'cultivated land', i.e., labor extensification took place. This was a short period from 1890 to 1900, and it was replaced by a new period in which the ongoing capital intensification was supplemented by labor intensification; an increase in cultivated land lagged behind the growth of the number of agricultural workers and lagged even more behind the growth of capital expenditures. The quantitative characteristics of both periods can be seen in the following table:

Annual Growth Percentage

Years	Capital invested in live and dead stock	Cultivated land	Number of employed in agriculture	Number of wageworkers in agriculture
From 1890 to 1900	5.2	1.6	1.3	4.7
From 1900 to 1910	6.9	1.5	2.1	3.5

In the first period, the growth of capitalist relations particularly accelerated; the coefficient of the growth of the number of wageworkers was 3.6 times higher than the coefficient of the growth of the number of employed in agriculture; while in the second period, the first coefficient was only 1.7 times higher than the second. However, in the second period, the growth rate of the number of employed in agriculture increased, while the growth rate of the number of wageworkers in agriculture decreased. In the first period, capital intensification took place, and capitalist relations developed especially rapidly; in the second period, capital intensification was accompanied by labor intensification, and the pace of the capitalist relations development slowed down. Thus, such is the rough illustration of our evolutionary types on the American data.



ly great influence. Thünen's theory is based on the idea that the closer the economy to the market, the more intensively it is organized; according to intensity, the structure of the economy changes — starting from the intensive systems of agriculture near cities in the form of gardening and ending with the most extensive systems of cattle breeding and hunting in remote areas. The costs of transportation and the physical transportability of goods affect local prices, intensity and branches of the economy.

This understanding of the market influence is based on Ricardo's doctrine of land rent, which was widespread in Russia, and is supplemented by the Russian Marxists ideas about markets due to the disputes about the possibility of the development of capitalism in Russia.

We should also mention the influence of the Russian situation. In the 1880s–1890s, a significant part of the peasantry had to a large extent subsistence economy, i.e., without alienating products from their economy, despite the development of market relations — the sales of grain, flax, potatoes, milk, pigs, etc. At the same time, the government strengthened and accelerated the introduction of market relations in the countryside with the help of railway construction and taxes — for the purposes of industrial and especially financial policies (accumulation of gold reserves for the monetary reform, improvement of the state budget, etc.). All this attracted more attention of economists to the market as a condition for the evolution of agriculture.

The market (high prices, market demand, market capacity) played a significant role in the progressive restructuring of the peasant economy. Some economists began to pay exclusive attention to the market as the main factor in the evolution of agriculture. It even seemed that without changes in the market mass changes in the economy could not take place.

However, another approach developed, which insists that the organization of agriculture in the peasant economy depends on the density of rural population: an increase in the density of rural population leads to an increase in the intensity of agriculture. This position was established in the studies of the German historical school (Roscher, Schmoller) and was proved in the Russian conditions.

In 1890s, this position was introduced and developed with all possible efforts by the Professor A. N. Chelintsev, who used the density of rural population in different regions of Russia as the basis for the analysis of agriculture and as the principle of its research. When considering each branch of agriculture and its intensity, Chelintsev identified a relationship between the density of rural population and agricultural systems. However, in his first works, Chelintsev mentioned that the changes in the density of rural population may not coincide with the changes in the intensity of agriculture — density can grow faster or slower than intensity. The very possibility of a difference in the rate of evolution of population density and in the rate of evolution of agricultural intensity was recognized, which did not cancel the position that the density of rural population is the main factor in the organization of economy.

This position has deep grounds to be used in Russia. The Russian peasant economy was mainly a consumer-labor economy: when the population of such economies increased, its majority still had land to ensure a larger income for feeding a denser population. For the most part, the Russian peasant economy lived by preserving the land community with its periodic land redistributions; every new redistribution reduced the size of land per capita, which in a completely obvious form raised the question of intensification, and the peasantry searched for a decision as skillfully as it could and as the external conditions allowed.

At the same time, under an increase in population density, the number of agricultural workers grew, which allowed to increase labor intensity. Indeed, geographically the intensity of agriculture corresponded to the density of rural population.

However, separately neither the market nor density work as a factor that can resolve the issue; they do not provide a complete explanation of the evolution of the economy, while the combination of two factors moves us considerably forward, and this combination is far from being mechanical — for the most part it can be quite synthetic in the following way.

If we take a group of subsistence economies, the evolution of agricultural systems will be determined primarily by the growth of their population density. At a certain stage of this evolution, the economy cannot further intensify but maintains a harmonious relationship between its branches; the economy will have to choose some more intensive branches and specialize in them, for which it needs to sell products of these more intensive branches. Thus, although the economy seeks and needs a market, the initiative for evolution still belongs to the increasing density of rural population.

From the moment the connection between the economy and the market is established, the market can show initiative for evolution — by a demand for products of more intensive branches, the market allows the economy to specialize in them and to ensure income for the increased rural population. Subsequently, both the market and population density can act independently as initiating factors; in real life, the market often acts as an independent initiating factor, and America is rich in such examples.

Under certain concomitant conditions, an increase in population density leads to the creation of a local market for agricultural products due to both an increase in the share of non-rural population and the emergence of a market for agricultural products of rural population. In turn, markets create an opportunity for the rapid concentration of agricultural population near them, which is typical for the large cities' suburbs.

All this clearly proves that the market is a broader factor than population density; with the help of railways, the market penetrates into the most sparsely populated areas and sometimes makes a real agricultural revolution there, which, for instance, happened in Rus-

sia, in Siberia, after 1896 — when a railway was built in Siberia to connect it with the markets of European Russia and Western Europe.

The outlined synthesis in understanding the market and population density is only partial; the market as a factor of evolution should have an independent historical significance just like the density of rural population has an independent significance, especially in the early periods in the history of agriculture.

The high rural population density is associated with the creation of a local market and its impact on agriculture; while a non-local, distant market emerges and exists without a synthetic connection with the density of rural population in those remote areas on which the market extends its influence.

In addition to the above-mentioned two factors, a number of Russian economists (Professor Skvortsov in particular) consider the influence of natural conditions. They suggest the following idea: in the course of history, agriculture turns from natural and harmonious into market and specialized; the choice and placement of branches depend on local natural conditions; thereby, agriculture tends as if to reflect local natural conditions in its organization. Being an insufficiently validated theory as completely exhaustive and explaining everything, it still does not contradict but rather supports the previous two positions.

Thus, we fundamentally reject the monistic explanation of evolution: several factors together influence the evolution of agriculture; moreover, these factors can be and partly must be in a synthetic connection with each other. We can systematize these factors as follows:

I. Natural	II. Economic		III. Technical	IV. The rest. Social conditions
Climate (temperature and precipitations), soil, subsoil	Intrafarm	Interfarm	1) Plant selection and animal breeding 2) Soil cultivation techniques 3) Implements and machines 4) Fertilizers 5) Construction skills	1) Law (legal and common) 2) Ethics 3) Religion 4) Nation
	Provision of rural population with: a) land (price of land, population density), b) capital (price, amount), c) labor (price, quantity)	a) Availability of local markets for agricultural products, labor, and capital (general population density and a share of non- agricultural population) b) non-local markets for agricultural products, workers, and capital (capacity, price)		

In this scheme of evolution factors, we have not considered groups III and IV.

The evolution of technology has been a colossal factor in the evolution of agriculture; it affected not only the organization of the economy but also the evolution of social relations. Technology can be considered as a qualitative change in the organization of production, due to which less labor, capital or land is needed per unit of product. The development of technology determined the labor extensification — the same branch of agriculture of the same scale needs less labor inputs provided the increased capital inputs. The middle (corn) states of North America are a good example of this; some American researchers believe that this can explain the decline in the number of rural population in these states in the last two census periods.

The development of technology determines the growth of labor productivity accompanied by capital intensification, which leads to the accelerated accumulation of wealth, increased benefits from the use of wage labor and, consequently, changes in social relations in agriculture. In this respect, American agriculture differs from European agriculture to a large extent: technology as a factor has played a much more prominent role in America than in Europe; certainly, the emergence and significance of this factor are determined by other conditions mainly outside of agriculture.

We will not consider legal, ethical, religious, national and other factors of an indisputable importance. They have a profound historical influence on the evolution of agriculture and create those sharp deviations from the general evolutionary patterns that only historical reality can determine.

The multiplicity of factors is the reason why neither the evolution of agricultural organization nor the evolution of social relations in agriculture can be repeated at all times and in all countries. Various qualitative and quantitative combinations of historical factors create an infinite number of historical changes in agriculture.

Therefore, an absolutely complete synthesis of social and organizational approaches to agriculture is impossible — the same factors (especially non-economic) do not affect social and intra-economic organizational relations in the same way.

## **7. Types of agricultural evolution**

Due to the fact that there is a whole system of evolution factors, the nature of changes in agriculture differs dramatically by country.

However, in both practical and theoretical thinking, we need schematizing generalizations in order to understand historical reality;

therefore, for agriculture, we have to typify historical processes in the same way as we typify factors of these processes and their impact. Such typological constructions may be quite far from reality, but they can serve as useful working schemes for a better understanding of reality.

Typification of historical processes can be based on various methods, but one of the main methods is typification by the changing rate of evolution of one or several factors. Such a typification allows to consider qualitative changes in factors, since they partly determine changes in rates. The rate or speed of evolutionary changes should be the basis for typifying historical processes. Let us clarify this idea.

The evolution of market relations, population density and technology influences the evolution of agriculture. Each of three factors can have its own rate of evolution. Suppose, for example, that market relations develop more slowly than the population density increases and technology changes; then it becomes clear what type of agricultural evolution will take place: the growing population will not find a way out in economic specialization for the sales of products on the market, and, consequently, in corresponding intensification. Intensification can take place either as an increase in the subsistence elements of the economy or as a preservation of its previous branch. Due to the backward technology, income of the economy will not keep up with the growth of population which will become poorer (wealth per capita); social relations will not be characterized by an intensified development of the 'capitalist-labor' group due to the lack of the corresponding situation. In the 1870s–1890s, the evolution of agriculture in the central agricultural zone of Russia was precisely of this type due to the slower growth of two factors (market and technology) and the accelerated growth of the third (population density).

Let us imagine the opposite: the density of rural population grows more slowly than market relations and technology develop. In such a case, the market provides the owner with favorable prices for agricultural products, thus, encouraging him to reorganize his economy in terms of both specialization and intensification. The development of technology and, consequently, the increasing productivity of labor and capital will determine the faster accumulation of wealth and capital-intensification of the economy; and we know that these changes lead to the development of capitalist-labor forms. American farming to a large extent represents this path of evolution — indeed, its ratio of rates in the evolution of individual factors corresponds to this type.

Finally, let us suppose that population density and technology develop more slowly than market relations; then the economy will develop towards either even intensification (of both capital and labor) or only labor intensification; the slow development of technolo-

gy tends to restrain the growth of capital intensity. Therefore, as we already know, the resulting conditions will contribute to the development of consumer-labor forms which tend to undergo mainly labor intensification.

We did not examine the impact of urban capitalism on social relations in the countryside under the growth of market relations — this factor would further complicate our analysis and would introduce new types into our system, which would describe mainly the limits of the development of capitalist-labor forms. The ratio of labor productivity, wages, working conditions, etc. in town and countryside to a large extent determines the limits of the development of rural capitalism. Given the brevity of this article, we can only emphasize the above-mentioned remark about the multiplication of the variants or types of agricultural evolution.

These are the first methods of typification: we did not consider statistical methods for identifying the rate of evolutionary processes; it is necessary to emphasize that, since the suggested typification of evolution is associated with the rate of evolutionary processes, quantitative measures become important at the second stage of this theoretical work.

When studying and introducing quantitative coefficients for the growth of population, market relations and even technology, and then for individual elements of the economy, we take a step closer to the quantitatively expressed types of evolution. The starting quantitative coefficients can be taken from reality, while the types of evolution can be constructed artificially (arithmetically-deductively) and be 'ideal types', i.e., they should be considered as any 'ideal' scale or measure (of length, weight, volume, etc.). Thus, we get only scales for historical processes, and the purpose of such scales is to be measuring instruments, to help us learn and assess historical processes in agriculture; and their work is finished as soon as the measurement or evaluation is completed. The issue considered in this part of the article is still brand new and raises many theoretical-methodological objections based on the non-repeatability and typification of historical processes; this issue is full of exceptional technical-statistical difficulties, but anyway it can and in the history of agricultural science perspective should be formulated in such a way.

Perhaps, after identifying the quantitatively expressed types of the agricultural evolution, we can turn to the revision of the theoretical-methodological ideas about the very possibility to typify historical processes.

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Автор этой статьи замечательный российский экономист Николай Макаров (1886–1980) является одним из ярких представителей организационно-производственной школы Александра Чаянова.

Макаров прожил долгую и драматическую жизнь. По окончании экономического факультета Московского университета он занимался экономико-статистическими исследованиями крестьянства и кооперации в России, а также преподавал ряд аграрно-экономических дисциплин в университетах Москвы и Воронежа. Макаров принял активное участие в подготовке аграрных реформ в Русской революции 1917 года. Во время гражданской войны Макаров эмигрировал в США, где написал пару монографий об американском сельском хозяйстве. По приглашению Александра Чаянова Николай Макаров вернулся в советскую Россию в 1924-м году. К этому времени он уже являлся известным профессором, влиятельным экспертом в области исследований компаративистских стратегий сельского развития различных регионов мира.<sup>4</sup>

Плодотворная научная деятельность Макарова и его коллег по организационно-производственной школе была оборвана в 1930-м году, когда Сталин обвинил Чаянова и Макарова в саботаже политики коллективизации и подготовке контрреволюционного переворота в СССР.

Макаров провел несколько лет в тюрьме. В середине 1930-х годов он был выслан работать экономистом в совхозы Черноземья. В конце 1940-х годов Макаров получил разрешение вернуться к профессорской научной и преподавательской деятельности. Он уже в очень преклонном возрасте опубликовал ряд книг по экономике советского сельского хозяйства.

Представленная здесь статья относится к эмигрантскому периоду жизни Макарова, когда он активно сотрудничал с редколлекгией журнала «Крестьянская Россия» издававшемся в Чехословакии в 1920-е годы. В этой статье Макаров стремится дать политэкономический анализ основных вопросов и тем аграрной мысли России конца XIX — начала XX века. Изначально он характеризует особенности теоретико-методологических подходов к изучению эволюции сельской России народников и марксистов, а затем стремится вполне в духе школы Чаянова найти пути для плодотворного компромисса этих двух идеологических мировоззрений. При этом Макаров отмечает важное воздействие на российских аграрников международного, прежде всего германского опыта изучения организации сельского

4. См. например: Makarov N. P. At the great crossroads. The comparative analysis of the evolution of agriculture in China, the United States of North America, the USSR, and Western Europe. *Russian Peasant Studies*, vol 4, no 1, pp. 6-21.

хозяйства и его эволюции. Заключительные разделы этой статьи посвящены обоснованию собственных макаровских оригинальных классификаций и типологизаций форм и направлений сельскохозяйственной эволюции. Спустя сто лет этот текст Макарова помогает нам глубже понять дискуссионные корни аграрных идеологий России и мира начала XX века.

*Ключевые слова:* аграрный вопрос, народники, марксисты, дифференциация крестьянства, сельскохозяйственная эволюция.