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## TRANSFORMATION OF THE EVOLUTIONARY ECONOMICS THEORY

*Yulya Odintsova, yulyaodintsova@mail.ru*

*Alina Khairullina, hialinenok@mail.ru*

*Irina Kabasheva, kaba.73@mail.ru*

*Kazan Federal University, Institute of Management, Economics and Finance, Russia*

**Annotation.** The evolutionary economics was separated into an independent direction of research only after the appearance of the works of R. Nelson and S. Winter. The theory they propose is based on similar processes in economics and biology. Thus, the evolutionary economic theory was built on the inconsistency of two processes based on Darwin's theory (variability and selection). When transferring this into the economic reality we create the following model: a competitive struggle is created between the firms as a result of which the most adapted ones "survive" in the process of industrial innovation.

At the same time, the evolutionary ideas arose much earlier. In the XVIII century B. Mandeville, A. Smith, and later T. Malthus expressed their ideas that could be attributed to the evolutionary approach today in connection with the assertion of a natural-science worldview that undermined the idea of a divine creation, though with some reservations. The purpose of this article is to trace the change in the ideas of "evolutionary economics" in various technological orders.

**Key words:** evolutionary economics, large cycles of conjuncture, technological order.

**Introduction.** The definition of the term "evolutionary economics" is ambiguous, there are various terminological differences, connected, first of all, with the ambiguity of the word "evolution". The approaches differ depending on the research methods used, whether they accept Darwinian ideas or not and the views on the necessary policies. The sources and nature of some of these discrepancies will be discussed below.

However, the general emphasis is shifted to the issues of economic changes and transformations in the works of all evolutionary economists. Often, the evolutionary economists do not take institutions or technologies as a reality: they are focused on how they arise and develop. It is also assumed that the complex phenomena usually do not arise during design. Complex phenomena are the result of processes of self-organization and competition as in the nature.

*Method.* We consider the historical roots of the evolutionary economics, the general ideas of researchers based on a retrospective analysis in this work. *Results.* Long waves in the economy or "big cycles of conjuncture" have been being investigated by the economists since the middle of the XIX century. So the cyclicity between two world "economic catastrophes" of 1793 and 1847 discovered by H. Clark, the repeated long periods of growth and fall in the series of prices analyzed by V. Jevons, the theory of cyclical crises of K. Marx, as well as the theory of cyclical crises formulated by A.I. Gelfand were the prerequisites for the creation of the theory of long waves. [1]

The pre-industrial orders are based on the application of muscular, manual, horse energy of human and animals. All inventions of that time concerned the strengthening of muscular strength of human and animals (screw, lever, wheel, reducer, potter's wheel, fur in the smithy, mechanical spinning wheel, hand loom).



an school of economists, in particular, in the works of Karl Menger, Ludwig von Mises and Friedrich Hayek. Menger's theory of the money appearance is often represented as an evolutionary one, as it is an attempt to understand the emergence of institutions. But the evolutionary ideas of the Austrian school were much more widely developed in the works of Hayek. He introduces the concept of "evolutionary selection" and compares the development of society and evolution in the world of nature. But at the time, he sees Darwinism as one of the stages in a long chain of evolutionary thinking. [10] The concept of technological orders of S.Yu. Glazyev essentially develops the theory of innovation. In accordance with its interpretation, the technological order is a group of technological sets connected with each other by the same type of technological chains and forming the reproducible integrities. To date, it is possible to single out the life cycles of five successive technological orders in the world of technical and economic development (starting with the industrial revolution in England). At the present time the sixth technological order is being formed. [7] Transformation of the evolutionary theory of development can be represented in the form of the following scheme.

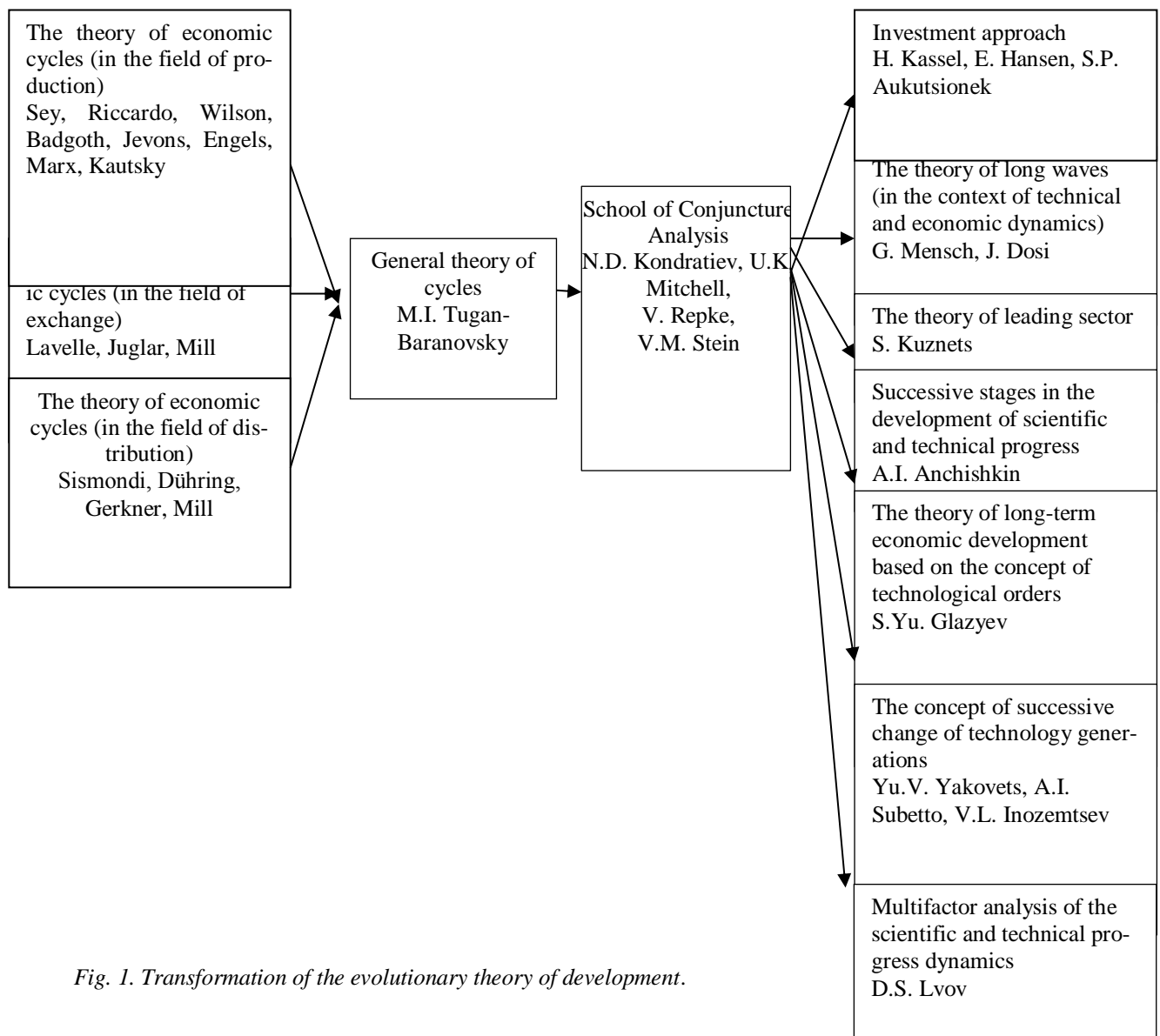


Fig. 1. Transformation of the evolutionary theory of development.

One of the main contributions to the new area of the evolutionary economics was the publication "Evolutionary Theory of Economic Change" by R. Nelson and Sidney G. Winter. [8] These authors focused mainly on the issue of changes in the technology and sub-programs, suggesting a framework for their analysis. If this change is constantly taking place in the economy, then some kind of evolutionary process must work, and it has been suggested that this process has some Darwinian features.

Then we should identify the mechanisms that provide a choice. The authors introduced the term "sustainable change" to emphasize the evolutionary aspect of economic processes and contrast it with the notion of "stable state", popular in the classical economy [8]. Their approach can be compared with the approach of organizational ecology in the sociology. [9]

**Conclusions.** Due to the results obtained in the evolutionary economic, it became possible to identify the interconnection of technologies of social and economic relations in the dominant socioeconomic order. The "new economy"

represents not only an intra-system changes that emerge from new industries, but in most cases it reflects the system-wide changes in which qualitative transformations affect the structure and all levels of the social system, accompanied by a change in the technological order, social and political organization. The objective conditions for the development of informal institutions and relationships are created in the "new economy", which is due to its increased dynamism, socially multi-aspect nature.

**Summary.** Evolutionary economics is a new direction in the economic science, in which the economic processes are viewed as spontaneous, open and irreversible; they are generated by the interaction of external and internal factors and are manifested in a change in the structure of the economy and agents operating in it. Particular attention is paid to the innovation process - emergence, consolidation and distribution of the new; competition as a selection process, as well as problems of information, uncertainty and time. In general, going beyond the strict frameworks of the economic theory in its orthodox interpretation is apparently connected with the difficulties of studying the problem of development in its broad formulation. It is difficult to say how successful and justified such a trend is, but the approaches to solving a number of problems proposed in the framework of the evolutionary economics are the innovative moments in the process of economic knowledge growth in themselves. Apparently, the success of the evolutionary economics is associated with the possibilities of synthesis of different directions and approaches on a single unified methodological and ideological basis. It seems that the entropy approach has all the chances to become such a unifying base, as, as already mentioned above, the evolution of all living things, including social and economic systems, has a general tendency to entropy reduction.

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