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HISTORICAL CYCLES OF ECONOMIC DEVELOPMENT OF A TERRITORY

V. A. Dergachev
(Moscow University)

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Abstract: The concept of historical development cycles of a territory is proposed, distinguishing time scales of the order of 10, 100 and 1000 years and spatial scales ranging from local through regional to global. The notion of growth poles is introduced into the space-time stratification of development, and three types of poles are distinguished: (1) permanent poles that maintain their position through a sequence of historical cycles; (2) migrating poles; (3) mutually substituent poles that exchange positions from one cycle to another. Various types of growth poles and development cycles are associated with each of the three time scales. For example, local and regional cycles with permanent poles tend to be associated with short-duration cycles, the global cycles and mutually substituent poles with long-duration cycles.

Time-space research in economic geography should make use of the concept of economic-geographic historical cycles, which are strictly temporal cycles as distinct from N. N. Kolosovskiy's energy and production cycles.

A number of authors have already written about the cycles of economic development in an area. I. F. Zaytsev [Reference 1], for example, has suggested a sequence of specialized cycles of development: hunting and trapping, primitive agriculture, agriculture combined with land reclamation, logging, mining, manufacturing, recreational, and wilderness protection. V. V. Pokshishevskiy [3] has distinguished a series of geographical types of area development that are identical to cycles. It seems to us that the cycles of economic development as defined by Zaytsev simply repeat the energy and production cycles and contain nothing new.

Yu. S. Nikul'nikov [2], while mentioning the notion of development cycles, notes the vagueness of the cycle concept and yet uses the concept of a modern economic-geographic cycle or subcycle, and, secondly, equates development cycles with concrete social formations. In that case, what is the point of distinguishing such cycles? Is it logical to examine stages of development within a particular economic-geographic cycle if this can be done equally well within the framework of socio-economic formations?

In the literal sense, a cycle may be defined as a set of phenomena, operations or processes that run their course within a certain period of time. We will be using the term both in the spatial and in the temporal context.

Economic development of an area occurs only as a result of the interaction of social and natural processes in which matter is exchanged between man and nature. According to Marx, the essential requirement for such an exchange is the process of labor. Cycles of development should therefore be used on fundamental aspects of the process of labor, such as useful activity and the objects and implements of

labor. Analyses of the distant historical past tend to focus on implements of labor or material conditions in the broad sense. It is certainly no accident that the early periods of human culture have been designated in terms of the implements of labor: Stone Age, Bronze Age, Iron Age, etc. The character of the implements of labor is a key to the time during which the corresponding cycles operated, and the objects of the process of labor are a key to the spatial interpretation of economic development. The objects of labor may be particular natural resources, and the most universal material condition and object of the process of labor is territory.

An important condition for distinguishing cycles of development is the temporal and spatial scales of such cycles. A universal parameter integrating both of these aspects might be the space-time stratification suggested by Yu. G. Saushkin [4]. In our view, however, such a stratification has a broader meaning than the layers of a sequence of periods of development. It should refer to the number of development layers in a particular territory, each of which would be distinguished by its own duration and by the size of the stratified areas.

The historical-geographical analysis of economic development generally makes use of time scales in multiples of 10, 100 and 1000 years, and a sequence of spatial scales ranging from local through regional (regions, countries, groups of countries) to global. For example, the time scale of the global historical economic development of the earth would be in thousands of years. When the time scale is combined with regional or global space scales, the key problem is to identify areas that were undergoing development during the particular time period and those that were not. The superimposition of such areas for a sequence of development stages yields a resultant space-time stratification, including areas that were not affected by the process of economic development.

A useful concept in the analysis of development, especially in unpopulated regions, is the notion of growth poles, which combines time and space aspects.

The poles in a system of space-time stratification would be areas of predominant settlement and economic development within the boundaries of a study territory. The following types of poles might be distinguished: (1) permanent poles maintaining their initial position through time in relation to developed and undeveloped areas or in relation to territories of intensive and extensive land use; (2) migrating poles; (3) poles that move from their initial positions to opposite positions. The probability of occurrence of a particular type of pole will depend on many factors, especially the level of development of productive forces and the duration of development. During a brief interval of time (of the order of decades), permanent poles tend to be characteristic; migrating poles are possible, but mutually substituent poles are unlikely. These circumstances produce a psychological barrier in long-term prediction and economic organization of a territory for regional planning, in which existing relationships usually tend to be preserved. It is precisely in regional planning that an effort should be made to consider the probability of a shift in poles, all the way to mutual substitution. On a 100-year scale, all three types of poles may occur, although typical examples cannot be readily cited. On a 1000-year scale, one can find the rise and decline of many civilizations that were at one time world poles in the space-time stratification of economic development (Table 1).

TABLE 1

Probability of Occurrence of Poles in Different Time Scales

Time scale	*Poles of space-time stratification*		
	Permanent	*Migrating*	*Mutually substituent*
10 years	typical	possible	unlikely
100 years	possible	possible	possible
1000 years	unlikely	possible	typical

The characteristics of a space-time stratification that we have discussed so far are still inadequate for identifying cycles of development in a historical-geographic analysis. We also need information about the qualitative differences between layers of the stratification, meaning the sequence of alternating and superimposed geographical types of development.

In real situations we can observe a set of local, regional and global cycles of development, each distinguished by a characteristic time scale (Table 2).

In general the process of development of the earth's surface during the historical period is distinguished by a sequence of hunting and gathering, agriculture, and industry. The duration of each phase declines as the sequence progresses, and the impact of human activity changes from extensive to intensive. In other words, the succession of cycles accelerates and they become global in extent within an increasingly short time. Each particular cycle is distinguished by a set of features that may be investigated in terms of the following aspects:

(1) space-time stratification, which represents an aggregate of cumulative (identical or nonidentical) historical types of economic development;

(2) continuity and discreteness of cycles in a given territory;

(3) stability and instability evident in combinations of progressive and regressive stages of development;

TABLE 2

Probability of Development Cycles

Time scale	*Cycles of development*		
	Local	*Regional*	*Global*
10 years	typical	typical	unlikely
100 years	possible	typical	possible
1000 years	unlikely	possible	typical

(4) polarization and homogeneity, concentration and dispersion of spatial forms.

On the basis of the foregoing principles, we developed the following classification of the most widespread cycles of development, both regional and local.

Regional Cycles of Development

1. *Pioneering cycles*, which are related to primary forms of activity (fishing, hunting, gathering etc.), are distinguished by the simplest types and an absence of spatial stratification.

A. Extensive gathering and hunting, typical of the Paleolithic, Neolithic and early Iron Age, seldom found at the present time.

B. Shifting agriculture. These cycles were common in the Middle Ages. The Slavic tribes, for example, moved on to new areas once the land around their settlements became exhausted. A unique example is that of the Mayas, whose slash and burn gardening around their old urban centers so exhausted the land that they were forced to move on to northern Yucatán. Nowadays this particular type of cycle is found among the aborigenes of tropical Africa.

2. *Stratified cycles*, distinguished by a combination of geographical types.

A. Cycles consisting of cumulative identical types and distinguished by increasing intensification of development. Examples in the USSR are the increasingly intensive agricultural development of the Pripet Marshes, the Meshchera and the Volga-Akhtuba floodplain; the increasingly intensive development of the Kuznetsk Basin, etc.

B. Cycles consisting of cumulative nonidentical types, among which one may continue to dominate. Such cycles are quite widespread; an example would be the development of the iron-ore deposits of the Kursk Magnetic Anomaly in a largely agricultural [Central Chernozem] region.

Local Cycles of Development

1. *Pioneering cycles*, associated with the selective development of natural resources. These are now widespread in underdeveloped regions. They might be designated as wavelike development cycles in which each wavelike surge is associated with the development of a particular resource in the given area and its temporary infrastructure.

A. Cycles based on a single resource with shifting localization. Examples of such historical cycles can be found in the exploitation of gold placers and coastal fisheries.

B. Discrete cycles based on a single resource. These arise when technical progress makes possible the renewed exploitation of a particular resource after it had to be abandoned on either economic or technical grounds. Examples would be the succession from placer mining to lode mining in a gold-bearing district.

C. Cycles based on consecutive exploitation of several single resources, such as the sequence: fur trapping–gold placers–fishing–logging–lode gold mining. Other sequences are possible. Examples may be found in Siberia, the Soviet Far East and in Arctic North America.

2. *Stratified cycles* within the boundaries of homogeneous physical-geographic and economic-geographic entities (drainage basins and valleys of 1st to 4th-order streams, economic regions, etc.).

A. Cycles based on combinations of identical types.

B. Cycles based on combinations of different types.

Both are quite widespread.

Further investigation of development cycles calls for a differentiated approach to the analysis of areas wtih homogeneous and heterogeneous structures. There is also need for developing measures of space-time stratification. Such investigations would find practical application in: (1) long-term regional economic and geographical prediction; (2) regional planning, where the historical-geographic approach is not being adequately used and is often replaced by linear extrapolation; (3) in economic planning agencies, which must always be able to predict any reorientation of the economy of particular areas, especially in conjunction with wavelike surges of development.

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