
Ecological Explanation of Hunter-Gatherers Behavior: An Attempt of Historical Overview

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ABSTRACT

Natural and social environment of Early Prehistoric population as a predictor of its behavior has always been a subject of special interest for researchers. Diachronic analysis of main approaches to interpretation of hunter-gatherers' behavior discussed in world prehistory, archaeology, cultural and social anthropology, ecology, sociology, psychology, and demography is provided. The importance of environmental impact on behavioral motivation in daily life of Early Prehistoric population is examined..

INTRODUCTION

Precipitous changes happening in all spheres of human life and activities have caused substantial restructuring of human behavior patterns. Trying to identify ourselves in modern world we often have to confess in our total ignorance and impotence to understand motivation of some human acts. The philosophic questions ‘Why?’ and ‘What for?’ have become an integral part of our daily life mental reflection. The contemporary paradigms of most part of social sciences are also marked by a significant growth of irresistible interest to the inner world of a human being. It was just the prehistory and social and cultural anthropology whose experts have appealed to the issue of human behavior motivation as early as the middle of the 18th century and since that time this tempting question remains a subject of permanent sharp discussions.

Such an early interest could be explained by the ambiguity of the societies under study. The investigation of hunter-gatherers

behavior demanded uncommon inspiration and bravery, as far as the scholars had to search for the explanation of phenomena, which sometimes could hardly be comprehended in the frameworks of modern 'civilized' patterns. Besides, methodological and source bases for such cultures interpretation are rather incoherent and sometimes ideologically confused. There is no direct evidence on behavior motivation of Early Prehistoric populations: the available information concerns the contemporary hunter-gatherer societies, and their reasons for decision-making have been deeply influenced by so-called 'industrial' societies. Nevertheless there is an impressive database concerning the livelihood activities of population survived at the end of Glacial Age – at the beginning of Holocene as well as about the palaeogeographic situation in which the above mentioned processes took place.

In such a context it is quite natural that natural and social environment of Early Prehistoric population has become a subject of special interest from the very beginning of studies in this field.

FIRST STEPS TOWARDS EARLY PREHISTORIC BEHAVIOR MOTIVATION: LOOKING AROUND THE PRIMITIVE SAVAGE

Specificity of material remnants of hunter-gatherers daily life and subsistence as well as the peculiarities of their archaeological investigation techniques has caused the emergence of the Stone Age archaeology within the framework of natural sciences – geology and paleontology. Therefore from the very beginning of its studies the Early Prehistoric population was interpreted as an integral part of its natural environment. Scientists' attention was attracted by originality and complexity of hunter-gatherers living conditions (*i.e.*, by severe climate of glacial epoch, by their life side by side with large extinct animals, etc.). Within such a context the geographic palaeoenvironment was often regarded as the only reasonable explanation of hunter-gatherers economy, household activities and material culture features. As a result, palaeogeographic peculiarities started to be regarded as a principle point in human behavior motivation.

Late Paleolithic and Mesolithic tool kits, houses and clothes seemed too rough and primitive to their first investigators, so they hardly believe that such artifacts could regularly ensure Early Prehistoric population vital needs. That is why the hunter-gatherer community was often regarded as an entity whose daily business was a struggle for survival and looking for food. It was already antique philosophers who made such assumptions. So, in particular, Diodorus of Sicily and Hippocrates in general terms repeated thoughts of Democritus according to which the primitive people were characterized by 'an animal mode of life. As far as nothing useful had not been invented yet, the people spent life in chronic cares, bare, without clothes and refuge, without fire, absolutely not knowing cultural nutrition ... they had to endure many misfortunes ... The dire straits were the only teacher of human being in everything without exception' (Lurie 1947: 249).

These ideas received new life in Enlightenment historiosophic speculations. A slight difference in their interpretations could be only traced in the attitude of the primitive person to natural environment evaluation. According to Rousseau, 'the primitive person falls into the nature in accordance with dangers threatening him' (1969: 52). Hobbs considered a primitive person as an aggressive savage who fearlessly encountered the hostile surrounding world. Montesquieu thought that our ancestors were wild and escaped from everything and everyone.

In this context some attention should be paid to Radischev's point of view expressed in his philosophical treatise *About the person, his mortality and immortality*. Basing on the idea that 'in general climate and naturalness can hardly influence a person's rationality', he demonstrated, that 'at the initial stage of human history all household activities depended on natural surroundings'. Thus the author considered the prehistoric population as an active creative force that successfully explored specific features of the environment (Radischev 1941: 64).

Such ideas reflect a different approach to prehistoric people and their environmental interaction. Its adepts consider a person and his social culture to be capable of resisting nature. In the second half

of the 19th century the popularity of these ideas increased considerably in the course of ethnographic investigations of Northern America aboriginal population. The formation and gradual strengthening of evolutionary paradigm also boosted the ideas. At the boundary of the 19th and 20th centuries 'the environmental influence on a person' and 'a person's response to the challenge of geographic ambient' were often used as synonyms (James and Martin 1988: 430).

Before the World War II the interpretation of a primitive person as a sufferer and the idea about his capacity of an active resistance to the geographic environment had approximately an equal number of adepts in the world scientific thought as well as in public mentality. The controversy between these points of view as well as a gradual enrichment of source base became the origin of ideas of geographic and climatic determinism, possibilism and environmentalism infiltration theory of prehistory interpretation.

MODERN THEORETICAL PREHISTORY: RE-APPROACHING THE BASIS OF NATURE–SOCIETY INTERACTION

A fundamental reconsideration of the role of environment in Early Prehistoric culture development took place in the 1950s and 1960s. In the Soviet academic tradition this process was connected with the overcoming of a negative attitude to the so-called 'geographic determinism'. Levin and Cheboksarov took one of the first steps along this protracted and hard road when proposing the concept of cultural and economic phylum. Such a phylum is regarded as a historical form of society type development in particular natural environment (1955: 4). The concept actually sums up a centuries-old controversy concerning the existence of stages or versions in population economic activity orientation. Since Dicaearchus it was recognized that the humankind had passed four stages of natural resources exploitation: a) primitive hunting, fishing and gathering, b) nomadic cattle breeding, c) agriculture, d) specialized agriculture. The results of field investigations of land management, conducted in different parts of the world in the sec-

ond half of the 19th century, as well as Humboldt and Ratzel's theoretic reflections created necessary fundamentals for the revision of the idea (Kraemer 1967: 79).

The concept of cultural and economic phylum proposes an original explanation for the plurality of concurrent ways of land resources exploitation. It is based on the assumption that population inhabiting a certain environment and attributed to a certain stage of social and economic development should inevitably elaborate a strictly defined, constant model of behavior. Their number is calculated from 1 to 23 (especially for hunters and gatherers), some of them could be subdivided into chronological stages (phases) and territorial groups. Such a taxonomic imperfection of phylum concept often causes the unification of principally different societies (for example, sea beast hunters of Arctic Region and large animal hunters of Central Africa). Besides, social and normative spheres of culture are isolated here to a certain degree, and ethnic traditions are eliminated from the series of factors influencing the environmental control system.

Despite its imperfection apparent today, in the middle of the 20th century the concept of cultural and economic phylum successfully served its positive purpose. It attracted attention to the pluralism of livelihood systems of different groups of population and connected the fact with features of natural environment. As a result the analysis of geographic components of a certain environment inhabited by a separate group of population became a subject of principal importance. Since the 1960s the creation of database on Late Glacial – Early Holocene fauna, flora, relief and climate reconstruction has been significantly intensified.

As a result a new direction of field archaeological investigation – environmental archaeology – was formed. The interdisciplinary analysis of geographic environment inhabited by Early Prehistoric populations has become its primary goal (Dincauze 2000: 20). Since the end of the 1970s two fundamental approaches that were gradually becoming independent disciplines could be distinguished within its frameworks. The first one – geoarchaeology – concentrates attention predominantly on the geographic context of ar-

chaeological objects (Goudie 1987: 20). The other group of environmental archaeologists deals with ecological links between human society and natural environment (Boyd 1990: 69–70). Nowadays the variety of theoretical problems of prehistoric environment reconstruction is also being conceptualized (O'Connor 1998: 1–6).

In Soviet prehistory the ecological context of separate settlement became a subject of a special investigation in the late 1960s when a broad spectrum of scientific methods was applied to archaeological research. Bibikov made the first attempt of large-scale generalization of their results with the help of palaeoeconomic simulation. Its application to Late Paleolithic and Mesolithic settlement case studies gave an opportunity to reveal that Late Glacial – Early Holocene natural environment influenced significantly the development of culture and, in its turn, was subjected to many essential changes caused by human activities. On this ground Bibikov elaborated the concept of palaeoecological and palaeoeconomic crisis as an objective and natural result of the prehistoric population productive activity taking place in permanently changing circumstances. From 9000 till 6000 B.C. several stages of such crisis development could be distinguished; they are correlated with the phases of geographic environment evolution as well as with changes of hunter-gatherers livelihood activities (Bibikov 1969). As a result a new specific direction of prehistory – an ecological one – appeared. Its purpose is formulated as a detection and analysis of connections between cultural objects and their natural environment.

In fact, the representatives of Western-European environmental archaeology and adepts of ecological approach in the Soviet academic tradition take similar paths looking for an explanation of Early Prehistoric population behavior. At the same time, there is also a clear difference in their initial theoretical backgrounds. So, unlike Western-European and American environmentalists, the majority of Soviet researchers believe that the social sphere of Early Prehistoric culture already reduces the environmental impact on material culture at the earliest phases of human history (Dmitriev and Belokobylskiy 1989: 262, 280).

The adepts of palaeoecological approach in Soviet and Western archaeology see their main task in the interpretation of results of concrete site investigations taking into account its natural ambient dynamics. So, they try to avoid some broad generalizations or complicated simulations of nature-society relationships preferring a simple explanation. During the last years it was proposed to distinguish local palaeoecology that concentrates attention on the problems of residence place and visiting territories, ecological situation reconstruction, and, on the other hand, regional palaeoecology whose object is a settlement system analysis and regional source base evaluation (Leonova and Nesmeyanov 1993: 8, 10). On the other hand, some recent investigations prove illustratively the high cognitive potential of this approach in wider spatial frameworks (Smyntyna 2001a).

During the last years the ecological mentality is also gradually improving in many adjacent fields of knowledge concerned with Early Prehistoric societies investigation, such as cultural and social anthropology, ethnology, palaeodemography, palaeosociology, palaeogeography etc. Their attention is focused on the conceptualization of palaeogeographical and palaeoecological impacts on the different spheres of life of Late Paleolithic and Mesolithic societies. In particular, the stages of geographic environment changes are correlated with the phases of human morphology evolution as well as with development of material culture and livelihood systems. The main role in the process was played not so much by living conditions of prehistoric population as by their dynamics in time (Velichko 1971: 16–17).

Gradual accumulation of knowledge of the natural geographic environment of prehistoric populations has put forward a problem of a feedback in ‘person – natural ambient’ relationship system. As a result a new specific direction of interdisciplinary studies – landscape history – was outlined (Muir 1999: 60–61). Thus, the analysis of source base and subsistence system has become again the crucial issue discussed in the context of interpretation of Early Prehistoric population behavior. This time it was principally upgraded – the quantity of floral and faunal biomass, population density and peculiarities of the population livelihood system are now taken into

account. Just at the end of the 1960s – at the beginning of the 1970s the term ‘behavior’ gradually becomes a synonym of many kinds of Early Prehistoric population activities including food and raw material supply.

ADAPTATION: A SPECIAL MODE OF BEHAVIOR OR ITS RESULT?

The problems of hunter-gatherer livelihood behavior have become exceptionally important in the frameworks of ‘New Archaeology’, an interpretative interdisciplinary approach originating in English-speaking archaeology. Its adepts believe that the basic features of social, economical and daily life organization depend on the availability and accessibility of natural resources. The approach tended to case studies realization, and that is why a wide spectrum of directions and their variants are developing now within its frameworks. Among them a middle range theory with two variants – the analysis of site exploitation area and gravitation model – is worthy of attention. The optimal foraging theory, originating in biology and economics, seems to be another fruitful analytic direction. Adepts of both of them incline to behavior generalized modeling that can hardly stand up to contemporary database. It is caused, first of all, by an excessive passion for sketchy schemas, rich in mathematical and statistical variables, that can not be calculated without potential mistakes (for example, the difference between minimal and maximal temperatures of the coldest and the hottest months of a season). In many cases the choice of ethnographic parallels used for illustrating social and mental spheres of Early Prehistoric daily life seems to have no grounds.

In the context of natural environmental impact on Early Prehistoric population behavior the two ‘New Archaeological’ concepts need some special attention. It was just the ‘new archaeologists’ who were the first in world interpretative archaeology to pose territory with its rather clear economical, chronological and ecological frameworks in the center of their studies (Verhart 1990: 139). Besides, thanks to ‘new archaeologists’ the concept of adaptation was

introduced and conceptualized in world interpretative archaeology and prehistory.

Adaptation is regarded here as a process of acclimatization to living conditions, as a product of natural selection and a degree of conformity between an organism and its ambient (O'Brien and Holland 1992: 57; Mithen 1989: 492). Typical for 'New Archaeology' pluralism of the conceptual solutions is also exhibited in this theory context through the infinite set of models adapting it for concrete cases (Bettinger 1991: 62). As a result it becomes necessary to understand differences between such notions as adaptive policies and adaptive processes, accommodation and assimilation. The problem of adaptive levels gradation for each adaptive strategy is also acute. The adaptation criteria need special attention: during the last forty years a broad spectrum of parameters variations was discussed. Among them one can find criteria that can be defined rather exactly (*i.e.*, concrete scorings of net efficiency of subsistence) as well as absolutely abstract notions such as happiness (Jochim 1996: 360; Lee and De Vore 1968: 89–92).

Nevertheless there are some common postulates shared by most 'new archaeologists'. Nowadays the concept of optimum adaptive level is claimed to be one of them. The idea is that human groups always try to minimize changes necessary to get an adaptive effect. In fact, it can hardly be referred to as an achievement of this approach. The roots of the idea can be traced to physics of the 18th century; in particular, in Lagrange's works it was formulated as the principle of the least action, in the heritage of Losch – as *lex parsimoniae*, in Zipf's investigations – as the principle of least efforts. It is important in the system analysis (as concepts of potential energy minimum) and in the operational analysis (rout of optimum transfer, or geodesic line). It was also adopted in environmental psychology (Bell *et al.* 1996: 48).

In the second half of the 1970s the adaptation concept became one of the most popular and fruitful approaches to the interpretation of human society and its natural environment interaction. Four basic directions of understanding the 'human adaptation' notion can be distinguished: evolutionary-genetic, ecological, biomedical and

social (Vereschagin 1988: 25). In the Soviet science of the 1960s – 1970s the main attention was paid to the biological aspects of adaptation with an accent on human capacity to fit natural environment requirements without changing organism's physiological constants (Khlebovich *et al.* 1975: 150). The purposeful productive activity and connected with its creation of vitally important things are regarded in Marxist historiography as a basic adaptive mechanism that essentially differs human biological adaptation from similar processes in animal life (Kalaykov 1988: 46–49).

Later most scientists came to the conclusion that a concrete scope of adaptation notion could not only be limited to its biological context. As a result adaptation was interpreted as a specific property of a human body and an evolutionary process taking place within a system with an organism being its member (Vereschagin 1988: 70). While interpreting adaptation as a process one should always bear in mind two main aspects of the problem. One of them is exterior, connected with the analysis of a society taken as a collective subject of human activity and environment interaction. The second one – interior – expresses the relationships among persons and human groups included into the society with their social ambient as well as their co-adaptation (Markaryan 1975: 141). In such frameworks the basic unit, producing and realizing the adaptive action in order to bring itself into conformity with environment, is a society regarded as a particular class of adaptive systems.

In the Soviet science the idea about an adaptive character of human society was expressed for the first time by Dolukhanov in the late 1970s as a concept of prehistoric economy optimization (1985). A little later on the basis of Australian aborigines ethnographic studies Kabo came to a conclusion that the Early Prehistoric community should also be regarded as an optimal form of aborigines social adaptation to their natural and social environment. Such a community acted as a stable public institute and consisted of several dynamic groups, which could potentially create some more complex structures. Thanks to him the notion of 'social and cultural adaptation' was introduced into the Soviet prehistoric terminology. Such an adaptation was regarded as an active human

impact on their environment; a person realizes it through her or his social organization, tools, housing, religious and magic activities etc. (Kabo 1979: 87; 1986: 5–6). Recently an attempt to continue these ideas has been made by Masson who proposed to consider economic activities, household adaptation and social adaptation as three basic directions of social and cultural adaptation of Late Paleolithic societies (1996: 16).

During several last years in Ukrainian Stone Age archaeology one can trace an apparent resuscitation of concern with different models of human group adaptation. Such models are often characterized by different levels of generalization starting with the scale of separate settlement and taking a natural geographic zone as the highest taxonomic unit. For example, according to Zaliznyak adaptation is regarded as a ‘concrete form of human society existence... depending on two factors: the level of its development and natural environment’. On that ground he often regards this term actually as a synonym to the concept of cultural and economic phylum (Zaliznyak 1998: 62–65).

It should be emphasized that in post-Soviet and English-speaking archaeological literature the term ‘adaptation’ is used in principally different contexts. Post-Soviet archaeologists apply it only in the frameworks of generalized interpretative studies while Western archaeologists successfully use it even in the publication of results of separate archaeological site investigations. The papers presented at the Soviet-American workshop ‘Problems of Cultural Adaptation in Late Paleolithic times’ held in Leningrad in July of 1989 demonstrated this difference rather saliently.

CULTURAL AND SOCIAL BEHAVIOR ADAPTIVE MOTIVATION

Another important direction of development of the adaptation theory is an interpretation of culture as a system that to a certain extent fits the living conditions of its transmitters. Its theoretical background was created at the end of the 19th century in the framework of the American possibilistic school headed by Boas. They regarded nature as a basis that gives chance for numerous

versions of cultural communities to arise and develop. Malinowski, the founder of the functional approach to the interpretation of culture, understands it as a specific answer to nature challenges, which is inevitably introduced in the needs of a human being (Malinowski 2000: 5). The culture was also regarded as an adaptive dimension of human society by New-York Culturology School (Montagu 1979).

The next step in this direction was made in the 1950s and 1960s in line with the reconsideration of the fundamental basis of theoretic reflection in the humanities. Just at that time Steward put forward his idea of the natural environment as one of many factors of cultural changes (1955). Approximately at the same time White proposed a more regular point of view on human culture as an extrasomatic system of adaptation with three basic directions: technological, social and ideological (1959). As a result a special direction of interdisciplinary investigations was formed; its adepts see their primary task in the detection of ecological function of culture. In the mid 1990s two basic approaches could be distinguished within its frameworks. Phenomenologists pay special attention to the active character of primitive population interaction with their environment. Cognitivists try to create a sort of classification of mental representations of the environment (Ingold 1994: 329, 344). Contemporary archaeological and ethnographic case studies of hunter-gatherer cultures are based mainly on phenomenological backgrounds of the adaptive function of culture detection. As a result it is possible to state that a cultural system and society are conceptualized now in Western-European and American science as rather autonomous, but mutually interdependent units in whose framework some complicated mechanisms of adaptation to living conditions are elaborated and realized. In this process a cultural system acts as a determinant of social trajectory, and society is an indispensable component of this trajectory reproduction (Morphy 1996: 187).

In spite of the methodological base uniformity of the Soviet academic tradition several fundamental approaches to culture and cultural process investigation can be distinguished there: actional,

axiological, structural, dialogical etc. Each of them is usually reviewed in the context of specialized scientific directions, such as psychological, sociological, historical etc. The system analysis of natural geographic factor of culture genesis and ecological function is realized mainly in the frameworks of ethnographic direction of actional approach. Its promoter Markaryan regards culture as a system of extra-biological mechanisms, due to which the whole cycle of human activity is realized in its all specific manifestations (*i.e.* stimulation, programming, regulation, fulfillment, maintenance and reproduction). The adaptive effect here can be achieved just as a result of the plurality of culture system potencies. At the same time it is admitted that a specific mode of adaptation to living conditions is elaborated in human society. Then the cultural system does not act here as an adaptive unit any more, but only as a universal mechanism of adaptation (Markaryan 1975: 143–144).

The concept of culture ecological function is developed in recent studies by Arutyunov, who regards culture as a set of different kinds of human activity institutionalization. Its principal functions are formation and transformation of environment, on the one hand, and a human being with his spiritual and physical characteristics – on the other. The formation of cultural system is a process of adaptation to specific niches, at first only natural ones that with the course of time become more social. To be able to realize its adaptive function a culture should not only be permanently capable of responding to the minimum of the environmental requirements, but also possess an adaptive potential necessary to overcome changing situations (Arutyunov 1989: 5, 130; 1993: 42, 47).

During the last decades the consideration of human society in direct connection with its adaptive function has become an integral part of many scientific approaches. This idea was the starting point of behavioral archaeology formed on the basis of ‘New Archaeology’ at the end of the 1970s and focused its attention on the explanation of various relationships of human behavior and material culture (Schiffer 1995: IX, 4). Behavioral systems are regarded as a model of connections existing between human activity and natural environment components. At the end of the 1990s such notions as a

principle of behavioral selection, behavioral flow, behavioral repertoire and others gradually expanded behavioral archaeology conceptual base. It is often realized at the expense of the psychological and ecological theories concerned with the problem of behavior and environment interaction, *i.e.*, theory of poor stimulation and model of behavior limitation (Bell *et al.* 1996: 121, 126). Adepts of this direction occupied with Early Prehistoric societies concentrate their attention on different models of resource behavior as well as on the models of hunting behavior.

STRESSES, ADJUSTMENT, RESILIENCE AND OTHERS IN CONTEXT OF HUMAN BEHAVIOR

From the very beginning of interdisciplinary studies of human behavior some attention was also paid to its rapid changes and their causes. As a result in the second half of the 1960s a general theory of a stress was elaborated. Stress is regarded as the basic reason for behavior transformation as well as an important premise of culture system reshaping and a new way of adaptation elaboration (Brothwell 1998: 7–8). Stress differentiation is based on the spheres of the influence and potential ways of overcoming. In such a context system stresses (with predominance of physiological components), psychological stresses (where behavioral and emotional components are dominating), and ecological stress (combining system and psychological components) could be distinguished (Bell *et al.* 1996: 131). In the Soviet academic tradition the classification of stresses grounded on their genesis was elaborated, where stresses and stressors of evolutionary, social and man-caused origin were distinguished (Khlebovich *et al.* 1975: 155–157).

The ecological stress seems to be remaining aloof in the frameworks of both approaches. It is perceived as a number of natural, social and economic, psychological and physiological factors that cause tension of regulatory mechanisms and disturb social dynamic equilibrium. A special concept of social and ecological resilience was introduced in order to estimate the capacity of a community to overcome external stresses; series of factors which help to increase the resilience was outlined (Neil 2000: 347, 349, 354).

The result of general theory of stress development was a creation of huge diversity of stress models and, in particular, 'patterns of stresses display in archaeological human populations' (Dincauze 2000: 486). These models, as well as 'New Archaeology' simulations, are characterized by some abuse of generalized and sometimes indefinite concepts and terms, such as 'individual growth rate change', 'decrease of health', 'buffer role of culture strengthening' etc. These notions hardly contain any information necessary to detect the ecological implication of Early Prehistoric population behavior. The adepts of this approach sometimes tend to stereotype and excessively generalize the processes occurred in the distant past. On the other hand, this theory has greatly contributed to the environmental mentality development through its attention to the multiplicity of stress responses inherent to human society. Within its framework adaptation, regulation (adjustment) and destruction of a cultural system are regarded as three potentially possible results of stressors impact, and it was just that culture system resilience that determines the possibility of any result.

The notion of adjustment as a specific form of society response to environmental changes originated in the late 1970s and was regarded as an opposition to the adaptation concept. Later at least two approaches developed. In the frameworks of one of them adjustments are interpreted as internal homeostatic changes taking place within a society characterized by a certain adaptive level (Cohen 1974: 64). Adepts of another approach believe that regulation is concerned with the correction of external stimuli; they investigate changes of mechanisms through which society realizes its influence on the environment (Bell *et al.* 1996: 125). Nowadays adjustment tends to replace the adaptation notion on the basis of the assumption that if all societies known today were alive at a certain period of time, it means that they were well adapted to their environment. The duration of any society existence as well as its activity intensity and success were determined by the effectiveness of the society regulating system, which was elaborated in order to react to environmental changes (Dincauze 2000: 73).

In post-Soviet anthropology similar ideas are promoted by the adepts of co-evolution theory originating in the framework of geocology. Co-evolution is 'a mutual and guided adaptation of a person and biosphere, which takes place under a continuous search for stable state as well as under their permanent changes in conformity with current situation' (Shvebs 1993: 29). The essence of co-evolution geocological aspect is in the substantiation of mutual relationships between nature and society territorial organization development.

CONCLUSION

Our review of contemporary approaches to Early Prehistoric population behavior ecological interpretation indicates that the impressive variety of views and concepts, schools and directions co-exist now in broad range of sciences, most of which are concentrated on general theoretic issues (see Figure). It is just here where we can detect both their advantages and disadvantages. They are advantageous because such general notions as adaptation, stress, culture, subsistence and others can be successfully applied to the analysis of any social unit. At the same time they are disadvantageous because this generality often hinders to reveal the unique features of the unit under study and makes it impossible to demonstrate the specificity of its stress experience as well as the peculiarities of culture modification in conformity with environment.

The situation is complicated by the tendency to model the behavior of Early Prehistoric population in indefinite spatial and chronological frameworks. For example, the concept of cultural and economic phylum implies huge territories, which sometimes cover several natural geographic zones. Adepts of palaeoecological approach in Soviet archaeology as well as promoters of the middle range theory concentrate their attention on a concrete settlement.

Pluralism of the ecological approaches to hunter-gatherers behavior seems positive in the context of the delineation of main spheres of natural geographic environment influence on Early Prehistoric population. As a result now it is practically beyond any doubt that such influence is most illustrative in household activities, in econ-

omy and in material remnants of culture. Recent investigations of cultural anthropologists open a wide perspective for recognition of certain influence of geographic factor on formation and evolution of Early Prehistoric ethnic communities.

1955	1960	1965	1970	1975	1980	1985	1990	1995	2000
<i>Theory of cultural and economic phylum</i>									
<i>Environmental Archaeology</i>									
<i>Ecological approach</i>									
<i>Geoarchaeology</i>									
<i>Landscape History</i>									
<i>Anthropogeneous impact on nature in Paleolithic and Mesolithic</i>									
<i>Culture in context of human adaptation</i>									
<i>Adjustment theory</i>									
<i>'New Archaeology'</i>									
<i>Society as adaptive system</i>									
<i>Behavioural Archaeology</i>									
<i>Stresses theory</i>									
<i>Objects cultural biography</i>									

Fig. Main approaches to interpretation of Early Prehistoric population behavior

So, one meets a paradoxical situation: the fact, that environment acts as an important factor in Early Prehistoric hunter-gatherers behavior motivation is practically beyond any doubt. Nevertheless certain characteristics of the environment, its concrete scale and geographic content as well as mechanisms of its impact on human culture remain totally unclear. The search for the concrete space, features of which influenced the Early Prehistoric culture and mode of life, should become the task of principal importance.

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