

Evolutionary Theories of Culture

An analysis and comparison of evolutionary theories of culture that have been created in so called evolutionary social sciences

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ABSTRACT:

The Aim of this paper is an analysis and comparison of evolutionary theories of culture that have been created in so called evolutionary social sciences. The article focuses on the theories of culture, which are based on Darwinian theory of evolution. Although the theory of evolution is a common denominator of these theories of culture, each of them uses a framework of theory of evolution in a different way, and accentuates the diverse facets of culture in general. On the grounds of similarities and differences the article suggests to divide the existing evolutionary theories of culture into four main groups. The main argument is that the groups of theories of culture address different structural levels of culture. The common denominator of cultural research within evolutionary social sciences is the application of an etic approach to culture. Culture is reduced to behavior; with the exception of theorists of behavioral ecology who use a concept of a heritable information to explain culture from an evolutionary perspective.

KEYWORDS:

culture, evolutionary social sciences, evolutionary theory, emic/etic, cultural anthropology

1. INTRODUCTION

The theory of biological evolution affected social sciences and humanities in many respects; above all it had a strong impact on the concept of culture in general. Since the 1970s the representatives of so called evolutionary social sciences developed the theories of culture based on the theory of biological evolution. The aim of this paper is to overview the evolutionary theories of culture, their analysis and to compare them in order to understand the contemporary state of the concept of culture in the evolutionary social sciences. In this paper I argue that it is possible to divide the existing evolutionary theories of culture into four main groups. The suggested groups of evolutionary theories of culture mirror all possible mutual relations between genes and culture. The issue of the culture concept is crucial for evolutionary social sciences in two main respects. First, in social sciences there is a long tradition of using the concept of culture. It is also vital for scholars from different academic backgrounds to have a common ground for understanding this concept in order to ensure a successful cooperation. Second, the scholars in social sciences, especially in anthropology, are discussing the contemporary state and future of culture concept because it is more and more evident that term culture is losing its power. To use the concept of culture in a semantic domain of evolutionary social sciences can stay as the beginning of misunderstanding among representatives of evolutionary social sciences and between scientists and social scientists.

2. CULTURE AS A SUBJECT OF SCIENCE

For more than two thousand years culture was a subject of humanities and social science. It is more and more obvious that the future of this concept is uncertain. Some scholars argue that culture as a useful tool is declining in importance because of preconceptions of culture (see Kuper, 1999). The discussions on the concept of culture and phobia of concept of culture extinction reveal only one thing—exclusivity of culture in social science and humanities. This exclusivity also partly explains the fierce reactions to using culture in other contexts than the one of social sciences and humanities. For many scholars and researchers especially irritable is the use of culture in the context of Darwinism. Any connection of culture with the Darwinian perspective is considered dangerous. This notion is based on historical experience with evolutionary theory and its abuse by political and totalitarian ideologies. As examples we can mention social Darwinism, eugenics, and racial theories.

The history of the word culture began with Roman philosopher Marcus Tullius Cicero who defined philosophy as “culture of the mind” (*cultura animi autem philosophia est*). Cicero accentuated the original meaning of the Latin word *colere* (cultivate or plant). Cicero adopted Greek philosophical thought; especially the legacy of Sophism—sophists distinguished order of *fysei* and *nomoi*. Plato then developed “care of the soul”; the object of care is the area of *nomoi*. In Plato’s view culture means activity. In this sense Cicero translated “care of the soul” as culture (“culture of the mind”)—culture as activity. The term culture was in the following centuries applied by European philosophers and physicians like Stahl, Krüger, Unzer, Nicolai and many others (Petermann 2004). British anthropologist Edward Burnett Tylor introduced the term culture into social sciences in his famous book *Primitive Culture* (Tylor, 1871), having picked the term up from German philosophical milieu. In the following decades, culture became a core concept of anthropology and anthropologists became specialists on examining culture (Kuper, 1999). The mainstream Anglo-American tradition of anthropology is based on cultural determinism, which was introduced into anthropology by Boasians in the first half of the 20th century. Representatives of this tradition are convinced that human culture is strictly separated

from the effect of the human gene pool or human biology in general and that the human mind is entirely shaped by processes of socialization and enculturation; i.e. by society and culture. Margaret Mead was the first person to provide the field data, which supported of this standpoint at the end of the 1920s and 1930s (Mead, 1928, 1935). Boasians also supported the idea of cultural determinism (so called School of “Personality and Culture”). The doctrine of cultural determinism was accepted in anthropology without doubts up until the 1960s when more significant application of evolutionary perspective on man and culture was introduced. Among major works of that time we can mention Lorenz, Ardrey and Tiger-Fox (Lorenz, 1966; Ardrey, 1966; Tiger & Fox, 1971). Those works are a signal of the unquestionable decline of cultural determinism. The big eruption of the use of evolutionary framework for the explanation of human culture and society began in the mid seventies when Edward Wilson released *Sociobiology: the New Synthesis* (Wilson, 1975). The Reactions in the anthropological camp were hostile (Segerstråle, 2001, see Chagnon 2013). Since the 1970s we have been observing a rapid development as well as spread of evolutionary social sciences. Nowadays, we differentiate between many approaches of individual scholars. We have to differentiate especially sociobiology, evolutionary psychology, human behavioral ecology, coevolutionary approaches to culture, memetics and human ethology. Alas, in the framework of each of them differences, various emphases and disharmony appear. The question is whether we can find a general model of culture developed in each of the evolutionary social sciences.

Roger Keesing made a classification of theories of culture (Keesing, 1974) from an anthropological point of view. He grouped the different approaches and theories into four classes - (1) culture as an adaptive systems and (2) ideational theories of culture, which he divided to (2a) culture as cognitive system, (2b) culture as structural system and (2c) culture as symbolic system. In spite of its age his classification system is still useful, but of course it does not include the theories of culture based within evolutionary framework. In this paper I suggest we should add a fourth class to the theory of culture, which I would call evolutionary theories

of culture. The group of evolutionary theories of culture consists of four main theoretical approaches to culture: (1) Culture as a system of biological adaptations, (2) Culture as a system of cultural replicators, (3) Culture as a result of coevolution, (4) Culture as a system of behavioral adaptations. These classes share many similarities but as I demonstrate in the last part of this article, each of these subclasses of evolutionary theories of culture address a different structural level. First of all, it is necessary to examine the concept of culture in evolutionary social sciences and precisely define particular evolutionary theories of culture.

3. EVOLUTIONARY THEORIES OF CULTURE

The evolutionary theories of culture are created by representatives of so called evolutionary social sciences. I include here sociobiology, evolutionary psychology, human ethology, coevolutionary approaches to culture, memetics, and human behavioral ecology. I use the term “evolutionary social science” as the label for groups of sciences and approaches researching human behavior in the framework of the theory of biological evolution. Nowadays many scholars use the label “evolutionary social sciences” (Blute, 2005; Borgerhoff Mulder-Thornhill-Voland & Richerson, 1997; Smith, 2000; Smith-Borgerhoff Mulder & Hill, 2001). However we also find many other labels which muddy the waters. For example Donald Symons uses “Darwinian psychology” (Symons, 1987) and Jonathan Marks “Darwinian anthropology” (Marks, 2004). Moreover, from time to time the labels themselves are confusing. Cronk (1995) works with the label “Human behavioral ecology”, but in the context of this article the label covers all branches of the field; for human behavioral ecology he reserved a label “evolutionary ecology”. Wilson also raises confusion when he suggests that evolutionary psychology is an alternative label for sociobiology (Wilson, 2000).

On the one hand, we are faced with the misunderstanding of labels and on the other hand we work with the concept of culture developed in the framework of cultural anthropology. Anthropologists still do not subscribe to a single definition of culture, and for decades they have discussed the status and future of the concept in anthropology (e.g. Fox & King, 2002). Anthropologists mean by “culture” a non-biological

► system of “something” whereby humans differ from the rest of nature. This means that representatives of evolutionary social sciences use the concept developed within the framework of social sciences and apply that to the framework of science. Unfortunately, the representatives of evolutionary social science often use the concept of culture either unclearly, unsystematically or not at all, but it is obvious that they have the concept of culture in mind. In this respect, Betzig’s notion is significant as she proclaimed that “I, personally, find ‘culture’ unnecessary” (Betzig, 1997: 17). As in the above cited article Cronk noted that evolutionists do not pay attention to the concept of culture. He also calls for incorporating the concept of culture into evolutionary approach to humans. For the purpose of this paper it is necessary to clearly define culture from the point of view of different evolutionary social sciences. In the following part of the paper I will summarize concept of culture from the perspective of the particular evolutionary social sciences. The following overview carries the risk of bias or oversimplification.

3.1. HUMAN ETHOLOGY

Human ethology is a subfield of ethology. Human ethologists use theories, concepts and tools developed in classical ethology as well as in cultural anthropology. Human ethologists typically combine the method of observation and participant observation. According to Eibl-Eibesfeldt (1989) the aim of human ethology is the research of phylogenetic evolved patterns of behavior as well as investigation of culture from the perspective of biological evolution and adaptation. Eibl-Eibesfeldt declared that “different cultures behave as species” (Eibl-Eibesfeldt, 1991: 52). Under these conditions the patterns of behavior are acquired in a non-biological way and passed from generation to generation. “Cultures are behavioral variants induced by social modification creating individuals who will in turn modify the behavior of others in the same way.” (Immelman & Beer, 1992: 65). This definition is acceptable from an anthropological perspective.

3.2. SOCIOBIOLOGY

Edward Wilson, the founder of sociobiology, defined it “as the systematic study of the biological basis of all social behavior” (Wilson, 1975: 2). Sociobiologists deal with the concept of culture regularly. David Barash argues that “everything that people do - beyond their most fundamental biological processes - involves culture” (personal communication). Barash defined culture as a biological adaptation when he noticed that “culture is, in fact, one our most biological adaptations, and it therefore need not be opposed to biology. In behaving culturally, we are also behaving biologically. Our culture is natural to us, just as quills are natural to a porcupine” (Barash, 1981: 221). Lumsden and Wilson defined culture as follows: Culture is the “sum of all of the artifacts, behavior, institutions, and mental concepts transmitted by learning among members of a society, and the holistic patterns they form.” (Lumsden & Wilson, 1981: 368). Lumsden and Wilson’s gene-culture coevolution concept is based on the same principles as sociobiology. The authors quoted work proclaimed that gene-culture coevolution theory is

closely linked to sociobiology opening a new realm of sociobiology.

3.3. EVOLUTIONARY PSYCHOLOGY

Evolutionary psychology is a sub-field of psychology founded in the eighties. Evolutionary psychology is rooted in the evolutionary theory, and utilizes the findings of cognitive science. Tooby and Cosmides argued that “human minds human behavior, human artifacts, and human culture are all biological phenomenon - aspects of the phenotypes of humans and their relationships with one another” (Cosmides & Tooby, 1992: 21-22). They use culture “to refer to any mental, behavioral, or material commonalities shared across individuals, from those that are shared across the entire species down to the limiting case of those shared only by a dyad, regardless of why these commonalities exist” (Cosmides & Tooby, 1992: 117). Cosmides and Tooby also distinguish metaculture, evoked culture, and epidemiological culture. Metaculture consists of universal cultural content arising from psychological mechanisms. Interaction between universal cultural content and the environment gives rise to different cultures around the world. Tooby and Cosmides call this evoked culture. If individuals create cultural content by inventions, and this cultural content spreads from one to another, then Tooby and Cosmides speak about epidemiological culture. Tooby and Cosmides accentuate metaculture, because it mirrors human nature. Metaculture is the main object of inquiring in evolutionary psychology; in common anthropological fieldwork metaculture is invisible. In the context of evolutionary psychology it is possible to conclude that the core of culture is biological adaptation.

3.4. MEMETICS

The proponents of memetics propose a new type of replicator, which they call mem and argue that culture consists of mems. The founder of memetics, Richard Dawkins, in his classic tome defined culture extensively - he stated that he uses the word culture as a scientist and not in its snobbish sense (Dawkins, 1976). Susan Blackmore did not define culture in her work at all (1999), but according to Blackmore culture is “all memes, though there can be some kind of proto-culture e.g. in chimpanzees who cannot imitate well enough to get a new evolutionary process going” (personal communication). In spite of the declaration that memetics is a science of culture its representatives pay only a marginal attention to the definition of culture. Delius wrote that culture is an “ensemble of traditional behaviours that is characteristic of population” (Delius, 1991: 76). Delius thus reduces culture to patterns of behavior and excludes the patterns of behavior from culture. Dennet, another theorist of memetics, explains culture in these words: “Culture is such a powerful set of cranes that its effects can swamp many—but not all—of the earlier genetic pressures and processes that created it and still coexist with it.” (Dennett, 1995: 338). Although memetics is declared as a science of culture, memetician theorists pay little attention to core categories; i.e. culture. From the nature of memetics it is possible to deduce that culture is an ensemble of patterns of behavior based on a system of heritable information called memes. Culture is transmitted via imitation. Memeticians pay more attention to the category mem than culture. They

Coevolutionary theories of culture are based on the presumption of an interaction between cultures and genes

believe that understanding the nature of mem is the way to understanding culture. With mem they have similar problems to those that anthropologists have with culture.

3.5. HUMAN BEHAVIORAL ECOLOGY

Human behavioral ecology applies the findings of evolutionary biology to examination of culture as a non-biological means of adaptation. The main concern of behavioral ecologists is the analysis of the optimality of human patterns of behavior in the context of the environment and sociocultural conditions. They study whether a particular population behaves optimally with a regard to evolutionary interests. Smith defines culture “as socially transmitted information (beliefs and values) that are shared by a social group of some sort and shape behavior” (personal communication). Irons argues that culture follows inclusive fitness. A particular population is closely associated with a specific environment and within it people operate in such a way as to achieve maximal inclusive fitness. Irons expresses it in this sentence: “what is observed as culture and social structure is the outcome of this process” (Irons, 1997: 37). The same view is held by Chagnon; cultures are adapted to specific environmental conditions (Chagnon 1988). Cultural success often increases reproductive success. In general it is possible to say that the concern of human behavioral ecology is the analysis of human behavior in particular environments; behavioral ecologists understand culture a system of behavioral non-biological adaptations.

3.6. GENES-CULTURE COEVOLUTION

Coevolutionary theories of culture are based on the presumption of an interaction between cultures and genes. Individual authors share the view that cultures and genes are separate systems of heritable information, which interact with each other as peers. Coevolutionary theorists aspire to create a model describing and interpreting evolutionary relations and mutual dependences of genes and cultures. In coevolutionary theory it is possible to distinguish three main theoretical approaches developed by (1) Cavalli Sforza and Feldman, (2) Boyd and Richerson, and (3) Durham. Cavalli Sforza and Feldman (1981) updated the definition of culture from Webster’s: “the total pattern

of human behavior and its products embodied in thought, speech, action and artifacts, and dependent upon man’s capacity for learning and transmitting knowledge to succeeding generations” (Cavalli Sforza & Feldman, 1981: 3). Boyd and Richerson defined culture: “transmission from one generation to the next, via teaching and imitation, of knowledge, values, and other factors that influence behavior” (Boyd & Richerson, 1985: 2). In their later coauthored book they defined culture: “Culture is information capable of affecting individuals’ behavior that they acquire from other members of their species through teaching, imitation, and other forms of social transmission” (Richerson & Boyd, 2005: 5). They believe that the key to understanding culture is the population, although a substantive role in the course of cultural evolution is also played by individuals and their decisions. The same opinion is held by anthropologist Durham (1991). He developed a theory of evolution by cultural selection and his concept of culture is based on ideational theories drawing from the Geertz’s semiotic theory of culture—patterns for behavior and not patterns of behavior (Geertz, 1973). He outlined five properties of culture which are important to the study of gene-culture coevolution: conceptual reality, social transmission, symbolic encoding, systematic organization, and social history. All quoted definitions are acceptable from an anthropological perspective. Durham, in this context, wrote that neo-Darwinian concepts of genetical evolution and ideational theories of culture allow for the development of an adequate evolutionary theory of culture, and bridge the historical gap between science and social sciences (Durham, 1991). All the above-mentioned coevolutionary theories see cultures—genes as equal contributors to variable interactions and relations. Thus it is not possible to include in gene-culture coevolution the theories that were developed by Lumsden and Wilson (1981, 1983). Their theories assume that culture derives from genes and only partly affects genes.

3.7. COMMON DENOMINATORS OF THE EVOLUTIONARY THEORIES OF CULTURE

Most of the above definitions are acceptable from an anthropological point of view. However, only when we read the quoted definitions out of context. The most disputed is indeed the issue of the origin ►

► of culture, because evolutionary models of culture are based on the biological theory of evolution. This is usually regarded as a problematic issue among anthropologists. The majority of evolutionary theories of culture assume that biological evolution shaped not only the human species, but also its culture. In general, authors of definitions point out learning and behavior as crucial aspects of culture. Anthropologists also point out this aspect of culture. Learning of culture does not affect the possibility of a connection between genes and culture. The exception to common denominators of evolutionary theories of culture is only memetics. Representatives of memetics do not use an explanatory framework of biological evolution because they work in the context of universal Darwinism. This idea was developed by British social psychologist Donald Thomas Campbell (Campbell, 1965) and the term was coined by Richard Dawkins (1976). The essential argument is that any system evolves by natural selection if the system disposes of replicators. Memeticians argue that culture consists of different replicators from genes and thus culture should not follow the same interests as genes.

Culture theories in evolutionary social sciences are based on the etic approach developed by Pike (1954) and broadly discussed by Harris (1968). Etic/etic distinction mirrors the approach to the analyzed culture. Applying etic perspective means that a researcher constructs a logico-empirical systems of concepts, meanings, contrasts and distinctions

TABLE 1
SMITH'S SCHEMA APPLIED ON DISCUSSED EVOLUTIONARY SOCIAL SCIENCES

	Heritable information	Psychological mechanism	Environment stimuli	Behavior	Fitness
Human ethology	X			X	X
Sociobiology	X			X	X
Evolutionary psychology	X	X		X	
Human behavioral ecology			X	X	X
Genes and culture coevolution	X			X	
Memetics	X			X	

of things from the perspective of the members of a particular culture. Studies of a culture from the natives' point of view means that a researcher cannot make comparisons of different cultures. On the contrary, applying an etic approach allows for this comparison. A researcher in this case utilizes abstract concepts developed in science (like calorie or income) and applies them in the course of research. The gathered dataset is comparable to the findings obtained in different research. In evolutionary social sciences it is the etic approach that is applied. For this researcher the specific culturally defined mental concepts are unimportant whilst measurable outputs of behavior based on these concepts are. In the other words, the patterns of behavior and their impact on fitness are relevant whilst the native's perspective is irrelevant.

We may illustrate this by comparison of particular evolutionary social sciences. Smith (2000) argues that most evolutionists would agree with the following schema of the evolutionary explanation of behavior: (1) heritable information shape (2) psychological mechanism, which is under press

of (4) environmental stimuli; psychological mechanisms evoke behavioral responses, which have (5) fitness effect influencing (1) heritable information (see table 1). In the context of Smith's paper we can summarize:

- Human ethology examines the ways the heritable information and environmental stimuli shape behavior.
- Sociobiology examines the ways the heritable information via behavior influences fitness.
- Evolutionary psychology focuses on the study of the origin of the psychological mechanisms as a result of the evolution of the heritable information; evolutionary psychology examines the effects of this on behavior.
- Human behavioral ecology attends to the effects of environmental stimuli on decision making and human behavior in general while ignoring psychological mechanisms; human behavioral ecology especially examines implications for fitness.
- Coevolutionary approaches examine the mutual dynamical relationships between cultural and biological heritable information and their influence on human behavior.
- Memetics focuses on cultural heritable information and their evolution and influences on human behavior.

We can summarise the previous details as follows: evolutionary social sciences are oriented on the human behavior and, with the exception of human behavioral ecology, they explain it on the level of cultural or biological heritable information. In my opinion, human behavior and heritable information are common denominators of evolutionary theories of culture created in the framework of evolutionary social sciences. The focus on evolutionary social sciences can be seen in the above discussed etic approach to culture. If culture theorists reduce culture to behavior and engage the concept of heritable information then they apply etic perspective. Patterns of behavior are principally observable and consequently measurable and quantifiable by exact scientific concepts and methods. A researcher does not require an access to the native mind in order to examine a particular culture from an evolutionary perspective. In this context, the main etic concept used as a tool in evolutionary social sciences is heritable information. Behavioral ecologists do not use the concept of heritable information, but they apply other etic concepts like "baby counting", "allocation of sources" or "hunting success" (Smith & Winterhalder, 1992). They also use, like other representatives of evolutionary social sciences, an etic approach to culture.

4. GROUPS OF EVOLUTIONARY THEORIES OF CULTURE

The above described evolutionary theories of culture may be split into four main groups. The classification of a particular evolutionary theory of culture into a group depends on its features and similarity with other evolutionary theories of culture in the same group. Groups should also reflect the historical development of evolutionary theories of culture and their mutual relations and similarities. I suggest the following groups of evolutionary theories of culture: (1) Culture as

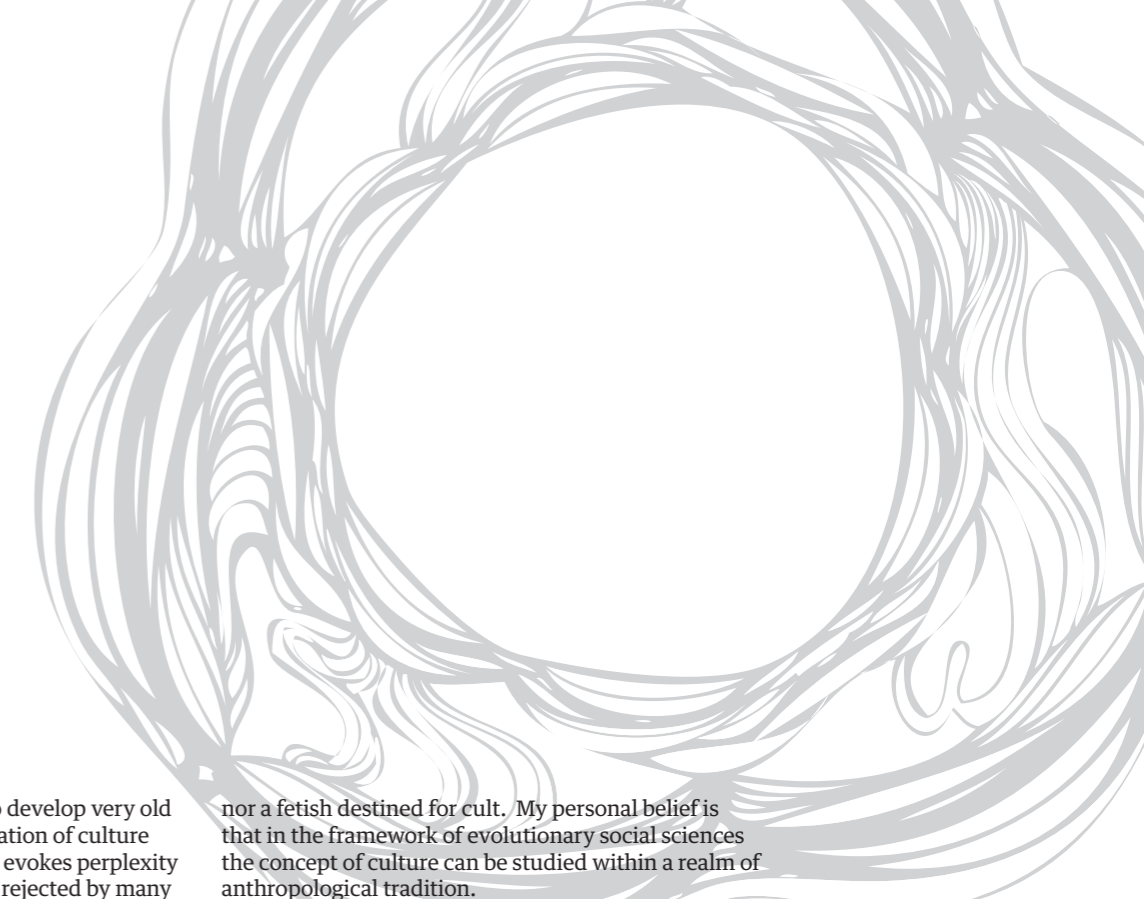
Patterns of behavior are principally observable and consequently measurable and quantifiable by exact scientific concepts and methods

a system of biological adaptations, (2) culture as a result of coevolution, (3) culture as a system of behavioral adaptations, and (4) culture as a system of replicators. From my point of view, these groups mirror each of the four potential relations between "nature and culture": (1) nature determinates culture, (2) nature and culture mutually interact, (3) culture overlaps nature, and finally (4) nature and culture are separated heritable systems. It is clear that these groups include different and mutually exclusive evolutionary theories of culture. In this sense it is necessary to understand the groups as Weber's ideal types: conceptual constructs created as a tool for systematic categorizing, analyzing, and comparing. Any particular evolutionary theory of culture will then more or less overlap the ideal type of a specific group. The suggested groups also make it possible the inclusion of any future evolutionary theory of culture because they cover all general conceivable relations between cultures and genes.

The details of the suggested groups of evolutionary theories of culture are as follow:

- 1) Culture as a system of biological adaptations. The premise here is the prediction that culture is linked to genes. From the perspective of the theory of biological evolution it does not make sense to separate culture and genes. Learned behavior is interpreted as an adaptation with biological background, which reflects evolutionary logic. Scholars creating these theories reason as follows: if cultural elements are determined by genes analogous to biological traits and have effects on fitness then we can place them alongside biological adaptations. It means that culture is a biological adaptation. I include sociobiology and evolutionary psychology into this group.
- 2) Culture as a result of coevolution. The theorists assume that cultural and biological traits are not inseparable; on the contrary they are separated but they interact in many ways. The theories in this group are mainly oriented towards the investigation of cultural conditions, in which the higher fitness is reached; a neutral relationship between culture and genes is presumed, and finally in which a higher cultural fitness via biological fitness is reached and vice versa. Cultural traits are not necessarily adaptive but their interaction with biological traits may lead to important changes in

- 3) Culture as a system of behavioral adaptations. From the discussed evolutionary theories of culture I include in this group human ethology and human behavioral ecology. In this type of theory culture is understood as learned patterns of behavior, which are more or less adaptive in the particular environment. Culture is then, analogous to ecological anthropology (cultural ecology), a non-biological means of adaptation. The main interest is not in the research of cultural adaptations but whether culture is adaptive in relation to particular conditions. Theorists, in the account for culture, do not include genes; genes are too far away from the everyday life of a particular population. The main variable in this type of theory is the population as well as the social and cultural milieu; culture is understood as a non-biological strategy for achieving reproductive fitness in non-ideal conditions. Culture is not the result of genes, but may affect reproductive fitness in both a positive and a negative way.
- 4) Culture as a system of replicators. Culture consists of cultural replicators which are minimal units of cultural information. In this group I include memetics, which sets memes as above defined replicators. Theorists suppose that the evolution of culture is the evolution of cultural heritable information by imitation as a means of selection, reproduction and spreading of cultural units. In this type of cultural theory the main role is played an individual and its decisions. The evolution of memes is independent of genes and their evolution. It is not possible to include memetics in the third group, because memetician theorists do not aspire to study the complex relations between genes and memes (i.e. culture); culture is, in a memetician view, an independent level of reality (sui generis). It is not possible to include Wilson and Lumsden's theory into this group, because in their view of evolution of culture-gene follows the interests of genes. That is why I included their theory in the first group. ►



Cultural diversity is narrowed to the common denominators of cultural universals in the sense of Murdock's concept

► There are three structural levels of studying culture: the level of human nature, the level of different sociocultural systems, and finally the level of individuals. I use this matrix for the examination of evolutionary theories of culture (see table 2). Although evolutionary social sciences share interest in human behavior and heritable information, they often produce mutually incompatible hypotheses. It has been aptly expressed by Winterhalder and Smith: "A behavior cannot simultaneously be the product of genetically programmed cognitive algorithm that no longer produces adaptive results, a product of culturally inherited meme that persists because it has high replication rate, and product of phenotypic adaptation that is optimally geared local environmental conditions. Nevertheless, these hypotheses could be simultaneously true for different behavioral domains or instances" (Winterhalder & Smith, 2000: 53). From my point of view the above mentioned "behavioral domains or instances" are the three defined structural levels of studying culture.

The theories included in the group "culture as biological adaptations" study culture on the level of human nature. In this group I included sociobiology and evolutionary psychology. These sciences are based on an adaptationist program, because in its view each culture supports the survival and reproduction of members of the society of the particular culture. Cultural diversity is narrowed to the common denominators of cultural universals in the sense of Murdock's concept (1965). The particular patterns of behavior mirror human nature whose essence is determined by biological evolution. In the other words, in this group ethnographic details and cultural diversity disappear completely. The reason is that theorists of this group think that ethnographic details

are unimportant for the purpose of the study of human nature. Cultural diversity only covers human nature. On the edge of human nature (a culture) and any particular sociocultural system (the culture) operate evolutionary social sciences included in the second group. The theories in this group address a particular culture and research the mutual relations between concrete cultural elements and genes. These theories are characterized by the orientation on ethnographic details and the recognition of cultural diversity, which is not possible to reduce to a set of cultural universals. In the other words, theorists of this group treat culture in an anthropological sense. Evolutionary theories of culture in the third group assume that culture is a situational strategy, which has an impact on fitness. These theories are focused on examining the adaptiveness of the cultures in a particular environment. Some facets of the culture may be determined by genes or generally by human biology. Biological determinism of the third group is not absolute, since not every cultural element is adaptive. On the contrary culture may decrease fitness. Culture on the level of individuals is addressed by theories in the fourth group. Culture is independent of genes and consists of heritable cultural information. Each individual keeps in mind a different version of his own culture as a result of life experiences and decisions. The evolution of culture, therefore, depends on individual decisions. The theorists do not focus on cultural systems but only on the cultural elements understood as cultural units.

5. CONCLUSION

As noted by Cronk (1999), if we want to understand human behavior from an evolutionary perspective, it is necessary to incorporate culture into research and theory. Theorists of evolutionary social sciences use the word culture unsystematically and often in confusing manner. Some theorists in this field do not use the word culture at all, but all of them have built a concept culture. The quoted definitions of culture are acceptable from an anthropological perspective. Since ancient Greek, culture is connected with the area of human laws (nomoi) as opposed to the laws of nature (fysei). Most cultural anthropologists of the 20th century were proponents of cultural determinism. The term culture in the evolutionary context is

rejected; in some respects they also develop very old philosophical tradition. Transplantation of culture concept to the area of fysei thereby evokes perplexity and misunderstanding; it is strictly rejected by many social scientists. In the eyes of social scientists it is like crossing a border. As social anthropologist Douglas (1966) showed, people are governed by cognitive imperative—all things have their proper place; if the things are found out of place then people interpret them as dirt; to be out of place is the principle of pollution. Hyperbolizing it could be said that social scientist interpret as polluting, when is concept of culture out of place—in the context of biological evolution. The further progress of evolutionary social sciences is feasible by incorporating culture concept. Culture is in some respect "cultural construct"; culture concept was developed in the history of Western thought and does not mirror the objective condition of the world; culture concept is not a dogma

nor a fetish destined for cult. My personal belief is that in the framework of evolutionary social sciences the concept of culture can be studied within a realm of anthropological tradition.

6. ACKNOWLEDGMENT

This paper is based on my doctoral thesis, which I devoted to the evolutionary theories of culture. In the course of the research and writing I was in contact with many scholars. I broadly discussed with them the concept of culture in evolutionary social sciences. I would like to thank them for their kind assistance, which stimulated my research. My thanks belong especially to David Barash, Susan Blackmore, Leda Cosmides, Martin Daly, Juan Delius, David Hull, Michaela Konopikova, Van Reybrouck, Peter Richerson, Eric Alden Smith, Donald Symons, John Tooby, and memorable Margo Wilson. ●

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