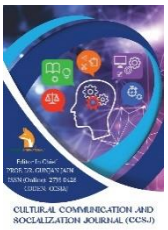
ZIBELINE INTERNATIONAL™ PUBLISHING

ISSN: 2735-0428 (Online)
CODEN: CCSJAJ

Cultural Communication and Socialization Journal (CCSJ)

DOI: http://doi.org/10.26480/cssj.01.2022.13.16



REVIEW ARTICLE

RETHINKING THE VIEWS ON THE NATURE OF HUMAN CULTURE

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ARTICLE DETAILS

Article History:

Received 01 January 2022
Accepted 09 February 2022
Available online 16 February 2022

ABSTRACT

Human culture has recently gained unprecedented importance in explaining the uniqueness of our species. Throughout the history of formal education human culture was the topic of interest of subjects like sociology, behavioral biology, and cultural psychology. The present communication critically considers the views of three disciplines about human culture in the light of history and contemporary knowledge. Social norms of a human group govern many aspects of culture. Recently, human culture has elegantly been analyzed utilizing the theory of mind. Collective capacities of minds of the group as repository of social information are important in understanding human culture. Similarly, biology of a cultural group, not the individual biology as well as the genome, not a candidate gene can explain nature of human culture satisfactorily. Size as well as the heterogeneity of the human group, their biological endowment including genetic makeup, capacities of the brain and mind determine the richness of social information in a social repository. However, uniform statement is perhaps not applicable to human culture because of its vast diversity, fragility, and context and thus it may lead to oversimplification.

KEYWORDS

Social learning, evolutionary psychology, sociobiology, epigenetic

1. INTRODUCTION

For survival and reproduction, humans require food, shelter, and mate like other animals. They gather such information from the environment to satisfy their needs of survival and reproduction in the process of personal learning, and social learning. Observations and interactions with the environment, as well as with the members of the social groups are the means of said learning. Social animals living in social groups acquire much information in a brief period easily from the peers, parents, or individuals who had such information. Such information gathering has tremendous importance in our species especially in the technology driven world. Social learning is less risky and more potent in comparison to the personal learning although the information gathered in the process may not be contemporary (Girldeau et al., 2002; Berman, 2016).

Social learning is a potential driver of human cultural evolution due to rapid spread of information through the members of the social group and being transmitted on generation after generation through horizontal, vertical, and oblique modes (Cavalli-Sforza and Feldman, 1981). In both the non-human primates, and human social learning constitutes the foundation of the culturally derived behaviors. The frameworks of evolutionary psychology and sociobiology emphasize on the idea that most of the social and individual behaviors in our species *(Homo sapiens sapiens)* have evolved to promote reproduction as well as survival (Wilson, 2000; Buss, 2015).

2. CULTURE AND SOCIAL LEARNING

For animals with capabilities for communication and imitations, animal ethologists use the word culture as ideas. Culture passes from mind to mind only in human. Our language is remarkably different from nonhuman communication in the potential for abstraction, grammar, symbolization, vocabulary development, teaching, as well as literary expression. Evolution of human language has been studied from social behavior of primates, the diverse existing human languages, the language development in children, and theoretical aspects of cultural evolution (Nowak and Krakauer, 1999). Humans have developed cultures for perhaps a million years, reproducing across 40,000 generations if we assume the time span of a generation as 25 years. There is reason to expect that those human groups will do best reproductively who do best culturally, and vice versa. A genotype will thus be selected to produce a culturally congenial phenotype (Ayala, 2015).

There are various definitions of culture. Culture may be defined as the processing and storage of information in brain and transmission through various processes particularly through social learning (Cloak, 1975; Henrich et al., 2008). Culture is, "a system of a socially transmitted pattern of behavior, preferences, and products of animal activities that characterize a group of social animals" (Jablonka and Lamb 2006). Cultures are the bundles of discrete packages, which evolve through non-genetic transmission (Ehrlich and Levin, 2005). Culture "denotes an historically transmitted pattern of meanings embodied in symbols, a system of inherited conceptions ex- pressed in symbolic forms, by means of which men communicate, perpetuate, and develop their knowledge about and attitudes toward life" (Geertz, 1973). Traditions, beliefs, institutions, languages etc. are the components of culture. Cultural traits in human are myths, beliefs, material artefacts, and societal structure. Cultural and individual adaptations in the face of new challenges necessitate cultural innovations. All the above said definitions does not reflect the uniqueness of human culture. Culture has been defined "as everything acquired by human beings that is not physically inherited. It embraces all modes of thought and behavior that are handed down by communicative interaction" which remind us about the cultural values (Ahire, 1993).

Quick Response Code	Access this article online	
	Website: www.ccsj.com.my	DOI: 10.26480/cssj.01.2022.13.16

Cite the Article: Fatik Baran Mandal (2022). Rethinking the Views on the Nature of Human Culture. *Cultural Communication and Socialization Journal, 3(1): 13-16.*

Culture is the totality of patterns of human behavior initiated by thought, conceived as brain and mind activity. Aspects of people's culture like language, religion; social and political systems, economic aesthetics, mysticism etc. are the human cultural elements (Ahire, 1993). Human culture has been defined "as that complex whole which include knowledge, belief, law, custom, art, morals, any other capabilities and habits earned by man as a member of a society" (White, 1959). In fact, unique culture keeps us separate from other animals. Perhaps, the most cultural activities are dependent on social learning (learning and imitation). The said definitions of culture show that the nature of culture is still not clear to us. According to UNESCO "culture is the whole complex of distinct spiritual, material, intellectual and emotional features that characterize a society or social groups including the arts and letters, modes of life, fundamental rights of the human being, value systems, traditions and beliefs (UNESCO, 2002). The above said definitions highlights the essence of human culture but not of animals.

Any discussion on culture of our species should consider that the potential of our species for imitation and our social intelligence are unique and extraordinary. Dewey and Lull first used the term social intelligence, and the modern concept traces its origin. Thorndike's divides intelligence into three facets namely abstract intelligence, mechanical intelligence, and social intelligence and classically defined social intelligence as the ability to understand and manage women and men, girls, and boys —to act wisely in human relations. In Wechsler's view, "social intelligence is just general intelligence applied to social situations" (Kihlstrom and Cantor, 2011). Recalling the concept of meme is noteworthy here. Dawkins proposed the concept of meme in 1976 as the unit of human culture which has been extensively used in explaining the aspects of religions, myths, consciousness, and evolutionary theory (Blackmore, 2001; Dawkin, 1978). Meme, an element of culture, is supposed to pass on by the non-genetic means, esp. imitation which is clearly built on Dakwin's original concept (Blackmore, 2001). Another definition of culture given is also mentionable: "culture is not an experimental science in search of laws, but an interpretative science in search of meanings." (Geertz, 1973).

We have advanced our understanding about our own culture. Culture is not inclusive to our species. Its presence in several non-human primates supports the core concept of gradual attainment of complexity of the evolutionary biology. The disciplines like evolutionary psychology, sociology, and behavioral biology views human culture with their own perspectives. Culture, our way of being refers to the shared language, beliefs, values, norms, behaviors, and material objects, which pass down from one generation to the next and shapes us, shapes our identity and influences our behavior (Schaefer, 2008). Human babies are not born with culture, but they learn it from their family culture and gradually from the local culture. People when travel to other parts of state, nation, or foreign countries they get accustomed with regional culture, national culture, and global culture respectively. Individual with the same culture share the same ways of thinking and behaving to their juniors or to the next generation and thus culture is shared. However, personal learning experience may influence such sharing.

Culture transmits from friends, teachers, family members, and relatives unlike the vertical transmission of genes from parents to children. Thus, culture spreads ideas, beliefs, and other information very rapidly. Culture is symbolic which may be a word, sign, or action. Spoken or written language is symbol based (words). The ability to share culture depends on language in case of humans. Culture increasingly became the main way for adaptation of our ancestors to diverse environment and allowed people to live almost anywhere on earth and thus it was adaptive. Humans were physically adapted for a warm climate and first lived in the tropics. Eventually, culture allowed them to live in cold climates without the need to adapt biologically and humans moved into colder areas. Thus, culture allowed our ancestors to thrive and spread into new areas of colder climate. Humans used fire, built shelters, and made clothes to stay warm (Kelly and Hoburg, 2017).

People's always act not necessarily following the ideal culture what people value. The differences are obvious between the ideal culture and real culture, the actual living style of people. In all classes of society, social norms emerge from gradual accumulations of beliefs that are considered as ideal behaviors typical of groups and represent the rules of behaviors in a group (Ehrlich and Levin, 2005; Sumner, 2019). Such norms coordinate many aspects of our social life and regulate people's social behavior. Many scientists claim that cultural evolution is a key to human success. Somebody claim human brain, cultural intelligence, an outsider's seemingly natural ability to interpret someone's unfamiliar and ambiguous gestures the way that person's compatriots would are the pillar of human success (Earley and Mosakowsk, 2004).

Transmission of epigenetic information happens through the process of social learning. The importance of biological or genetic evolution has been echoed in the frame code of Dobzhansky," Nothing in biology makes sense except in the light of evolution (Dobzhansky, 1973). Similarly, "Nothing in human behavior makes sense except in the light of culture" has recently been advocated (Morgan et al., 2015). Transmissible epigenetic information is distinct at cell level and in social learning (Delle Fave et al., 2011). Social learning in non- human species is distinct in animal tradition frameworks (Fragaszy and Perry, 2003). It uses complex routes like imitation and display. Additional epigenetic route of transformation of information, which is typically inclusive of human, is the symbolic culture, which appears to be the major driver of human evolution.

3. Views on the Nature of Human Culture

3.1 Sociobiological views on culture

Sociobiology, the systematic study of the biological basis of all social behavior preceded and developed into evolutionary psychology. Some researcher calls it a "new holism." (Wilson, 2000). Evolutionary psychology and sociobiology emphasized the term "selfish "in all life forms as clear from: 'We are survival machines robot vehicles blindly programmed to preserve the selfish genes" (Dawkins, 1982). He also stated that "Let us try to teach generosity and altruism, because we are born selfish". Scientists who did not agree with the selfishness argument replied that organisms are interrelated, with myriad of coactions, cooperations, and interdependencies as they live in ecosystems and communities.

Genes spread around to be conserved only through such a way. In the process of survival of the selfish gene and the survival of the parents through their genes, organisms attempt to produce more offspring for propagation of their genes. The idea of "inclusive fitness" advocates that the genetic success of an organism depends on altruistic behavior and cooperation (Hamilton, 1964). However, sociobiology could not recognize the novel, nonbiological means of human culture. Wilson idea: "The genes hold culture on a leash. The leash is very long, but inevitably values will be constrained in accordance with their effects on the human gene pool" reflects the dominance of biology or gene in culture (Wilson, 1978). Wilson provided an account of the general human traits in the form of human biogram (Wilson, 2000). Earlier sociobiology thought that genetic shaping of beliefs as one-way and direct. However, in late due attention was given to gene-culture co evolution. Cultural variations persist only when the genes can use them the better to reproduce and such innovative practice transmits to the next generation culturally and epigenetically.

Ruse and Wilson put the idea of epigenesis: "Human thinking is under the influence of 'epigenetic rules;' genetically based processes of development that predispose the individual to adopt one or a few forms of behaviors as opposed to others" (Ruse and Wilson, 1986). Humans possess some innate mental dispositions, such as to avoid incest, or fear the strangers. When oral cultures become literate cultures, people transmit ideas to thousands who read books or browse internet a thousand miles away. This speed up the pace of cultural evolution by orders of magnitude over that of genetic information transfer. In computer analogy, the same "hardware" (biology) supports diverse "software" (culture).

3.2 Views of behavioral biology on culture

With tools for this and that, the mind is comparable to a Swiss army knife, then a general learning device. A complex of behavior-disposition modules resulted from the adapted mind, each for survival-specific and task-specific functions such as obeying parents. In mate choice, men select younger, likely to be fertile women. Women select men of social status as the to be good providers for their future offspring. Our decisions making is associated with survival. Capacities to select a potential mate are instinctive, but they are unlikely to be isolated from general intelligence. In fact, we are disposed under what Robert Boyd and P. J. Richerson call "a dual inheritance system" (Boyd and Richerson, 1985). Our actual behavior is an interactive result that belongs to an ellipse with two foci, one genetic and one cultural. Depending on where one is situated within the ellipse, behaviors may be dominantly under the pull of genes, culture, or various hybrids with components of both. How individuals behave is often determined by their learning experiences, or by social trends. Choices depend on parents, teachers, social policies, institutions, and peers. Even in case of reproductive behaviors, cultural beliefs can override any genetic dispositions to maximize offspring. In the last century, fertility has declined in Europe and Italian women do not maximize their offspring. This behavior differs in their beliefs with their mothers and grandmothers. Such changes must be due to cultural factors, not genetic (Cavalli-Sforza and Feldman, 1981).

3.3 Views of evolutionary psychology on culture

The evolutionary psychologists believe in universal mechanisms in the framework of adapted mind of human. Variables manifest in psychologies or behaviors in individuals and across cultures. These are the product of a common, underlying evolved psychology, which works under various conditions (Barkow, 1989). Bock complains: "Human culture histories here emerge as fortuitous meanderings of people within bounds set by a human nature produced by organic evolution" (Bock, 1980). Cultural psychology assumes that culture and mind is inseparable. In the book entitled, "Self comes to mind and construction the conscious brain", Damasio developed an idea of self-based on the embodied mind and the self is made up by the core self, protoself, and autobiographical self (Damasio, 2010; Bondebjerg, 2015).

Evolutionary psychology stresses more on mental dispositions than genes as the determinants of evolution and emphasizes mind along with its cultural capacities. Relationship between sociobiology and evolutionary psychology is both congenial and contested. Interaction of genes and culture result in our complex psychology. Such interaction is sometimes concerted, and sometimes contradictitory. It remains thus correct "to speak of the genes anchoring the psychological predispositions that tend to pull our cultures back to fitness- enhancing orbits" (Barkow, 1989). Our adapted mind with a set of complex adaptations has ensured survival over the evolutionary history (Tooby et al., 1992).

4. Discussions

The present article highlights three important views on human culture. According to Henrich, culture and cooperation are the two pillars of human success (Kelly and Hoburg 2017). Gene —culture co evolution advocated by Boyd and Richerson that not gene alone but also culture takes responsibility in making us human (Boyd and Richerson, 1985). Any discussion of cultural evolution after the gene-culture co-evolution theory otherwise termed the dual – inheritance theory has generally combined the biological, behavioral, and social sciences involving the interaction between gene and culture. This theory suggests that gene influences human culture and culture on the other hand influences genes. Semes and memes have been proposed as the unit of culture. However, social learning lies in the core of cultural evolution, and it has generally been agreed that both genetic and cultural evolution have the contribution in making us unique.

"Human beings, in addition to being products of biological evolution, are—vastly more than any other organisms—also products of a process of cultural evolution" (Ehrlich and Levin, 2005). Further, I would also like to emphasize on the biology of the group in connection with the human culture because genetic evolution happens due to changes in the pools of genetic information of a population. In fact, evolution always deals with the population. Thus, we should keep it in mind that it is not the individual biology rather biology of a cultural group or not a particular gene but genome should be emphasized in discussion with culture. Social norms represent the rules of human behavior in a group (Ehrlich and Levin, 2005). Social norms are collections of beliefs about natural events without inherent meaning, but individuals can rely on them and individuals can choose to interpret events as prescribing behaviors for themselves along with the hope of the behaviors of others. These social norms govern most aspects of human social life (Morsky and Akcay, 2019). We should keep in mind that our action and our biology in-group shape our culture, which in turn is governed by gene-neuron- hormone –environment interaction. We are ultra-social due to genetic mutation and selection. Our big brain has offered our self-awareness and has created requirements for better adaptations in a social-and physical environment (Mandal, 2018). Biological endowment of our species includes the possession of 16 billion cortical neurons which gives us the unique cognitive capabilities and interestingly the first modern human of 200,000 years ago most likely had the 16 billion neurons in the cerebral cortex as of nowadays (Herculano-Houzel, 2011). Maintaining the lots of neurons are undoubtedly costly. Then what is the benefit. According to the benefit lies in the fact that no other animal cooks food as our ancestors learned 1.5 million years ago (Zinc and Lieberman, 2016). Using mass media or internet a single individual can influence millions of people in a brief span of time, however the capabilities of minds of billions of people are also remarkable (Ehrlich and Levin, 2005). Gene not alone but in combination with our nervous system, endocrine system and with the environment (Physical and social) in addition to our culture shapes the biology. Interestingly the system of such shaping is not unidirectional but multidirectional. For example, environment shapes our culture but our environment in turn shapes the culture. Furthermore, what is right in one culture may be the wrong in other culture. Human culture varies depending on race, ethnicity, and geographical location, age groups of the people as well as personal experience and individual's genetic endowment. Thus, culture should be studied as diverse, fragile, but unique attribute to our species. Attempts to simplify human culture would be a misleading attempt.

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