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A discussion of nature and society in the geoantropological view: the relationship and perception of the Capoeirão community with water resources, Santa Quitéria-CE

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ABSTRACT

This work was born from the principle of discussing the relation between society and nature as the main analysis category, having the environmental perception as the basis for this discussion. For this, topics from two study fields were combined, namely geography and anthropology. Once the studied area is a semiarid one, some political and physical aspects were raised since it is in this context that man finds power and mechanisms to live in such an area. In this view, it was analyzed the environmental perception from Capoeirão community dwellers. In the methodological procedures, interviews were carried out and a semi-structured questionnaire was applied addressing various aspects regarding perceptions about water resources and the environment. Such observations make clear the importance and impact of the Araras reservoir for many families dependent on it, not only in the economical sphere but also in the historical and cultural ones, as well as the viability of the new social technologies (cisterns) that deliver a better life quality despite of some setback still unsolved. Therefore, the research can serve as a reflection in governmental program execution, that is, the practicability of projects in the Capoeirão community. In addition to it, it can become a bibliographical reference for future researches concerning socio-environmental topics and life in semiarid areas.

Keywords: Society. Nature. Water Resources. Semiarid.

Uma discussão da natureza e sociedade na visão geoantropológica: a relação e percepção da comunidade Capoeirão com os recursos hídricos, Santa Quitéria-CE

RESUMO

O presente trabalho parte do princípio de abordar a relação sociedade e natureza como categorias de análises centrais, considerando a percepção ambiental como alicerce no debate. Com base nisso, se fez oportuno conciliando a temática a dois campos de estudos - geografia e antropologia. Além disso, uma vez que a área de estudo se encontra na região semiárida, foram levantados alguns aspectos físicos e políticos, pois, é nesse contexto que o homem encontra força e mecanismos para conviver no seu meio. Nessa perspectiva, optou-se por analisar a percepção ambiental dos moradores da Comunidade Capoeirão, Santa Quitéria - CE. Nos procedimentos metodológicos foram realizadas entrevistas e aplicação de questionário semiestruturado abordando vários aspectos quanto às percepções referentes aos recursos hídricos e ao ambiente. Diante das observações fica claro a importância e o impacto do açude Araras para diversas famílias, tanto no âmbito econômico como histórico e cultural, bem como a viabilidade das novas tecnologias sociais (cisternas) que oferecem uma melhor qualidade de vida, embora existam alguns percalços a serem resolvidos. Assim sendo, a pesquisa pode servir como reflexo da execução de programas do governo, ou seja, a aplicabilidade dos projetos na comunidade Capoeirão, bem como se tornar referência bibliográfica para pesquisas futuras na temática socioambiental e de convivência com o Semiárido.

Palavras-chave: Sociedade. Natureza. Recursos Hídricos. Semiárido.

Introduction

When discussing about nature, there is an unavoidable inquiry regarding the difference between what is natural and what is artificial. The distinction between natural and artificial and/or cultural is conceived by what nature, in itself, presents and by what man produces through the natural element, that is, the artificial/cultural. Nonetheless, there is the point of view that the artificial object has in its roots the natural material (Carvalho, 1991). However, in this work, nature and/or environment is discussed from the perspective of an interaction, which is directly related to the subject.

It is worth mentioning that it is not possible to establish the true and unique meaning of what is nature since “obviously the definition or the conceptualization of what nature might be lay on the perception we have from it, of ourselves and, therefore, the purpose we have for it, in other words, it depends on forms and purposes of our social coexistence (Carvalho, 1991, p.13). In this way, it is possible to state a definition from the comprehension that for each society, in its time and reality, nature has different meanings and, according to the abovementioned author, discussing nature demands to speak in the manner how things are seen in their specific totality. In other words, as described by Velden and Badie (2011, p. 22), “there is not a permanent, physical and immutable nature – neither a nature of things, in the same patterns – but lots of natures as many as the cultures are: not worldview anymore but different ontologies, that is, many (other) worlds”.

Thus, it is understood that it is not the nature in its broadest sense that has changed, but its conception from individual analyses and, consequently, from human activities on it. As postulated by Carvalho (1991, p. 61), from the nature analysis:

The ancestor's non-nature; the Greek organic nature; the church supernatural nature; the smart machine nature of the modern world. So, nature's history is in humankind's history in itself. Producing ideas, conceptions, lifestyles, co-living habits or, in short, producing culture is part of humankind's history.

Another important placing that deserves to be mentioned is the one made by Porto-Gonçalves (2016, p. 37), who affirms that “in every society, every culture creates a specific conception for

nature at the same time it creates and establishes social relations. Therefore, a certain conception of nature is embedded inside these social relations”. On the assumption that nature and society are interconnected, in this aspect inserted into the culture itself, since man is the creator and mobilizer of this culture, and since culture is par excellence the object of study of anthropology, however, nature occupies a privileged space in anthropological reflections (Velden and Badie, 2011).

In this manner, it is noticeable that the relationship between society and nature is more and more relevant in academic researches, principally for methodological development concerning environmental issues, we have examples Gonçalves and Blanco (2018); Araújo (2019); Bernini (2019). By way of example, nature and/or environment integrated with a relational geography, ethnoecology, environmental anthropology amongst other related areas. With this, the environmental issues, or discussions on nature and environment, are not only strongly connected to biology and geography as usually thought. Waldman (2006) points out that anthropological science in itself is capable of contributing to such issues. Or, as exposed by the geographer Sauer (1998, p. 68), who had a tough connection with anthropology,

What happens to man through the influence of its physical environment is beyond the geographer's competence, who, at most, can keep himself aware of logical physical research in that area. What a man does in a certain area as a taboo, totemism or due to its own will, involves the use of environment instead of the environment's active action.

This way, the cultural factor is quite essential to understand the dynamism in the geographical space once the human experience is produced and also reproduces in the environment, in nature, consequently establishing a dynamism in the landscape.

In this sense, starting from the premise of approaching the meaning of nature in the semiarid region context, with objectives specifically turned to water resources in the Capoeirão community that is located in the municipality of Santa Quitéria and the vicinity of the Araras reservoir.

The issues raised during the insertion to the field had the purpose of analyzing and discussing the environmental perception of that community.

With some reflected variables, one of them already mentioned, is concerning the conception, the comprehension that the local natives have about what is nature. However, speaking directly of what nature represents was an issue little answered. At times, it was about the first word that comes to mind when speaking of nature and/or environment.

Among the collected answers, nature appears as “worry and preservation of the environment” and it is occasionally associated with water. Such ideas stem from the difficulties and relevance that the water resource has for a population inserted in the semiarid environment, usually named “sertão”, farthest lands.

The comprehension and importance of nature appear among the answers given by the interviewees when they report the intermittence of the rainy season, the water volume in the reservoir and cisterns when it is dry and full (this latter – cistern – there is the necessity for consumption), which are mechanisms, through governmental activities, essential to the survival of the Capoeirão community and its dwellers. With this, the perception and relationship with nature are born from the uses of natural resources in which water is the main component.

Furthermore, nature also shows up in reports as “something good and beautiful” or in the same way “nature is a beauty” which is related to the visual field and a formidable element capable of being revealed by the conception of landscape. It is still associated with the spiritual, dogmatic aspect when stated that nature is “God and Virgin Mary”. Notably, beliefs and religious knowledge influence the conception of nature, which for science is understood as a historical reading of a nature that is related to God-man.

From this, several moral, ethical and religious values particular from each interlocutor are pointed out. Thereby, the fieldwork sought to assign a more present and realistic speech concerning the conditions in which the local dwellers live and how they perceive it among themselves. It is understandable that the frontiersman is not disdainful about environmental issues, nor is it disdainful about nature because he perceives it in its way. Diversity in the conceptions of nature is noticed and it is linked to natural resources. At the same time, it is related to religious beliefs and the emotional area like beholding. Such ideas come from their experiences, beliefs, memories and inherited activities in the course of their lives, that is, these conceptions do not start exactly from the scientific point of view, but from the cultural one instead.

Therefore, discussing the scientific point of view is quite appropriate and for this reason, it is going to be discussed as follow on a basis that considers the relationship between society and nature, within possible theoretical contributions and methodological articulations with the anthropological and geographical field.

Society and Nature: short theoretical notes in Anthropology and Geography

Anthropology comes to contribute to the comprehension of how is the relationship between society and nature as well as the environmental perception of certain groups since it “refers to the form of considering the culture, the different roles that the sectors and social classes play in this cultural production, and thus the activities and conceptions regarding the natural environment” (Foladori; Taks, 2004, p. 334), in short, each society/group realizes nature/environment in a way that makes sense and has a meaning for it.

For this purpose, the philosopher Merleau-Ponty, when handling the phenomenological method, had a big influence and contribution in the anthropological and geographical field, in the interest of discussing with the perceptions and the relationship between society/man and nature/environment. In anthropology, the phenomenological method shows up principally in Tim Ingold’s notes in his book called “The Perception of the Environment: Essays on Livelihood, Dwelling and Skill” in 2000, his studies presented a new anthropological perspective: the ecological one.

Nevertheless, little of the ecological and environmental anthropological approaches have been spread in the Brazilian anthropology. However, the social and cultural anthropology has an approach strongly consolidated around the country, where the various societies are thought to live in culturally built environments. Thus, the environment is not a crucial factor to create a culture, it implies only in some boundaries for its development. Di Deus (2004, p. 6) points out that,

The prevailing social and cultural anthropology around the country deals with two fundamental ideas: an environment does not create a culture, it only imposes limits for the culture’s development; and, humans live in culturally built environments. Such a division, internal to the discipline, reflects a bigger division between two different

reality fields, namely the natural/biological and the cultural/social, which should be covered, respectively, by two different knowledge fields, the natural science and humanities.

This way, just like for some authors in the geographical sphere, the social and cultural anthropology has nature as a “social construction”. However, in Di Deus view (2004), having Tim Ingold’s observations as a ground, there is a difference between the definitions of nature and environment. Nature is natural when it does not have contact with humans, whereas the environment arises when humans come to perform in this natural space. In the outlook of this perspective (man+nature) arises the environment (Figure 1), in which the culture works as a guide of a “cultural nature”, built/artificial, the outcome of a western conception.

Ingold (2000c: 41)

Figure 1: Division and the relationship between nature and culture by Tim Ingold.

When it comes to nature and culture, inside their many definitions, they have always been anthropologists’ interest speculation, even though culture has become the principal axis. Concerning nature, it is discussed in a long history in philosophical thoughts, from the pre-socratic one to the current approaches, as already discussed by Waldman (2006), culture does not have a quite deep log.

The word culture comes from the Latin – *Colere*, and means cultivate and take care of. The conception of culture in itself, which is fundamental in anthropological studies, undergoes debates regarding its definition, but what seems to be so common when the discussion is about category formulation and conceptions in different subjects.

In the same sense, Falcão Sobrinho (2007); Torres and Falcao Sobrinho, (2016) places the climate as a conditioning factor for the other elements of the landscape, but emphasizes that the various forms of relief in the region provide support for the other landscapes elements being the vegetation the element of greater visual impact.

In this landscape design, the state of Ceará occupies a territory of 148,016 square kilometers, with 92% of those subject to the semiarid conditions (Falcão Sobrinho, 2007). As components of the landscape, the State harbors a certain natural and landscape diversity, being the sertaneja¹ surface of greater expressiveness in the aridity context. Barros and Lima (2016), verified that Taparuaba, a municipality in Ceará, Brazil, is completely found in the semiarid area.

Edward Burnett Tylor, in his first book “Primitive Culture” (1871), is considered to be the first scholar to formulate, in an anthropological perspective, the definition for culture (Laraia, 1996; Waldman, 2006), where he sought to demonstrate that culture, “taken in its wild ethnographical sense, is this whole set that wraps knowledge, beliefs, art, moral, laws, traditions or any other capacity or habits acquired by man as a society member” (Laraia, 1996, p. 25). However, its failure is given by the fact that “it does not recognize the several culture paths” (*Ibidem*, p. 35).

After the formulation of culture by Tylor, which was thereafter complemented by his disciple Kroeber in his theory “The Superorganic” (1917), there was a large separation between the natural and cultural aspects (Laraia, 1996). The ideas spread by the forementioned production considered

that “culture would conform a distinguished plan of reality from the human, set apart from the biological. In culture, the learning; in biological, the inheritance, the inborn” (Di Deus, 2007, p. 90). Nonetheless, as a form to understand Tylor’s position, and consequently Kroeber’s one, their ideas were strongly influenced by “The Origin of Species” by Charles Darwin, where anthropology was completely dominated by the evolutionist perspective generating the social evolutionism paradigm, which was heavily criticized. According to Laraia (1996, p. 27-28),

Indeed, thousands of definitions formulated by Tylor served to establish a confusion of what to expand the limits of the concept. So much so that in 1973 Geertz wrote that the most important topic of the modern anthropological theory was the one to decrease the concept range and change it into a more theoretically sophisticated and powerful tool.

In Waldaman (2006) observations, the cultural anthropology, highlighting Boas as one of the anthropologists in the 1920’s, reacted to the evolutionism and refuted the geographical determinism. However, Di Deus (2004, p. 13) points out that,

We will see that Franz Boas addresses Eskimo to “try to comprehend how the human brain responds to the natural environment” (Boas 2004b: 64), studies agenda strongly influenced by the “cosmographical” tradition established by Alexander von Humboldt and, carry forward by scholars like Ritter and Ratzel (Bunzl, 1996). Boas, however, would return to his expedition to the Arctic with grounds to criticize the geographical determinism.

In this form, Boas reveals interest in the “cosmographical” conception from Humboldt’s studies in a discussion outlook about the issue that is the relationship between human beings and their environments.

Alves (2005), in this view, highlights a closeness with anthropology, by Boas, with geography, through Humboldt, when he lists the aspects: fieldwork; observation through intuition/induction; the idea of unicity; and, finally, the comparative and historical methods. Albeit,

In geography, Boas was influenced by the thoughts of the principal geographers from the nineteenth century, especially the German ones (...) Friedrich Ratzel. From the latter, who is also had as a founder of ethnology, Boas inherited, at first, some of his determinist conceptions (*Ibidem*, 2005, p. 68).

After years studying, Boas detached himself from the geographical determinism’s ideas, but he considers the environment to be “an agent that limit or guide the culture in a certain direction, however, it is not a generalization” (Alves, 2005, p. 68).

From this, his analyses became solid since they were founded in the paradigm of the opposition between culture and nature, from the moment when it was sought to determine how and when the man is put different from nature, which culture arises disproportionately, “in other words, Boas developed the historical particularism (what is also called the American Cultural School), in which each culture follows its paths in the function of the different historical events faced by it” (Laraia, 1996, p. 36). This way, Boas supported himself on its theory of cultural relativism, with each society having its singularity/particularity, thus relativizing cultures. In Foladori and Taks (2004, p. 334),

The cultural relativism, arisen as an opposition to the positivist evolutionism from the nineteenth century, was turned into a moral ballast for anthropology. Taken until its last consequences by postmodernism, it can be expressed as follow: any society is superior to another one and, therefore, societies can not be compared. The result was the dissemination of case studies and, the difficulties to elaborate synthesis that could consolidate theoretically all this material. However, it is interesting to note that the authors who presented the most generalizing theories, which allowed to compare societies with different levels of development, were the ones who were closest to ecological problems and the study of the nature-society relationship.

According to Velden and Badie (2011, p. 16), “the dichotomy between nature and cultures is still a fundamental topic for anthropology”, even in its methodological basis, in compliance with Lévi-

Strauss' perspective. However, studies about knowledge and practices of human experiences when handling plants and animals, for instance, prove the connection between culture and nature. Based on it, some different scientific subjects and works bring in their names the prefix *ethno* (ethnobiology, ethnogeography, ethnoclimatology, ethnobotanics, etc.), in which traditional and/or industrial knowledge is emphasized along with natural elements (*Ibidem*, 2001).

Still about the intention of comprehending the social relationship of specific cultures, anthropology has delivered great contributions of insertion to the field. From interviews and histories, great works were born such as "Argonauts of the Western Pacific" (1922) by Malinowski and "The Nuer" (1939) by Evans-Pritchard amongst many others. These works are seen as models of classical ethnographies or monographs in the early days of anthropological discipline. However, "Geertz, in tune with the post-structuralist discussion and at the same time informing it, proposed an interpretative approach by showing the difficulties of ethnographic research in achieving an adequate/objective description of reality" (Venson and Pedro, 2012, p. 130).

In the arrangement of the modern anthropology, influenced by an interpretative anthropology through Clifford Geertz in his work "The Interpretation of Cultures" (1973), it is understood the "studying culture is also studying a shared symbol code by the members of such a culture. Thus, Geertz considers that anthropology seeks interpretations" (Laraia, 1996, p. 64). With this, anthropology was seen with a highly regarded theoretical basis in ethnographic works with a greater emphasis on the interpretative character in the studies of societies. He presents culture as a web of meanings made by the man, in which anthropology tries to comprehend how humans can interpret things, from a systemic perspective, full of interaction and reciprocity.

An additional contribution that must be mentioned is the proposition of studying traditional cultures, dissociated from a Marxist perspective in anthropology, and more focused on perception and interpretation according to Diegues (1996). This author places that "[traditional] societies have developed specific forms of handling natural resources that do not target profit directly, but the social and cultural production instead; as well as perceptions and representations regarding the natural world" (*Idem*, p. 82). In this way, there is a great relationship between traditional communities

and nature, where it also refers to a type of socio-cultural organization and the dynamism of the environment itself, in the landscapes.

Nevertheless, anthropology and geography are correlated and, when reported to history, "just a few sciences have so much closeness between each other than geography and anthropology" (Alves, 2005, p. 67) and, it is about some aspects concerning the development of such subjects, according to authors from that time, previously mentioned.

For Mendonça (2001), to talk about the historical and methodological process of geography as a science, it is essential to stress two scientists who have made this advance possible, Humboldt and Ritter, both of them German. Their descriptions do not relate physical natural elements to social human elements in landscapes, that is, they do not deeply studied the environment in itself. In their respective approaches, aspects in a natural sphere were the ones that stood out, physical factors, with little human interference.

Until the 1950s, nature was studied through relief, soil, water and air, physical aspects that made up landscapes, due to a strong naturalist influence from Humboldt. However, as time went by, man get involved in the discourse and comes to be part of those elements, from the moment when the more technological and industrial resource societies get to change natural resources, the more impactful effects get clear, whether they are negative or positive. So, through the perspective of the Physical Geography, that analyzes natural elements and their dynamism, it gets clear the necessity of studying the human activities changing the environment with geo-systematic interference (Falcão Sobrinho, 2007; Dias and Peres Filho, 2017; Gomes and Vitte, 2018).

Early in geography as a science, there was an attempt to discuss society/culture and nature/environment, in an approximation of geography with other social sciences, specifically anthropology. In Claval (2007, p. 21), it is important to mention that:

Ratzel elaborates [1882-1891] a new conception of geography. He absorbs the lessons of the great German masters of the area, Alexandre de Humboldt and Carl Ritter, and takes from his formation as a naturalist the idea that the division of men and civilizations deserves particular attention: he proposes the name anthropogeography.

His conceptions go beyond in anthropology with the postulations of Franz Boas (Di Deus, 2007). However, "Ratzel, when electing his studies on anthropogeography, analyzed the effects of nature on individuals and entire peoples" (*Ibidem*, p. 17), with a bias of geographical determinism that he brought in the heritage of his bases of studies.

Souza (2014, p. 166) highlights that,

Ratzel, by relating man and the earth, emphasizing the human factor (something until that time not explicitly discussed within geography), founded a true existential geography. A phenomenological geography, showing subsidies for a remarkable ontology of the man.

His analyses were considered diffuse and from this some criticisms were raised, many from sociologists and anthropologists, because, although Ratzel considered the relationship between man and environment in geographical studies, his approaches were biased and linked to deterministic conceptions (Di Deus, 2007; Souza, 2014).

Specifically, the geographers Humboldt and Ritter deeply marked Ratzel's ideas, in which he sought an approximation of the then descriptive geography of these two intellectuals, emphasizing man in his anthropogeography formulation. Ratzel, in turn, initially influenced Boas' conceptions, before his performance in the anthropological field.

Although the counterpoints of his postulations have been raised, Ratzel and his above-mentioned work have become a reference for the consolidation of geographical science, as far as human geography is concerned.

Later, in the second moment of the history of human geography, it appears marked by Marxism, where geography is developed through studies about society. These changes in geographical thought occurred in the 60s, 70s and 80s with publications where the current of "radical geography" stands out, as later critical geography. As reported by Mendonça (2001), the works focused on human geography had a strong approach with other areas, such as sociology, history and political economy. Geographers of this line declared that the studies referring to nature in which it was not considered as a financial resource, that is, as a commodity, did not reflect a geographical analysis. With this, the aspects of nature, that is, its physical/natural framework, the

space where social relations are maintained, became secondary.

Although some critics have been raised regarding its directions, however, human geography, in this specific case the critical geography, has its importance and consolidation in the studies aimed at the production of space, among other themes. Moreover, the philosopher Karl Marx, who influenced the basis of this trend, is considered one of the main authors of the concepts and differentiation of what comes to be "first nature" and "second nature" (Carvalho, 1991).

Still in the context of human geography, with the advent of phenomenology in this science, the perspective of a cultural geography arises. One can cite Sauer (1998) when working with the category of landscape incorporating the phenomenological method, where he conceptualizes the "cultural landscape". According to the author, the formation of the landscape occurs from the culture as an agent, the natural landscape being the environment and the cultural landscape the result. Thus, culture exposes the mark of society in the natural environment. Man becomes a geomorphological agent in this system of integration.

It is worth pointing out that Sauer and the Berkeley school are part of the structuring of an American cultural geography. Like this, for Claval (2007, p. 30),

At Berkeley, Carl O. Sauer connects with a fellow anthropologist, A. L. Kroeber, who makes him discover the Indians of the Southwest United States. Sauer falls in love with those groups that have remained on the edge of progress. However, he devotes the bulk of his field research to indigenous populations in the United States, particularly in the Southeast, and in Mexico.

According to Claval (2007), Sauer had a certain prestige with the cultural aspect due to his approach to American anthropology that focused on the construction, development and identification of cultural patterns. However, "by considering this organic quality of the landscape, emphasizing its evolutionary phases, the author incorporated Darwinism as an explanatory matrix" (Correa, 1989 *apud* Silva, 2014, p. 31). After this, and as a criticism of Sauer's notes, cultural geography goes through reformulations based on new conceptions and contributions from other intellectuals. However, Sauer's work is seen with much emphasis

on bringing the cultural aspect into the geographical sphere due to anthropological studies (Claval, 2007).

This itinerary of a "geo-anthropological" discussion encompasses a consolidation of geographical and anthropological studies on the relationship between society and nature. Anthropology and its connection with geography, mainly the human one, proposes to investigate the diversity of cultures and societies, being able to consider as a methodological aspect the insertion in the field. Based on this, it is opportune to highlight a brief discussion on ethnographical processes, in which the professional should analyze the social relations from the other, and not like him. The anthropologist/researcher begins to reproduce, and no longer translate, from his conceptions, the reality and experiences of his interlocutors.

From Ethnography to Ethnogeography – methodological propositions

The main tool of anthropological research is ethnography, which refers to the performance of fieldwork. Cardoso de Oliveira (2000) points out that the two main approaches of anthropological research are "participant observation" and "relativization". First of all, relativizing is the epistemological foundation of the researcher to escape the threat of ethnocentrism - which is present in those who do not have a consolidated basis in anthropological science. And, the second approach – participant observation – is "the one responsible for characterizing anthropological fieldwork, distinguishing it, as a subject, from the others social sciences" (Cardoso de Oliveira, 2000, p. 34). However, all ethnographic work, although so rich in its analysis, must support a re-analysis of the initial data, with this, there will always be new indications. Such reanalysis corroborates the quality of ethnography (Peirano, 1995).

When it comes to field research itself, as the author Cardoso de Oliveira (2000) well describes, the look, the listening and the writing are highlighted as the three strategic moments of the anthropologist's work. With this, ethnography as a tool to understand the lived space is carried out by insertion into the field. In this way, cultural diversity can be understood in broad geographic contexts.

The observations described above, although focused on ethnographic practice, specifically with an anthropological content, should, therefore, break down epistemological

boundaries and be worked on and articulated within an interdisciplinary framework.

Briefly, one can point out this approach between ethnography and geographic science presented by Carneiro, Itaborahy and Gabriel (2013, p.84-85), in which the authors describe:

To this end, we believe that it is necessary to approach geographical studies to anthropology. First of all, because this science presents the territory as one of the factors of extreme relevance in social definitions and in the way the development of certain human groupings takes place (...). Secondly, we approach anthropology intending to demonstrate the possible contribution of the ethnographic tool, as a method of geographic research, to the products of this science. We have beforehand the certainty of the importance of fieldwork throughout the history of this science, from the geography of travelers (of naturalists such as Humboldt) to contemporary perspectives.

Having said this, it is possible to see in their reports how the ethnography of traditional territories and populations, the subject matter of the authors' study, is a way of raising awareness and valuing the socio-spatial diversity of the world.

Besides, some scholars/geographers focused on studies that brought "orientation practiced by different peoples and the verbal or graphic expressions made by them" (Claval, 1999, p. 69), to understand the importance of the environment for different ethnic groups, and for this purpose, it was initially considered an ethnographical viewpoint.

The ethno-geographical method "first reconstitutes the perception that men have of the world, deepens what they can explore and stops at the values that guide their action" (Claval, 1999, p. 72-73). Its use is applied as a way of demonstrating the relevance and contribution to the bias of cultural geography. Moreover, the aforementioned author considers that for ethno-geographical studies one must have an analysis of the representations of the world; the relations of man with the environment and the understanding of man before social life. Therefore, two placements that flourish the interest in ethno-geographical themes are highlighted, according Claval (1999, p. 70):

- 1- The world we study is shaped by the action of men and is marked by their

knowledge, their desires and their aspirations. 2- The geography we practice and which we believe in science, that is, independent of any particular value and any ethnic reference, is not as universal as we imagine

- 2- Such conceptual analysis was attributed in the article entitled "Uma Leitura Etnogeográfica do Brasil Sertanejo" (An ethno-geographical reading of Brazil Sertanejo) by Almeida (2008), in which the author first points out that the term - ethnogeography - is rarely used by geographers.

In this form, Claval (1992 apud Almeida, 2008, p. 332) states,

(...) Ethnogeography is concerned with the representations that a society makes of the world, nature and the spatialities of relationships. (...) with ethnographic studies, emphasis is given to the diversity of spatial organizations delimited by cultural patterns.

Thus, culture becomes the broad concept for understanding spatial configurations and ethnogeography characterizes/describes the particularities of cultural groups, a proximity to the beliefs, values and worldview experienced by men.

With these considerations, it is essential to have a conscious look at the environment. Such observation presents not only the relationship that a community has with its environment, besides, it should expose the forms that the landscape units are distributed in the space and the social context in which it is inserted, thus, there is an analysis and interpretation on how to be in nature and how to perceive it.

As a consequence, the sertanejo ethnogeography, in which four main identity groups are presented in the Brazilian sertões (the cerradeiros and/or geraizeiros, the caatingueiros, the barranqueiros and vazanteiros and modern irrigantes), are punctuated, not classified, to understand how each environment and each society is recognized and recognized in the same region [the semiarid one] (Almeida, 2008). In this way, the very use of the terms becomes an identity landmark for the sertaneja populations and landscapes. It is through the dynamics of social and environmental relations that it is considered that the sertanejo identity is not unique.

The Northeast, Sertanejos and Sertões

Initially, an interesting fact to be highlighted is that the designation "Northeast" only appeared in the 1910s of the twentieth century. Before this, Almeida (2008, p. 91) observed that,

The Brazilian regional division was only between the North, which covered the whole of the current Northeast and the whole of the current Amazon, and the South, which covered the whole part of Brazil that was below the state of Bahia. Therefore, even today, the northeastern people are commonly called as northern.

Practically everywhere in the semiarid region, one comes across the inhabitants called "sertanejos". According to the author Almeida (2008), the "sertanejo" population is located in the vast environment of the Caatinga, which is still tied to the Cerrado, where corresponds the Northeast region of the country to the foothill of the Serra Geral, which confers to the North of the state of Minas Gerais, thus contemplating the landscapes of the sertões of Brazil. In Almeida (2008, p. 330) it stands out that,

The term "sertão" is a cultural representation, an elaborate reading of reality, made up of the real, of the physical places themselves and also, perhaps mainly, of the memory of a process of transformation of the landscape, with all the conflicts that have occurred in the concrete spatial "reoccupation" of the so-called "sertão". Thus, one can agree with Espíndola (2004, p. 2), for whom "no rigid limits are determining where the sertão begins and ends, but lines that move according to circumstances. The sertão was territory that expanded and contracted".

It is perceived that there is a plurality of possible delimitations concerning the sertão, as well as the sertanejo identity. If for some sertanejo beings it would imply survival in the environment (semiarid region) which is seen as an obstacle, precisely because of its rudeness, there is as a contrast the look focused on cultural relations and ways of life (Lessa, 2011), so strongly represented.

In Ab'Saber' notes (1999, p. 7), about the Northeastern region or even the semiarid region, the physical and ecological factors are highlighted,

however, such understanding "does not have the strength to explain the reasons for the great drama of the human groups living there". Furthermore, it also leads us to speak of the forms of organizational structuring and identity that have been consolidated in the historical process and have glimpsed an image of the northeastern being marked by accounts and texts within the literature, theater, painting and even regionalist cinema, which emerges as a way to treat the northeastern culture as folklore.

To talk about life in sertões is to comment on a life of suffering, of misery. In the book by Albuquerque Júnior (2012), "Preconceito Contra a Origem Geográfica e de Lugar" (Prejudice Against the Geographic and Local Origin), it is pointed out "a little" in the history of the Northeast. What stands out, at first, is the gaze of historiography focused only on the regions that were under the command/power of administration and politics, but over time the gaze turns to unofficial history when it is told by the voices that know the true stories and realities of the region.

It is highlighted by the aforementioned author that during Juscelino Kubitschek's administration, in which the dream of a modernized and developed country was sought to come true. However, in this same context, there are regional inequalities. During his administration, there was the creation of SUDENE to deal with the Northeastern region, considered by the elite of the time as a "problematic region" in Brazil, due to droughts. During this period there were several dam constructions, such as the Paulo Sarasate dam (Araras), which was created to solve the problem of drought, in a certain area of the state of Ceará, however, this moment, known as "dam policy" or "drought industry", went from an environmental problem to political, economic and social issues.

The relationship with the water resource is strongly attributed to the sertanejo life. In the sertanejo spatial cutout, "our characters remain unarmed about the actions of the climate, because their relationship with the water resources takes place only during the rainy season, despite the various dams dotting the surface of the Vale do Acaraú¹" (Falcão Sobrinho, 2007; Silva, *et al*, 2019). However, many are the sertões, with various customs and projects that are found in the geographical particularities of this region. To understand this dynamic and diversity, in the deepening of the theme "Sertanejo Identity", will

always be a debate for the human sciences. In this way, the term "sertão" can be punctuated as a spatial and cultural category. Thus, "in addition to being a geographical cutout with a strong basis in the natural aspect, sertão also presents a significant cultural and symbolic construction" (Silva, 2014, p. 45). This ideology was then constructed from a determinist analysis, but it was linked mainly to economic and social aspects. Silva (2014, p. 47) says,

In this context, the semiarid sertão of the Northeast region had acquired its first meanings, a distant, unknown and as yet uninhabited place, as opposed to a dynamic and populated coastline, and no natural or climatic differences had been established between them at this time.

Thus, the above-mentioned author states that the sertão began to acquire its significance linked to an arid or semiarid place. Nevertheless, other classifications can be highlighted. According Neves (2003 p. 153 apud Silva, 2018, p. 41).

In the dictionary, sertão appears as a harsh region far from urban centers and sparsely populated. "The connotation of desert and all that is distant from civilization permeates Brazilian social thought" associating the term sertão with geographical concepts that bring the idea of economic (sparsely populated) and region.

The author Silva (2018), who talks about the 'Imaginary Ser(tão)', demonstrates the diversity of conceptions and stories that the Northeast presents. They are Indians, quilombolas, scientists, among others, making the Sertão a plurality of memories, stories, fights, identities that are not always presented in the beauty (or not) of their landscapes. In Silva (2014, p. 57) it should also be noted that

Due to cultural, political and economic changes that have occurred in the Northeast, new representations of the sertanejo landscape can be perceived. From new ways of portraying this territory, be it from a "globalized" sertão, with access to the internet and with new

¹ River that supplies Araras dam, among others.

"characters", the sertanejos of today are not only retreatants, cowboys and colonels, but also others that still have to be included in their history.

Based on these notes, which are involved in the emotional value of a locality, to better understand in which conjuncture came to configure the space and the meaning of sertão and/or sertanejo. Some of the characteristics and main components of this lived environment – the semiarid region – will be presented below.

The Semi-Arid Region and Water Resources

According to Silva (2003) "the Brazilian semiarid region is the largest in the world in terms of size and population density" in which it covers all northeastern states and a part of the state of Minas Gerais. The criteria for delimitation of the semiarid region were updated and approved by the Resolutions of the Deliberative Council of the SUDENE No. 107, on July 27, 2017, and No. 115, on November 23, 2017. Such criteria are as follows: Average annual rainfall of 800 mm or less; Thornthwaite Aridity Index of 0.50 or less; Daily percentage of water deficit of 60% or more, considering all days of the year (SUDENE, 2019).

With some areas of exception, it is evident that 92% of the territory of the state of Ceará is semiarid, with an expressive natural landscape, besides elements of social order (Falcão Sobrinho, 2009; Torres and Falcão Sobrinho, 2019). Thus,

most of the State of Ceará – including the area in question: Capoeirão Community, Santa Quitéria – corresponds to the sertanejo surface.

Nevertheless, the water resources located underground in Brazil are not uniform, and in the Northeast region of the country, there is less availability, having intermittent rivers. In the case of the sertão, there is a very variable (Alves, 2016), pluviometric regime, in what refers to the low index and concentrations of rains, occurring periodic droughts due to its bad distribution. "Furthermore, the high level of evaporation, given the high temperature prevailing in the Sertão, is associated with the factors cited to make rivers flow faster and shorter" (Magalhães, Silva, 2010, p.7).

From these climatic conditions (Buriti, Barbosa, 2018), the semiarid region of Ceará has been the stage for interventions with projects of the federal government, mainly with the construction of dams that would bring benefits to the population (scourges), however, "besides the environmental fragilities, this region has been the stage for enormous contradictions and social injustices (Silva, 2003; Almeida, Falcão Sobrinho, 2015).

In this context, the "dam policy" is evident. Among the water reservoirs built by the Departamento de Obras Contra a Seca (Department of Works Against Drought) (DNOCS), the Paulo Sarasate Dam, or Araras as it is popularly known (Figure 2), stands out, and it is in this context that the Capoeirão community is inserted.

Figure 2: Paulo Sarasate dam (Araras).

It turned out that the dam policies tried to "solve" a problem in the semiarid region, however, with some achievements, it was perceived that the attempts were not sufficient to mitigate the problem of drought. It was perceived the fragility and inefficiency of the help for those

environmental and social issues. In this way, a new logic was developed in the most sustainable sphere, demystifying the ideology of fighting drought and its consequences, starting to see the semiarid region from an integrated perspective of nature. This way, actions aimed at the conservation and sustainable

use of natural resources, a mechanism that contributes to a better coexistence with the semiarid part, with methods, techniques and procedures for capturing and storing water properly, such as cisterns, are now being articulated. (Almeida and Falcão Sobrinho, 2015; Falcão Sobrinho *et al*, 2018, 2019; Carvalho and Falcão Sobrinho, 2019).

From these perspectives, it was sought to analyze the perception of the Capoeirão community regarding the ways of obtaining water, that is, what water resources are available in their locality and to list the use and management of this important resource.

The perception and the various uses of water resources in Capoeirão community in the semiarid region of Ceará.

A point of utmost importance for the research is precisely the relationship of the subjects in the Capoeirão community with the water available in their locality. With an estimate of 30 (thirty) families² living in this community, questionnaires and interviews were applied in the first quarter of 2019, as one of the steps to prepare the study, totaling a sample of 12 (twelve) interlocutors³. It is worth noting that among the difficulties of reaching a larger number of interlocutors, because they were not currently in

their homes, there was still a certain fear and denial of some residents to participate in the interview, even if at the beginning the interviewer presented herself, clarifying the objectives of the research and the link with the University/UVA. Many soon contested that they did not know how to answer.

Inquiries and data obtained regarding the relationship with water resources and, consequently, the public policies regarding water resources in Capoeirão (CE) community will be explained below.

When asked about the importance of water, all of the interviewees consider it as "very important" and this importance is exposed in the way they relate, understand and use this resource. More specifically, it was asked which are the sources/tools to acquire water (Figure 3), to indicate which of the technologies are used by the interlocutors and for which type of activities they used each mechanism mentioned.

Figure 3: Forms of getting water by the interviewees.

It should be noted that each interviewee in answering this question reported having at least two ways of collecting water.

As shown in the graph above, all interlocutors reported using the water from the cistern for consumption. The implementation of the cisterns in the Capoeirão Community refers to the public policy of conviviality with the semiarid

region, as discussed in a previous chapter. This measure is necessary so that families living in places with little supply (quantity and quality) of water can be served. As can be seen in the locality accompanied, even with the Araras reservoir beside it, the cistern has become a "new landscape materiality" (Almeida and Falcão Sobrinho, 2015), however, representing not only "a strategy for

² Official data not found.

³ The degree of reliability of 95% is considered.

living with water shortage", but the most appropriate mechanism to offer water to meet the needs of local subjects. However, when questioned about the quality of water consumed in their respective homes, 58.3% of the interlocutors claimed to be reasonably good and 41.7% considered the water to be excellent. Thus, as the water in the cistern is the best one to be consumed/drunk, its quality still divides opinions among the members of the Capoeirão community.

In addition, it is worth mentioning that 3 (three) interviewees exposed that they were not contemplated with the cistern in their residence because they had a pension, but they built other means so that their neighbor's cistern, which are their relatives, could provide them with better water for consumption. For this reason, everyone reported enjoying this social technology.

The water in the cistern is captured through the rains and depending on the annual rainfall index it may not be able to contain its entire reserve capacity (16 thousand liters). In these cases, the Santa Quitéria City Hall is requested, as an emergency action, to supply water through the tanker trucks to supply the cisterns. This fact occurs more precisely in the second half of the year, due to the low demand of rains and evapotranspiration, with this, the droughts are more present and the tanker trucks more frequent.

Among the public interviewed, 50% have a deep well and 16.7% get water from water springs. And, the option "Others" refers to 16.7% of the interviewees who reported that they end up buying water from members of the community itself, precisely those who have a deep well. With this, both the deep well, the water springs and the purchase of water, are ways of obtaining water built and acquired from personal financial resources. The destination of this water is for services such as: dishwashing, laundry, house-cleaning, etc.

Regarding the Paulo Sarasate dam (Araras), 16.7% of the interlocutors also explained that they benefit from this resource. It is also used for routine activities, such as washing clothes.

It is worth highlighting that the Araras reservoir is a reservoir that for a long time was the only and significant resource to obtain the water to survive. Even today, this is important for the residents of the Capoeirão community, as everyone commented on this during the interviews, and from these reports we can see the multiple uses of this water resource. The Paulo Sarasate dam (Araras) corresponds to the public policy to combat drought,

built during the DNOCS period to supply the drought at the time.

According to the responses of the interlocutors, they have all resided in the community since their birth. With this, it was valid to question whether during the time of their residence they noticed any changes in the Araras reservoir and, subsequently, what were the main changes they observed during this period of residence.

Among the 83.3% of the respondents, who responded to the questionnaire about some changes in the Araras reservoir, have explained that the reservoir has been very dry for some time, making it far away and with little access. The reason why the level of the aforementioned reservoir is very low is due to the weather conditions that have occurred in recent years. According to FUNCEME (2019) data, the rainfall distribution in the region was quite irregular, meaning that large works like this one did not accumulate all the water capacity during the year.

The distance from the nearest house to the edge of the Araras reservoir is approximately 800 meters. A very narrow stretch for the passage was noticed and, due to its retreat, it became in fact farther and difficult to reach, especially for those who can no longer stand long walks. This can be justified as another reason why members of the Capoeirão community do not enjoy this resource. Another fact is that, over time, the "bush" that during the rainy season appears in the landscape context, no longer presents itself as an aspect of nature, and becomes an obstacle for people to transit.

Another account presented by the interlocutors about the change in that dam is related to climate and religion, in which they point out that the fact of drying and filling "is something of God". The belief that a supreme being will bring rain is usually presented as an imaginary of the sertanejo people. However, only one of the interlocutors exposed his religiosity in accordance with the environmental conditions. Others reported that the dam is dirtier, but did not specify the reason.

Approaching the Araras reservoir, a couple was seen bathing soon after they had washed clothes and other house stuffs and, at the same time, there were two children who were looking to play and refresh themselves. This event is complemented in a scenario that presents one more aspect of the Araras reservoir to its residents, a leisure environment, or even, a breath in the intense heat in sertão.

With regard to reporting on the use of water from the Araras reservoir for domestic services, it is valid to take up the response of 2 (two) interviewees who mentioned washing their clothes on the banks of the reservoir, carrying the buckets and bowls full of clothes, in addition to the cleaning material. It is noted that this activity is also carried out by other community members who were not interviewed. However, from the moment that the same place was opened, some negative actions were observed towards the environment, that is, in this case, some packages of cleaning products were registered that were left on the edge of the Araras reservoir, polluting the place and causing a great environmental impact. This can be pointed as one of the factors for those who reported the dirty looking weir and it is assumed that these characteristics correspond to one of the socio-cultural problems previously mentioned by some resident interlocutors of the Capoeirão community.

Another change in the Araras reservoir, which was mentioned during the interviews, concerns the decrease of fish. However, besides the climatic conditions that alter the quantity and quality of the water in the aforementioned reservoir, it was mentioned that there are also social impacts due to this fact. Therefore, the situation of low fish supply is also associated with predatory fishing, specifically during the spawning season, i.e. during the breeding period of the fish. Such attitude presents itself as an inadequate action not only by those who fish, but also by those who

consume it, since there would be no supply if there was no demand.

One of the interlocutors, who expressed his indignation regarding fishing as one of the changes in the Araras reservoir, said that "it [the reservoir] was respected a time ago," referring to fishing activity in the right periods, which currently no longer happens. Perhaps these actions are related to the fact that there is no longer an inspection of fishing activity. The responsibility for inspecting the activities that came from the Araras reservoir rested with DNOCS employees, but in the current situation, they no longer perform this function.

In addition, the presence of cattle feeding on the pasture along the banks of the Araras reservoir in the Capoeirão community was verified several times, an action that occurs in several locations along the course of the Acaraú River, in which it corresponds to a significant colonizing heritage, besides being considered a major influence in the process of environmental degradation due to soil compaction (Falcão Sobrinho, 2009; Falcão Sobrinho *et al*, 2019).

Thus, economic activities reflect the dynamics of the Araras reservoir itself. In short, based on the questionnaires conducted and analyses obtained in the field, the Araras reservoir provides support to those living in the Capoeirão Community (Figure 4), and perhaps to all the communities living around this reservoir. The multiple uses of this water resource can be listed as follows:

Figure 4: Relationship of the Araras reservoir with socioeconomic activities in Capoeirão.

Bringing to discussion issues related to the public policy of living in the semiarid region, as a new instrument for water resources, the implementation of cisterns in the Capoeirão community stands out.

With this, first of all, each interviewee was asked how long he has had a cistern in his house and the answers ranged from 2 (two) to 7 (seven) years. When asked how they evaluated the implementation of the cistern in the community,

58.3% showed that it was an important action, but did not solve the problem of access to water and the others reported that this action solved the problem of water shortage in their locality, as well as better quality.

Thus, 100% of the public interviewed realized that this public policy of coexistence with the semiarid environment has added to and improved access to water in the Capoeirão community. However, even with everyone affirming that they had their lives improved by cisterns, some positions were raised by Antônio, José, Marias and Luzias about the conception of this technology in that community and the changes that occurred due to it.

Among those who described the positive points of implementing the cistern in their homes, the following answers can be highlighted:

"It's gotten a lot better because you don't have to fetch water from the dam on your head"

"Before the cisterns it was more suffering to fetch water. Now it's gotten closer"

"There was no good water. Now, when it rains, you can fill it and drink it all summer long"

"It got better, because before it, we had to purchase mineral water in Varjota"

"Very good, it is necessary to drink"

"Today people have good water and close to their homes".

However, some reports have been presented noting the problems associated with this tool that have not yet been overcome. Below:

"no tanker truck comes, you have to keep asking it to come"

"it is not raining"

"When there is winter, it brings more water to consume"

"The water is a little saline".

The occurrences listed by the interviewees from Capoeirão community, as reported above, demonstrate that they still face some challenges for their coexistence in the semiarid environment in relation to water, even with access to new social technologies. Thus, there are characteristics of natural order, the shortage of rainfall, and of a political-social order, when water is added to this mechanism by tanker trucks. However, even though there are some mishaps, including communication between management and the

community, the cisterns end up making access to water for consumption possible and giving a dignified quality of life to local subjects.

From the fieldwork, one could understand the relationships established with the environment, the difficulties faced and the achievements achieved. In this way, the results are presented as a way of explaining their perception of their lived space and the diversity of conception of nature, within the same spatial cutout. It is thus perceived that the understanding of nature, as well as of the environment, is intertwined with the knowledge of environmental factors, dependence on natural resources and historical and socio-cultural aspects. After all, "there are so many natures" (Carvalho, 1991).

Social relations are thus articulated with the environment, with the Araras dam and the new technologies for obtaining water as operational mechanisms of the Capoeirão community's way of life. They are materializations that reflect on perception and action, as well as being part of the sertanejo landscape in the semiarid region context, as ways of adjusting to the dynamics of nature, minimizing negative points and highlighting their positive effects.

Final Considerations

In this research's perspective, the perception came to dialogue with water resources, since they are themes that contribute to the analysis and comprehension of how man explores such resource and how his environment is perceived by him. Thus, in agreement with the authors Freitas; Silva and Guedes (2017, p. 204) when they point out the relevance of "environmental perception as a methodological contribution to socio-environmental discussions, as an aid in the interactions between man and environment". On this understanding, the vision of nature and environment was verified to be confusing for the participants of this research, mainly regarding environmental perception.

The temporospatial cutout followed focuses on knowing a part of the semiarid Ceará and a little of the history and reality of these sertanejos, from the practices, memories and narratives of these subjects who are in the semiarid environment. Besides, the public policies to combat and coexist with drought, through actions and technologies, have become part of the landscape context of the sertanejo surface, constituting the cultural landscapes and reflecting the relationship between society and nature,

especially with water resources, the importance of water and its multiple social uses. However, the conclusion here is that such policies lead to the individual's relationship with nature, according to the offer and availability of the same, that is, to have a cistern, the material relationship with the dam is already distant, the feeling prevails.

Although several social and political factors correlated to the period of construction of the Araras dam to supply the drought at the time, today it is notorious that those around it have a feeling of attachment, a component of their home, thus marking an aspect of identity/belonging in the sertanejo life. From this, the dam is considered of utmost importance for the residents of the Capoeirão community, as everyone reported this during the interviews. In a way that is not directly pointed out, the water from this reservoir provides support for various economic activities of those who work mainly in fishing and livestock. It is also assumed that as long as the Araras reservoir is next to the community, this community will be inside a water safety framework. And as for the cistern, this tool is already part of the daily life of the accompanied community, because, besides being integrated into the geographical landscape, it is considered a policy that has the most appropriate technology for the semiarid environment, in which its use is attributed, mainly, for consumption.

Thus, the semiarid region, from water resources, is complemented by public policies to combat coexistence with droughts that contribute to the materialization of the sertanejo landscape. People from the Capoeirão community give meaning to their places and to the mechanisms that the environment enjoys, and from their convictions, they end up shaping the landscapes and printing their actions on them, thus, dynamically, they are agents that make up the landscape or even nature.

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