

Towards Environmental Culture

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Introduction

Environmental imbalances are far from being a new concern. As a problem that is dragging on, there is, necessarily, a whole context that gets worse, to the point that we have lost, in the last decades, all the opportunities to solve it, or at least to mitigate it, gradually and with the time needed to alleviate the discomfort that always comes with any change. The severity and extent of environmental imbalances require, today, a more immediate and consequent action. According to the World Health Organization, nine out of ten people in the world breathe poor air quality, and more than 7 million people dies every year due to air pollution (WHO, sd.). Atmospheric emissions resulting from the burning of fossil fuels reduce average life expectancy by more than a year, subtracting more than 230 million years from humanity annually (Lelieveld et. al., 2020). The latest report from the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), an organization that brings together 136 countries, concluded that about one million species are threatened with extinction and that the rate of extinction is accelerating at a pace never before recorded in human history (UN, 2019). On average, since 2014, an area corresponding to the size of the United Kingdom has been deforested and the rate of destruction of primitive tropical forests has increased by 44% (NYDF Assessment Partners, 2019). The production and dispersion of plastic is so high that it is already present in the form of microplastics in the food we eat, in the water we drink and in the air we breathe, which may represent the intake of two hundred and eighty plastic microparticles per day (Dalberg Advisors, 2019). As a corollary to these and many other environmental imbalances caused by mankind, climate change emerged, a problem which has not been taken into account in time and properly by the international community, forcing our goals to be set far below what would be necessary for its effects to be negligible.

Nevertheless, the profound imbalances that humanity is causing on the Planet are relatively recent. Only 50 years ago, humanity did not consume more resources or generate more pollution beyond the measure that the Planet was able to bear. Since the 1970s, humanity's ecological footprint has been larger than the Earth itself, reaching the point where, before the beginning of August, we have already consumed resources equivalent to those that the Planet can produce until the end of the year (Earth Overshoot Day, 2019). Regardless being a history with few decades, the path to global environmental imbalances begun to be traced a long time ago, through the way we have conceptualized

our relationship with nature and the use we have made of technologies and knowledge.

How did we get here?

The human species, like any other, emerged from the evolution of life on Earth and, in spite of all the guise that civilizations surround themselves with, it remains a biological reality and dependent on nature, manifesting an intrinsic need in maintain that connection (Wilson, 1984). The survival of human populations has always depended on the resources obtained from the natural environment and, although it now has an enormous technological capacity to explore, process and transform these resources, most of the time in its history and prehistory, humanity has lived as any other species, closely dependent on the direct conditions and provisions of nature (Shennan & Kevan, 2007). As human populations became equipped with technology and knowledge, they felt less and less submitted to the laws of nature and, with that feeling, positioned themselves on a higher and outer level. The Judeo-Christian culture is very revealing of this cultural and conceptual distancing, being a clear evidence of this vision the biblical passage of the book of Genesis found in verse 28 of chapter 1, referring to the words of God after the creation of women and men: “God said to them: be fruitful and multiply and fill the earth and subdue it, and have dominion over the fish of the sea and over the birds of the heavens and over every living thing that moves on the earth.” These writings were developed a few thousand years ago (Mazar, 1969), but it already reveals the human position in relation to the rest of nature, considered hierarchically inferior and merely instrumental.

The environmental imbalances that affect us today result from the exploitation of resources and emission of pollution far beyond the Earth’s capacity to replace and purify it, respectively. For a long time, a large part of humanity has adjusted its cultural mentality to explore nature far beyond its limits and balances, but it was only in the last half century that it had the dimension and sufficient technological capacity to reach that level. And only after arriving here and feeling the consequences of its actions is that we begin to realize that, after all, we are not above the laws of nature and its limits. Despite this, and of all the evidence, humanity has not yet retreat on the path of unsustainability it has been following, nor does it show clear signs that it will soon.

The role of Environmental Education

Currently, we are facing an ecological crisis in which climate change, deforestation, air pollution and the scarcity of water resources are just some examples of the enormous volume of consequences that affects us due to our inability to respect natural balances (Lumsden, 2018). Faith in technology to manage this terrible threat is not enough, even because we can’t forget the intimate relation between its development and the escalate of environmental problems. We need a cultural transformation in the way humanity relates

to nature, and this can only be achieved through education (Plumwood, 2002). Indeed, promoting environmentally literate citizenship is the main purpose of environmental education, which is essential to achieve an improvement in environmental quality (Disinger & Roth, 1992). The concept of environmental literacy includes a wide range of aspects, namely knowledge and understanding of environmental concepts, problems and issues, a set of cognitive and affective dispositions, and a series of cognitive skills and competences, together with the appropriate behavioral strategies for implement this knowledge and understanding in order to make effective and relevant decisions in different environmental contexts (Cook & Berrenberg, 1981; Hollweg et. al., 2011; Hungerford & Volk, 1990; Simmons, 1995; Stern, 2000). In a simple way, we can say that knowledge, attitude and behavior capture the most essential aspects of environmental literacy (Hallfreðsdóttir, 2011; Igbokwe, 2012; Krnel & Naglič, 2009; Kuhlemeier et. Al., 1999; McBeth & Volk, 2010; Pe'er et. Al., 2007; Spínola, 2015), but in order to better reveal the complexity and interdisciplinarity of this concept, and the difficulties that face its promotion, it will be worth deepening it. Among others, knowledge must include physical, ecological, social, cultural and political systems, disposition must involve sensitivity, attitude, personal responsibility and motivation, skills must imply the ability to identify, analyze, investigate, evaluate and resolve environmental issues, and environmentally responsible behavior must include eco-management practices, persuasion, consumer action on the economy, political action and legal action (Hollweg et. al., 2011). However, despite the great effort that, around the world, has been put in environmental education, the ecological crisis has only worsened, leading some authors to question the effectiveness of the strategies followed (Blumstein & Saylan, 2007; Spínola, 2014). As so, and considering the time we no longer have for social and economic transformation that can rebalance humanity with nature, it becomes clear that we need to look for more effective paths than those we have been following in past decades.

How to Promote Environmental Literacy

Since the beginning, when the bases for environmental education were laid in the Belgrade Charter (1975) and in the Tbilisi Declaration (1977), good practices to be followed in the promotion of environmental literacy were established, aspects that were deepened and largely confirmed over decades of research (McComas, 2014). Despite the clear guidelines, the environmental education that crystallized, and in many cases that was lacking, assumed a clear tendency of divergence with its foundations, having largely turned into an inconsequential folk exercise. Despite the concept of environmental literacy emphasize knowledge, attitudes and behaviors, it has been evidenced, through studies in different populations and contexts, that the mobilization for action is not directly related to the levels of environmental knowledge, or even of attitudes, being dependent

on a multiplicity of factors that interact in a complex and socially contextualized way, which can start in the logistics and available systems (e.g. public transport, selective collection systems), go through the influence of the social norms, the feelings of shame or responsibility, the aspects intrinsic to the personality of each one or their socioeconomic level, until reaching the simple fact of having, or not, the knowledge on how to proceed (Newell et. al., 2014). Thus, the effectiveness of environmental education in promoting environmental literacy will never be enough if we continue to insist only on knowledge, on decontextualized initiatives and on focusing on the individual to the detriment of the community. Promoting environmental literacy requires the integration of a set of factors that interact with each other in a complex and, to a large extent, unknown way. As so, environmental education will always be more successful if it is developed in real socio-cultural contexts, betting on social dynamics rather than individual ones, and going far beyond the walls of the school and not allowing itself to be calibrated by age or generation. It must work to solve real environmental problems and accompany us throughout life, betting on a social and cultural learning strategy (Spínola, 2016). Ultimately, despite the complexity of the concept and the mechanisms that foster it, the promotion of environmental literacy must be, above all, a driving force for a profound cultural transformation capable of returning us to nature and reestablishing the balances that we have corrupted.

Culture and Nature

Understanding it in the light of its first definition, from the English anthropologist Edward Tylor, in his book *Primitive Culture*, published in 1871, ‘culture’ is a complex system of codes and standards shared by a society or social group and manifested in the norms, beliefs, values, creations and institutions that are part of the individual and collective life of that society or group (Tylor, 1871). Following the anthropocentric trend of human civilizations, the concept of culture has been asserting itself as something that distinguishes us from the rest of nature and opposes us to it (Read, 2012), ignoring in most cases that cultural diversity is, in fact, a consequence of the different environments in which the respective populations have been settled (Terray, 2010; Spínola, 2020).

Thus, the relationship between culture and nature reveals a paradox that is defined by the contradiction between the factual reality of interdependence among them and the anthropocentric view of both concepts being apart. Even when it is said that culture is what makes us human, distinguishing us from other animals, we must not forget that other species, particularly primates, also reveal their cultures, even if we want to classify them as rudimentary (Melo, 2012; Read, 2012). In this way, however much we want to distinguish ourselves and affirm in relation to the rest of nature, the reality of the human species can only be factually understood as its continuity. Humanity, and all that it does and creates, is also nature.

Despite being so obvious, or perhaps because of that, the study of the relationship between cultures and nature has only deepened in recent decades, bringing to light the concept of 'cultures of nature' and revealing that what we consider to be natural, the value that we give to it and the way we understand it, varies culturally. On the contrary to what it may seem, the way we understand nature in each culture is not a minor question, as it is that vision that determines our relationship with it, namely through the legislation we pass and the institutions we create, among many other aspects that determine our environmental impact (Head, 2017). The concept 'cultures of nature' arises to deconstruct the separation between nature and society, very present in modern Western cultures, and to highlight the interrelationship and connection between the human and the non-human world (Ares-López, 2017). This concept is defined as clusters of beliefs, practices, and assumptions, historically and geographically situated, underlying the relationship between people and non-human living organisms or inanimate matter. Thus, everyone is imbued with a certain culture in the way they are socialized to think and act on the territory and natural life (Ares-López, 2017; Head et al., 2005). Necessarily, the different human communities reveal different cultures of nature and, while in some a more spiritual and ecosystemic view still remains, in westernized societies a utilitarian view of the environment predominates, as a source of resources to be explored. Claude Lévi-Strauss characterized well this context, concluding that the primitive societies of hunter-gatherers, and even of farmers and shepherds, reflected in their ideology the fact that they were strongly dependent on nature, seeing it not as their property, but as a spiritual territory that, in addition to nourishing them, also allowed contact with ancestors, spirits and gods. The first act of mutilation of the human species over nature was its own separation, a gradual process strongly influenced by most monotheistic religions, the Discoveries, the Industrial Revolution, the growth of cities and the scientific and technological revolution, and globalized with the expansion of Western civilization (Lévi-Strauss, 1973; Lévi-Strauss, 1976; Terray, 2010;). Surpassed the feeling of belonging to nature, and equipped with powerful technological tools, most of humanity felt entitled to intensively explore the environment in the light of immediate interests, which was quickly translated into the global imbalances that are quite evident today.

Another important contribution to our understanding of the human-nature interaction, was the theoretical approach developed by Julian Steward (1955), which he coined as 'cultural ecology', meaning the cultural changes caused by the need for environmental adaptation. In this context, assuming that culture is superorganic, he defended that cultures, not individuals, adapt. In fact, later, under the umbrella of a new concept, the ecosophy or ecophilosophy, Félix Guattari (1992) stated that without modifications to the social and material environment, there can be no change in mentalities, which make me think that environmental education needs to go far beyond an individual approach, and compromise further with social and cultural changes.

Environmental Culture, the New Approach Needed

After decades of marked widening of environmental imbalances, despite the scientific knowledge and technological tools available to alleviate them, and despite the profound effort made in environmental education, it is increasingly clear that the basis for promoting environmental sustainability lies in a cultural transformation of modern societies. Indeed, it has long been known that the ecological crisis we are experiencing is a consequence of human activities, which are strongly determined by the cultural characteristics that define communities (Head et. al., 2005). It is our beliefs and values, as well as the way we organize and function in society, that determines the heaviness of our activity on the environment. When it is intended to adapt human activities to the need to maintain natural balances on the Planet, it is mandatory to provoke cultural changes in communities and societies, in specially those that are ruled by a predatory extractive model. The ecological crisis requires, in addition to more environmental literacy, a profound social transformation, focused on the community, its organization, functioning, values, norms, economic model and, among others, lifestyles and life expectancies. On the other hand, the promotion of environmental literacy, for many reasons, has had great difficulties to bring about the profound changes that the reality demands, focusing on the individual in the detriment of society, and leaving essential aspects in a marginal position, such as reducing consumption, increasing public and private investment in clean technologies, increasing demands in regulation and supervision, changing lifestyles and expectancies, changing the economic model, and, even, reformulating the functioning of society. Thus, in order for environmental education to be better aligned with the degree of social transformation imposed by the environmental crisis, it is proposed that, in addition to environmental literacy, its objectives should be committed also with the promotion of an environmental culture.

When we search for ‘environmental culture’ in the international western literature we just found it occasionally, the same happening for other expressions that could be understood as synonymous, namely ‘ecological culture’ or ‘eco-culture’. One of these few examples is the book ‘Environmental Culture: The Ecological Crisis of Reason’, published in 2002 and wrote by Val Plumwood, an Australian, philosopher and ecofeminist (Plumwood, 2002). Although she does not elaborate on its meaning, she leaves an important framework that aligns the concept of ‘environmental culture’ with the idea of being the only possible way to overcome the environmental crisis in which humanity is involved. Noting that, at the level of knowledge and technology, mankind already has the means to find the necessary solutions to be in balance with the Planet, Val Plumwood concludes that, in order to overcome the ecological crisis, it is necessary to develop an environmental culture that values and recognizes the entire non-human context and how much we depend on it, and that will allow to make good decisions about how we live and impact

the non-human world. Val Plumwood explains the adoption of the ‘culture’ concept as a way of integrating the necessary depth, breadth, and multiplicity of changes that the ecological crisis requires, and to mark a contrast with the strategies for imposing top-down solutions. Other of these rare references for ‘environmental culture’ was published in 2015 by Ingmar Schumacher in the context of environmental economics. Defining it as the type of culture that forms an attitude of care for nature and its resources, and adding that it is a specific type of culture associated with how mankind treats the Planet, he concluded that the ‘environmental culture’ emerges as a response to social needs, and not only helps to further appreciate environmental quality but, in addition, to reduce the consumption and, thereby, increase environmental quality. Also, the European Environment Information and Observation Network (Eionet), a project supported by the European Environment Agency, defines ‘environmental culture’ as “the total of learned behavior, attitudes, practices and knowledge that a society has with respect to maintaining or protecting its natural resources, the ecosystem and all other external conditions affecting human life” (GEMET, s.d.). Although this definition is deeply anthropocentric, placing natural resources as “its”, that is, belonging to human society, and nature/environment as “external conditions” to human life, it worth mentioning since it is one of the strangely scarce references that contributes to institutionalize the expression in the context of the European Union.

When we search for this terminology in other European languages, namely French, Spanish, Italian, Deutsche or Portuguese, the reality is quiet similar. For example, in Portugal the expression ‘environmental culture’ is applied only once throughout the National Environmental Education Strategy, approved by the Portuguese Government in 2017 (Agência Portuguesa do Ambiente, 2017). In that same year, the Portuguese Government launched a call for proposals on environmental education activities and named it “supporting a new environmental culture” (Fundo Ambiental, 2017). Despite in neither of these two examples the concept of ‘environmental culture’ was defined, it was important references for its future institutional integration. Coincidentally with this reality in the western literature, the use of the expression on the public and political speech is also quite rare.

But all this context changes when we search for ‘environmental culture’ and, specially, ‘ecological culture’, in Russian literature or published by Russian researchers. Here, we found a deep and vast literature around this concept, not always perfectly aligned with the idea of the ‘environmental culture’ we defend, but with several definitions and reflections on its relevance to tackle the ecological crisis. In fact, in some works the ecological/environmental culture is presented with a quite similar definition as environmental literacy (Kamakhina et. al., 2018; Shishkina, 2008; Simonova & Varnikova, 2015; Stukalyenko, 2015;), but in others with a more advanced understanding, including an

all society transformation (Tregubov, 2012; Sabrekov, 2020).

Kapto and colleagues (2019) set that both foreign and Russian thinkers are unanimous in considering that the present ecological crisis results from our inability to reconcile the scientific and technical progress with nature balance. However, they observe that many western scientists were looking for an explanation and solutions on the natural essence of the individual, while their domestic researchers, on the light of the Marxist tradition, are looking on the socio-historical and cultural context. In fact, western bibliography on the goals of environmental education is massively based on the environmental literacy of each member of a society, believing that the set of changes made by individuals will, as a whole, result in the solution to the ecological crisis, or, at least, force them. On opposition, many Russian researchers, as well as others from the former USSR and Asian countries, are also focusing on the dynamics of society, namely their organization and values, embodying this approach in the concept of ecological or environmental culture. Thus, despite, as we mention above, many eastern authors give to ecological/environmental culture the same meaning as western authors give to environmental literacy, the formers also have been using this concept to include not only the individual but specially the society. For example, in Shilin (2000) an ecological culture is defined as the whole system of positive relations between human society and nature, being the means by which society regulates its behavior towards nature, being constituted by a system of goals and values in order to regulate the transition from a negative to a positive relationship between humans and living nature. Ridei and colleagues (2014), from the National University of Life and Environmental Sciences of Ukraine, considers that the purpose of the ecological culture is to guarantee a relationship between society and nature in order to achieve our practical needs but maintaining the nature stability on its own normality and, thus, preserve the conditions for the existence and development of mankind. They add that ecological culture is a survival ethical and moral imperative of ecological commandments for society and individuals. Glazachey, cited by Tregubov (2012), defines ecological culture as a combination of spiritual values, principles of legal norms and needs, ensuring the optimization of the relationship between society and nature, and considers that it is becoming a sociocultural phenomenon. Another interesting approach was the one made by Titov & Fufagin (2016), which, considering the evaluation of the environmental/ecological culture of a particular social system, stresses the importance of the society, not only individuals, in the concept. Titov & Fufagin distinguish the environmental/ecological culture of a particular social system from those considered for a population, justifying this approach with the need to include in the research the priorities in the political, educational, informational, ethical, aesthetic, and spiritual spheres of human activity. Also, a definition of 'environmental culture' can be found on the Ecological Portal of Saint-Petersburg, the Russian city on the shores of the Baltic Sea, a portal developed by the Committee for Nature Use,

Environmental Protection and Ecological Safety, a sectoral body of the executive power of the federal district (Ecological Portal of Saint-Petersburg, s.d.). With the title “Environmental culture- Raising of public awareness on environmental issues in St. Petersburg”, ‘environmental culture’ is presented as being inherent in the national cultures of all humanity and defined as a social system of relationships, material values, norms and forms of interaction between society and the environment. This text also adds that “environmental culture is an inherent part of the pan-human and national cultures. It includes a system of social relations, material values, norms and ways of interaction of the society with the environment. It is continuously formulated in the public conscience and behavior through lives and activities of generations by permanent ecological education and enlightening; it facilitates the healthy way of living, spiritual development of the society, sustainable social and economic development and ecological safety of the society and people”.

Recently, Sabrekov (2020) delineated a clear picture on what did happens to environmental education along the past fifty years. Considering that the concept of ‘environmental/ecological culture’ emerged in the 1970’s through the work of the cultural researcher Lev Kogan, Sabrekov regrets that, with the advent of the industrial society in the 1980’s, it suffered a distortion with the ‘environmental/ecological culture’ concept being eclipsed by the environmental education itself as an entity/concept. Later, environmental education became science-centered, and ecological culture becomes to be based only in scientific knowledge. However, Sabrekov considers that, presently, it is clear for the world scientific community that the environmental crisis can’t be solved only by technical means, which demands for a revision on the environmental education approach. This Sabrekov statements could explain why, even in eastern countries, there was a clear distortion on the practices of the environmental education, aligning it in the individual and technologic spheres despite the social amplitude that was given in its foundations in the 1970’s. However, more than a decade ago, Andreyev (2009) identified a change under the influence of the modern ecological crisis, stating that, at the time, people begin to understand the environment not by itself but in its relationship with society, and adds that, to overcome the present ecological crisis, an enhancement on the society’s ecological culture is required.

Conclusion

The emergence of the ecological crisis poses challenges never before seen for humanity. Our species (*Homo sapiens*) has existed for over 300 thousand years (Hublin et. al., 2017) and throughout (almost) all this time lived in perfect harmony with nature, considering itself part of it. However, the last 200 years (less than 0.07% of its entire existence) were enough to change this reality, making human activity incompatible with ecological balance and, in the long run, with its own existence. On the one hand,

technological development, with less burdensome solutions for ecosystems, and, on the other, environmental education processes, as a tool for promoting environmental literacy, have been presented for almost 50 years as the path to re-establishing the balance between human activities and nature. However, over time, these strategies have proven to be insufficient, with environmental imbalances increasingly accentuated in a world broken by high levels of extraction and pollution. Bearing in mind that this outcome is a consequence of profound social changes, which began more than 2,000 years ago in the dominant human communities, it is unrealistic to admit that it is possible to change the paradigm without profound attention and action at the cultural level, changing the vision, activity and organization of our societies.

As a sign of reorientation of the strategy that has been followed in recent decades to face the ecological crisis caused by humanity, and as a way of gaining efficiency and giving depth to the necessary social transformations, it is proposed as a new and more complete challenge of environmental education (at the formal, non-formal and informal level) the promotion of ENVIRONMENTAL CULTURE. Not advocating divestment in promoting environmental literacy, but understanding that it is very much imprisoned by the individual spheres, with little influence in the social, political and economic transformations that are required, the proposal to compromise environmental education with environmental culture seeks to take root deeper in society and to meet the true dimension and urgency of the solutions and necessary changes in view of the seriousness of the problem that humanity and the Planet face. Thus, as a contribution to start this new path, a clarification is proposed in the definition of the concept of Environmental Culture, understanding it as a complex system of codes, standards and forms of organization shared by a society, or a social group, learned through education and socialization, and that contributes to the maintenance of environmental balances. It manifests itself through norms, beliefs, values, concepts, knowledge, habits, practices, expectations, lifestyles, institutions, and models of social and economic organization that, as a whole, ensure the environmental sustainability of a community. Although the concept of 'environmental culture' needs to be deepened and clarified, especially in the Western and international bibliography, we understand that it will emerge as the ecological crisis itself worsens, reflecting the need for a deeper transformation in society, which goes far beyond the changes and individual choices associated with the promotion of environmental literacy that, in recent decades, has imprisoned environmental education. In order to make it more consequent and effective, it is proposed that environmental education redirect its methods and objectives in order to add to environmental literacy the development of environmental culture, essential for building a society committed to natural balances and sustainability.

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