

## **The *Anthropocene* and civil-military relations in the Brazilian Amazon**

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### **Introduction**

I greet all the King`s College and Brazil Institute organizers for the beautiful initiative to launch *The Military in Politics in Brazil Conference* in a pre-election presidential year in Brazil and in such an « anthropocenic moment » in our lives as in the middle of the SARS Cov-2 pandemic.

The framework that drove the concept of the Anthropocene, the work of Crutzen and Stoermer (2000), presented circumstances of the critical situation in planetary terms. The authors of the article were the then Nobel Prize winner in Chemistry Paul Crutzen and Eugene Stoermer. Two years later, Crutzen published the article *Geology of Makind* in the Journal *Nature* (CRUTZEN, 2002), arguing that the last decades of the 18th century should be the beginning of the Anthropocene. The concept of Anthropocene and its empirical modeling are under evaluation by the “Academy of Geosciences”, embodied in the International Commission for Stratigraphy (ICS), the largest and oldest scientific body of the International Union of Geological Sciences (IUGS). The main objective of the IUGS is to define precisely the global units (systems, series and stages) of the International Chronostratigraphic Charter, establishing global standards for the scale of Earth's history. For some authors, the Anthropocene is already stratigraphic (WATERS et al., 2016; ZALASIEWICZ et al., 2016), but there will be a final decision to recognize the Anthropocene model as geologically valid during the International Congress of Geology in New Delhi, India , which was postponed to this year 2021, due to the SARS Cov 2 pandemic.

The Anthropocene foreshadows a time of insecurity. Although the attention to security has grown in the last two decades in a strong stimulus to the post-cold war debate that has a securitization process visibly installed in the global system, a transdisciplinary construction persists that deserves a critical review in the face of the phenomenon of environmental degradation created within the conceptual Anthropocene, which announces a human-nature bipolar threat.

At military roll too, because global issues and problems such as environmental devastation, disrespect for human rights, ethnic conflicts, famine, slavery, wars, international migratory currents, terrorism, regional arms races, the proliferation of weapons of mass destruction, and transnational illicit are connected to the Anthropocene and transdisciplinarity.

About the contribution to this conference, it is intended to establish a better understanding of the applicability of the armed forces in diverse, diffuse, and transdisciplinary threat scenarios, and to include some reflection about civil-military relations on socio-environmental issues in general. The main research question proposed here is «What kind of military attitude can be cultivated in civil-military relations for Security as a threat in International Relations (IR) in an transdisciplinary Anthropocene context?».

Using methodological triangulation of techniques with documentary analysis, autoethnography and case studies, I argue that the defense of the Amazon postpones a clear definition of the new role of the military, since it reinforces its conventional role by clearly identifying an external threat - the guerrillas and the entry into the Brazilian territory of foreign drug traffickers, among many other illicit keeps them well motivated.

There is a certain recurrence in the Cold War international security model, because the defense of the Amazon, moreover, still emphasizes the preparation and use of the Cold War model that requires large military contingents and, thus, justifies compulsory military service.

Contributing to civil-military relations in Brazil, I highlight that military personnel do not act only in times of war and can share their resources, technology and expertise to mitigate the problems announced by the Anthropocene, expanding civil-military relations on environmental issues.

The presentation consists of three sections. The first deals with the problems of the Anthropocene and some setbacks. The second seeks to locate the role of the Brazilian military, made possible by the Amazonian scenarios and the presence of the Anthropocene. The third section challenges the military to transdisciplinarize the complex themes of the human-nature threat.

### **The problem of the *Anthropocene*<sup>1</sup>**

The environmental crisis harbors a complexity of phenomena that constantly challenge the most varied minds and organizations, merging strands of studies on the human crisis of the present time. In view of the ecological risk, there is an assumption of new threats in a scenario of latent hostilities that have already been materialized by wars of immense proportions in the 20th century. Ecological risk puts the world in a state of extreme alert, with a new meaning and reorientation of the course of history. Limits are imposed on economic and population growth, ecological imbalances, life-sustaining capacities, poverty and social inequality (LEFF, 2000) and arms, emphasizing that military activities are, in themselves, degrading (RENNER, 1991).

In view of the discussion about limits to be imposed on human productive activities, the question of whether or not we are in a new geological era (epoch) called the

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<sup>1</sup> The following two sections are part of the article: Andrade Júnior, H., & Brandão, A. P. (2021). Rupturas conceituais de segurança e meio ambiente no Antropoceno: os nexos securitários em formação desde o pós-guerra fria. *Revista Tempo e Argumento*, 13(32), e0109. <https://doi.org/10.5965/2175180313322021e0109>

Anthropocene has been discussed quite intensely in various sectors of the scientific community. Debates involve the role of humanity as a geological agent, as well as the ways in which productive systems take over planetary resources and also about their responsibilities in the process. In the anthropocentric approach, human activities as a whole (predominantly the global economic system) are now protagonists of the change in the Earth System - the sum of physical, chemical, biological and human processes in interaction with the planet (STEFFEN et al, 2015).

Having conceptually framed anthropic participation in the environmental crisis, the Anthropocene's conceptual and dating model seeks explanations, meanings and solutions from various scientific disciplines in transdisciplinary (ANDRADE JÚNIOR, 2020). The manifestation of transdisciplinarity (NICOLESCU, 2000) for the Anthropocene had been suggested by Oldfield et al. (2013), evoking a consortium of disciplines to study it given the complexity of the facts, data, injuries and socio-environmental analyzes involved.

However, there has been resistance on the part of the Social Sciences and Humanities who consider him to be overly generalist and little affected by the role of these sciences. Strong criticism rests on the ontology of the anthropocentric model itself. Historians Bonneuil and Fressoz (2016) promoted a deconstruction of the “geocratic narrative of the Anthropocene”, criticizing the affirmation of this status quo by presenting historical narratives that are still little considered and discussed that cover different dimensions of the “anthropocentric” study in a global context and at a planetary level (See BONNEUIL; FRESSOZ, 2016). This is justified, for example, by the arguments that industrialism, colonialism, wars, threatening technologies, genocides, slavery, nuclear energy and capitalism are articulated differently (but often related) to the inequalities of socio-environmental conditions that lead to “planetary forcing” (BELCHER; SCHMIDT, 2021).

### **An propitious and convenient Anthropocene for military interventions in the Amazon?**

International Relations (IR) seek a better specificity of their functions in face of the concept of the Anthropocene, expanding their field of action. In the field of Security, Burke et al. (2016) stated that the actors are more connected and committed to each other; that the “Era of States based on the billiard ball”, that National Security based on the state actor and in the political and military sectors no longer makes sense in the anthropogenic model and that transdisciplinarity (of the discipline of international relations and beyond) must be stated.

It is true that the end of the possibility of a direct military confrontation between the two great strategic-military blocs led by the United States and the Soviet Union as state actors has changed the perception of what could or could not be considered as a threat to the security of national states. In this new context, issues previously relegated due to the Cold War, such as environmental devastation, disrespect for human rights, ethnic conflicts, international migratory currents, terrorism, regional arms races, proliferation

of weapons of mass destruction and transnational illicit, have gained prominence on the international security agenda and transformed into the Anthropocene agenda.

After the Cold War, international security as an alternative to the Cold War proposal seems to meet the emergence of an ideal type of multidimensional global security that is “global, because the interdependence and transnationalization of new security phenomena allows the concept to encompass not only localized meanings, but planetary” (VILLA, 1999, p.99). It is multidimensional, because it consists not only of strategic-military content, but also of other transnational contents, such as demographic explosion, ecological imbalances and international migrations (VILLA, 1999), which make international security viewed from different angles in the Anthropocene. However, the most relevant from the conceptual point of view is that the emergence of a notion of multidimensional global security ends up reaching the fundamental unit of analysis of realism: the State.

Increasingly, individuals and communities face threats without enemies, where many of these agents, forces and political ideas habitual in the last two centuries can no longer guarantee security (PRINS, 1994). A more critical line of approach comes to question the viability of the State as a political community (LIPSCHULTZ, 1995; BOOTH, 2005), arguing that, for a positive reformulation of the term (“security”), it is not enough to overcome its negative formulation or fight for its extension, but reflect on what it could mean security without States (DALBY, 1991).

Raised to the category of “new threats”, the aforementioned issues have become subject to “securitization”<sup>2</sup>. Once identified as threats to international security, problems such as environmental devastation or disrespect for human rights may justify military actions.

The Anthropocene foreshadows a time of insecurity. Although the attention to security has grown in the last two decades in a strong stimulus to the post-cold war debate that has a securitization process visibly installed in the global system, a large number of security nexuses in transdisciplinary construction persist that deserve critical review in the phenomenon of environmental degradation created within the conceptual Anthropocene and that defends a human-nature bipolar threat from Geosciences. The model is being criticized for its generalist and exclusive prerogatives by historians, social scientists, anthropologists who had previously studied the environmental issue in their binary opposition dilemmas (such as ACSELRAD, 2010; MOSLEY, 2006) and also now by international relations thinkers.

As the State can no longer deal with its environmental problems exclusively in its territory, institutions must be competent and responsible within its borders and beyond. This is the work of international relations, which is confronted as another post-Cold War epistemology in which national borders mean little to environmental issues, since

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<sup>2</sup> Securitization is an intersubjective and socially constructed process. For an issue to be securitized, public opinion must support the speech of a “securitizer” actor (who may be a government representative or a non-state actor, such as, for example, a member of an NGO) about the existence of a threat that can compromise the survival of a particular reference object (the State, the culture of a society, the environment, an ethnic group, etc.) and the adoption of emergency measures and outside the normal parameters of political procedure ( Buzan, Wæver, Wilde, 1998: 21-47).

they are related to the entire system of the Earth and the Cosmos. Another aspect is that, limited by space, militarism continues in limited states as a timeless reason. Thus, in addition to knowing more about the military's work, society needs to be reached by the integral and competent structure of civil defense and civil protection in the management of the territory, since it will depend on it to protect itself from environmental threats, always complex and which are not of a realistic order as in the Cold War period.

In the post-Cold War period, the dominant trend seems to be that of intrastate conflict. In South America, regional war is unlikely to happen. As for Brazil, which was involved in a war with its neighbors for the last time about 150 years ago (the Paraguayan War), this possibility is approaching zero. This perception led analysts to wonder whether the geographic region of South American integration, left without clear external enemies, should maintain its Armed Forces, suggesting the transfer of federal budgetary resources to areas of infrastructure, public health and education, which are so badly needed. But, there is a contrary position that is not unique. Ugarte, for example, argues that "[in] a State that has an appreciable territorial and material heritage renounces to defend it with Armed Forces proportional to its economic capacity to support them" (UGARTE, 2001, p. 29).

The defense of the Amazon postpones a clear definition of the new role of the military, as it reinforces its conventional role by clearly identifying an external threat [the guerrillas and the entry of foreign drug traffickers into Brazilian territory, among so many other illegal acts] with the support of security and defense systems such as the Amazon Surveillance System (SIVAM), and the Border System (SISFRON). (ANDRADE JÚNIOR, 2018).

There is a certain recurrence in the international security model of the Cold War, because the defense of the Amazon, moreover, still emphasizes the preparation and military use of the Cold War model, which requires large military contingents and, thus, justifies mandatory military service. There, the military also identifies as foreign enemy some foreign NGOs that work in environmental preservation and indigenous lands (ANDRADE JÚNIOR, 2018; SANTOS, 2004).

I believe that these points have received special attention from the Brazilian armed forces that decided to reevaluate the country's strategic vulnerabilities in light of changes in the security agenda and in the South American strategic landscape, due to the weaknesses of the northern borders, in an inhospitable environment Amazonian and, at times, of questionable limits. This led to a set of changes in the doctrinal and organizational conceptions of the Brazilian armed forces.

However, it should be noted that such changes would also pass the approval of Brazilian society. A doctrinal reassessment could not harm the military institution's long-acquired reputation<sup>3</sup>. The conception of the use of discourse, to which we feel

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<sup>3</sup> There is a historical-cultural trajectory that would need to be followed in order to understand what the *military segment's* self-image is (oriented by doctrine) and how it wishes to be projected in society, guiding civil-military relations favorable to its expression and organizational mission. We wrote something about it, mentioning some of the classic authors in the article: Júnior, H. D. A., & Prouse, T. (2018). Cultural complexity and institutional image: How do the Military Forces Communicate?. *Escribanía*, 16(1), 35-54.

closer, does not abandon the concept of ideology but places it in a descriptive position, designating a historical formation, a set of ideas, in short, a system of representation (Ferreira, 2007).

The military, as a social category, is defined in terms of inclusion, due to an identity built in a solid and constant manner with its external image, especially because it is transmitted through communication agents who are experts in the use symbolic. In addition, artificially, through them, society gets to know what the military is doing or what it should be.

#### **Brazilian military: environment and transdisciplinarity<sup>4</sup>**

A major event for environmental debate was the United Nations Conference on Environment and Development, held June 3-14, 1992, in Rio de Janeiro, Brazil. The event known as ECO-92 or Rio-92 took stock of both existing problems and progress and produced important documents that continue to be a reference for environmental discussions. Unlike the Stockholm Conference, the Eco-92 had a special character due to the massive presence of numerous heads of state, thus demonstrating the importance of the environmental issue in the early 1990s. During the event, the president of Brazil at the time temporarily transferred the federal capital for Rio de Janeiro. The armed forces were summoned to provide intense protection of the city, being also responsible for the security of the entire event. ECO-92 also featured a large number of Non-Governmental Organisations (NGOs), which held in parallel the Global Forum, which approved the Rio Declaration (or Earth Charter). According to this document, rich countries have a greater responsibility for preserving the planet. Two important conventions were approved during ECO-92: one on biodiversity and one on climate change. From this event, there was a huge influx of scientific production on the themes of environmental, ecological, national and international security, sustainable development and climate change, with criticism of the unsustainable model of domination, development, and governance, including against militarization.

Some of these works published at that time were important to show the origin of some of the phenomena that I pointed out regarding the role of the Brazilian military in the environment and go on. I would like to make some considerations that there is a dilemma in inducing a process of transdisciplinization of the military towards the environment on two levels: *endogenous and exogenous*.

##### *At endogenous level*

*First*, the transdisciplinary theoretical repertoire and its practices may not decisively influence the interpretation of organizational needs in their essence but may provide the opportunity for a “brand” necessary to support military academic practice in agreement with universities in the process of modernizing their teaching work in the face of institutional innovation requirements.

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<sup>4</sup> This excerpt is part of a published article. See Andrade Júnior, H. (2020). Autoethnography (Military, Environment) as Transdisciplinization in Anthropocene Times. *Cultural Studies↔ Critical Methodologies*, 1532708620912803. <https://doi.org/10.1177%2F1532708620912803>

Historically based on the positivist doctrine (19th century, at colonization), Brazilian military education underwent changes to give the cadets of the time a bachelor and doctorate degree in physical and mathematical sciences. This event, quite foreign to an institution focused on the use of violence, can be interpreted as an attempt to confer status on the future officer, placing him in a position of superiority to other members of civil society (Ludwig, 1998). Such an interpretation holds if one considers that the “civilian” paisanos of the time received a negative image of the uniformed officials because of the traditional shortcomings of the war corporation and certain inconvenient traits of the military personality of the time (Júnior & Prouse, 2018). There are partnerships between the Brazilian military and the University, but even today, “paisanos” are viewed and labeled with suspicion, as they are not initiated into the military bell jar: they are considered members of a society other than the military (Castro, 1990; Leiner, 2009) and especially the military are alerted to dealing with social science experts who may be institutional critics.

*Second*, transdisciplinization may not produce what is expected or suggested that it would be expected. There was a not very pleasant experience with literary theory, in this sense, according to the review of the book *American (literary) theory: a critical introduction* (Durão, 2011), made by Junior, A. (2017).

From this literary experience with transdisciplinization, if there is a new look coming from the “critical mass” of insiders (Castro, 1990) formed in the military, I could admit that because of its own multidisciplinary structure in transit and in a thorough analysis of the cultural and political phenomena that make up the sense of existence of the Brazilian military organization, such could cause internal disruptions in the military social fabric (this was not included in the rubric of military doctrine and is even its precaution!) turning into prejudice for the construction and maintenance of its “organizational identity”. (Júnior & Prouse, 2018, pp.37-38).

Even with the effectiveness of internal socialization, the heterogeneity of the military institution undergoes a continuous process of adaptation. For now, there is a crisis of institutional identity, as it was previously prepared for a condition of conflict generated in the bipolar world of the cold war. This allowed the practical exercise of “red versus blue armies” in a linear and doctrinally simpler way to conceive of scenario design. Today, the globalized world and the widespread terror pose difficulties for the planner and commander of military actions, perhaps of his subordinates, for the innovations and imponderability of the variables that make up the scenarios of hostilities, which cause various casualties, such as those of the military environmental dimension: by biological, chemical and nuclear war that intensify the weapons of terror and make the previous paradigm unfeasible (Júnior & Prouse, 2018, p. 36).

In the 1980s, as the country evolved from the authoritarian to the democratic regime, there was an appreciation of the humanities, as well as intensified efforts to make teaching more professional and important to highlight, as observed and experienced by me as a student and cadet in the day-to-day experience of the barracks, that the subjects belonging to the list of humanities taught in military schools have a special power to develop the critical sense of the students. The contents and teaching methods, typical of sociology, psychology, etc., tend to make students put their operative schemes into

action, exercising the reflection that is a specifically human activity of consciousness. Unfortunately, such a critical sense is not always a critical openness to ideas, which tends to inhibit the military's creativity.

In my progressive experience as a student of Brazilian military schools (military school, cadet preparatory school, military academy, pedagogical coordinator trained by CEP), reproduction theories can be used to understand the military education phenomena. Bourdieu and Passeron's theory of symbolic violence regarding the themes of the imposition of an arbitrary cultural *habitus* (Santos, 2015) defined as a scheme of thinking, appreciating, perceiving and acting of pedagogical work, aimed at the radical conversion of the individual applies to Castro's observation (Castro, 1990) about pedagogical methodology and practice in AMAN.

Althusser's conception of state apparatuses (Althusser, Balibar, & Bidet, 2014), of the same model as the previous one, can be used to understand war education. This philosopher's proposal is identified in military education, since one realizes the idea that the school is an institution designed to prepare individuals according to their roles in society, one of them being the agent of repression and abiding by the inculcation processes of the dominant ideology, apply very well to the military pedagogy found. The very model of school administration adopted with a strong fayolist stamp (Silva et al., 2016) impresses on the student psyche the ideas of rationalization, predictability, and control.

*Third*, commitment to transdisciplinarity could result in the risk of disengagement from the very foundation of the military dogmatic sense of existence. The characteristic perception of that kind of committed criticism that glimpses the crystallization of the whole in organizational interests and their affirmation before society would change to holos, modifying the process of search and analysis by the "insiders".

With his experience living with the Brazilian Air Force, Ludwig would affirm that the teaching of certain subjects also occurs so that an orderly worldview can be acquired. The mathematics taught to the cadets is imbued with the idealistic inversion that supposes to be the real determined by reason. Moreover, the formalism and tautology of this discipline tend to reinforce the conception of order. The physics learned by the students is predominantly classical, deterministic in nature. Both subjects are presented to students in a ready and finished way, as unquestionable truths, separated from conflicts and contradictions within society and the scientific community. History (military) is transmitted to them as a concatenated succession of causes and effects, whose haphazard events are considered irrelevant. In turn, the Portuguese language taught to the cadets over-prioritizes speaking and writing in an absolutely correct and model way is its only goal (see Ludwig, 1998).

To "vaccinate" employees in uniform against interference with civil society would be sufficient to prepare them to accept and live with change in all sectors of community life since the members of the observed and experienced war corporation in Brazil are lovers of order, harmony, and social stability. An education centered on the development of a critical stance in the face of events, overcoming the high level of intellectual ingenuity added to the military's conscience, would be able to free him from the gendarme nickname of the dominant sectors of society, who defend at all costs the

permanence of this order, harmony, and stability because thanks to it they continue to gain advantage over the marginal sectors of society.

*At exogenous level*

*Firstly*, transdisciplinarity is useful for dealing with complex phenomena and, in this case, for addressing the environmental issue and thus tends to build upon a convincing environmental epistemology. Some foundations of environmental epistemology show that environmental problems are rooted in culture, and military culture is a specificity that may or may not agree with aspects of this epistemology, failing to assimilate it.

Modern consciousness has been formed by a very specific set of myths, beliefs, and paradigms and it is these stories that have brought richness and comfort, albeit paradoxically accelerating the end of our culture. They can be summarized as follows: we are not an integral part of the "world" (nature) and we are separate from it. (Hartmann, 1998, p. 140, cf. Carral, 2016).

Despite the radicality of the above, this epistemological position allowed us to open a promising (Alfie, 2003) and illusory solution because it minimizes impacts of the environmental problem in the sense that the human being turns his back on his guilt. This social phenomenon should be known for necessary research into forces sent from nature: once powerful, quiet but now empowered and revolted (formerly supposed to bow to this mad human purpose) in the face of an unusual technological deployment focused on overproduction and consumption of arms (Torres, 2013).

The culture of war contributes to sustaining this state of affairs (Boggs, 2005). Such a solution was and is still marked by ignorance and economic interests guided by the knowledge generated by the technical-scientific ethos dominated by economic factors: "this is the ultimate cause of socio-environmental disasters" (Reviewed by Carral, 2016, p.41).

The environmental crisis is not reduced to an ecological crisis but is essentially a crisis of reason, of knowledge. The idea of "limit" is an eminently anthropocentric notion, because, even without the ideal conditions for human existence, the environment would still exist, with or without other living beings inhabiting the biosphere. Therefore, the limit is not on the environment itself, but on the existence of homo sapiens as a species. From this, the notion of environmental complexity is presented as a possibility of the repositioning of being through knowledge (Leff, 2000).

The idea that the world is pre-given in relation to human consciousness in the separation between subject and object, even if weakened by the discoveries of quantum physics and the other millennium reflections, represents the "hardcore" of all Western science. This paradigm considers that subjectivism compromises scientific "purity", thus giving privilege to objectivity, because the world would exist "outside" the human being, and must be internalized by it, that is, known/studied and (why no?) explored. It turns out that the creation of the world is different, less passive and conditioned as traditional science has been proposing, because, as Maturana & Varela (2005, p. 22) add, "every experience of certainty is a blind phenomenon in relation to to the cognitive act

of the other, in a loneliness that is transcended only in the world we create together with him”.

Thus, upon discovering that all perception is constructed according to the internal structures in which we operate. We are constantly interacting with the world around us, building it and being built by it. The notion of this responsibility, instead of presenting itself as a burden, can be seen as an opportunity for the emancipation of thought and therefore of our action on the world. From victims or merely passive agents of reality, we see ourselves as authors of it, empowered in the possibility of creating new solutions. To glimpse this perception, we need to contemplate our observation, know the construction of our knowledge to confirm that what we took as a simple capture of something bears the indelible mark of our own structure (Maturana & Varela, 2005).

We are tempted by the justifications of representationism. We turn our backs on the history of science, seeking refuge in the certainties that have already proved to be provisional. Basically, we do not admit that we do not see, and the effects of this ignorance now appear as the environmental crisis to be managed, given the inevitable entropic limit imposed by nature.

At the Military Club of Brazil, I analyzed 62 existing articles in the Military Club Magazine about the Amazon theme. I adapted Eckersley's work (1992) and the results of other research (Júnior, Souza, & Brochier, 2004) from which the agreed anthropocentric category emerged from the diagnosis of environmental education representation of Brazilian university students.

Eckersley (1992) had established two axes in her work: anthropocentrism and ecocentrism. Each axis would become a polarizer of related environmental movements, where the first relates to the articulation of political theory that offers opportunities for human emancipation and ecologically sustainable society and the second tends to value the recognition of the non-human world, according to Tavolaro (2001).

Partially using the results of this paper, I tagged each article analyzed from the Military Club with the following codes and their meanings, applied at the end of their enumeration: *Utilitarian anthropocentric conception*; which considers the human being as a central element, using nature; *The covenant anthropocentric conception*, which considers its human as central element, living in harmony with nature and *Ecocentric conception*, which considers nature as central element (Júnior, 2018, p. 1385).

Examination of the articles showed the presence of the utilitarian anthropocentric tendency predominantly, which reinforces the idea of appropriation of natural resources with low criticism of environmental interference and, as a consequence, Brazilian military will need special attention regarding education towards the acquisition of skills for environmental monitoring and management (Júnior, 2018).

*Second*, it seems extremely antagonistic to combine environmental and military objectives in the advanced proposal of environmental epistemology, based on the anthropocentricity of military thought.

Military personnel act in the area of national, international or public security as a foundation of existence. Crossing with the keyword environment, let's look at environmental insecurity, accepting Barnett's methodological suggestion and review,

which views insecurity as a result of the lack of agreement on what is in the interest of environmental security.

Environmental insecurity, for Barnett, is a function of environmental degradation and this is a function of resource use and intense pollution caused by development, acting in parallel with poverty in population growth. This is the meaning of the economic process that spatially affects externalities to the degradation process and this environmental degradation and insecurity may be the product of the developmental meta-processes of the north industrialized countries at the expense of the underdevelopment of the Southern countries. This is important to clarify the problem of environmental security. In general, there are two ways of understanding the problem and the dilemma for the military: relating to National Security arising from environmental degradation or directly relating human impact on environmental security, which also referenced for ecological security (Barnett, 2001).

For the very reason that it is so closely linked to strategy and the use of force, the concept of environmental security must be better understood from the security perspective, particularly national security, developed in the field of international relations. Moreover, this concept brings greater attention from intellectuals who seek to link environmental issues with the military, because the concept differs from other concepts that seek to solve problems, such as sustainable development.

A concept of environmental security can be directly related to environmental conflicts. The core of the convergence is that the scarcity of resources and their degradation accentuate the crisis and conflict between countries, enabling the state of belligerence. But, on the other way, McMichael (1993) and Kaplan (1994), according to Cunha (1998), seem to converge on the inverse idea that war can aggravate environmental degradation and the destruction of resources.

Militarization represents, in fact, that military institutions are the riskiest for humans. The effects of militarization go beyond that of war, because there are preparations for war, exercise, and readiness, and it also costs society a great deal. 90% of the casualties generated in the conflicts in the 1990s were estimated to be civilians, of which at least three million died during the armed conflict in the first half of this decade (Brown et al. 1998).

Militarization continues to generate insecurity. It is possible to verify through the levels of expenses with the armed forces with the military-industrial complex. It has been estimated that US\$ 8 trillion has been spent on nuclear weapons since 1945, although disarmament of this kind has been noted (Sivard, 1996). In Brazil, it spends about 2% of GDP on security and defense, and officially Brazil does not yet have nuclear weapons.

Renner (1991) emphasizes that in addition to causing significant environmental impacts in wartime, military activities in non-war periods are also environmentally degrading. When the military is not fighting in the wars, they are preparing for the next war. So we have a state of continuity of low-intensity conflicts with cumulative environmental impacts, including land use and degradation, pollution and use of airspace, use of energy and material resources, and the generation of toxic waste. (Júnior, 2018).

In addition to population and environmental risks due to the use of military artifacts, war leads to environmental degradation and historical records are always tragic. The use of defoliants in *Vietnam* and the burning of oil wells in *Kuwait* have shown the world that war has significant environmental consequences and that they manifest themselves long after the war is over. This is because war is precisely about the destruction of life, being axiomatic that causes damage to the environment. I cite such examples to mark, among other things, that the invention of nuclear weapons was not an accident, but a logical stage in the final, conclusive weapon could also become something else: a new chemical or biological substance if it needed to come from family of weapons that already exist in one form or another, as well as something more exotic, which is yet to be discovered and exists only in science fiction (Júnior, 2018, p. 1393).

Another angle of the issue is exemplified. In *Brazil*, Army Gericinó Instruction Camp is located in the urban area of Rio de Janeiro, surrounded by densely populated and poorly protected neighborhoods, where children and animals surround the boundaries of the exclusion wall of the area that is often crossed. Gericino is a proletarian neighborhood of the West Zone of Rio de Janeiro (22 ° 50 '2 "South, 43 ° 28' 27.3" West). It is a shooting range with a story of victims hit by military devices directly impacted or by explosions of unexploded artifacts and not destroyed there.

The intensive and predatory use of monetary and human resources, raw materials and R&D for war activities must meet well-explained and apparent public criteria. One cannot fall for the illusion that, from an economic point of view, there is a "balance" for Brazil, as the country spends little on others. What is important to see is what he spends (and how he spends it) in relation to other expenses and how is the quality of life that exists in the country, in terms of public services and schooling. Military spending in countries that also require social spending, as is the case in Brazil, endanger the conditions and the very security of the population and the country.

#### *About civil-military relations*

According to Menezes: "(...) there is a widespread perception among officials that the military presence on the political scene does not generate positive effects for the institution and that today society would be able to tolerate a new intervention of this nature" (2016, p. 298). In addition, he believes that currently "(...) the country has new competent representatives and prepared to account for the challenges of national development", a condition that the coup generals of 1964 did not consider possible.

An element that can be considered central to this process is the link between the military and civil sphere. Thinking about the articulation between civilians and the military, as well as the confrontation between them, opens new horizons for the military institution. Sharing classrooms, debates, and training with ministers, economists, lawyers, sociologists, and historians, among others, allow the military to better understand the details of public life and the State. The effects of this situation lead the officers to understand that the problems of the nation are more than military. Military schools are beginning to consolidate a more structured view of national problems (Moreno, 2014).

From a broader point of view, in the words of Menezes (2016), we can distinguish some interests that are camouflaged among the military to argue in favor of the search for space in the context of public policies and in the demand for greater commitment from politicians with national defense: (a) survival interest, a desire that often appropriates the “feeling of nationality” to justify the existence of the institution. Therefore, this is a longing that underlies all the others and that can be interpreted as a feeling of self-preservation. The military call themselves as the predestined ones to propagate the idea of the national and, in parallel, to promote the idea of the State placing itself in a syncretic position of Nation and State; (b) the interest of cohesion that is related to the desire and the need for harmony, an indispensable behavior that in the political sphere is manifested as a way to reaffirm the identity and address the feeling of survival; (c) the interest of influence manifested in the will to alter the attitudes of politicians for the benefit of their own existential interests (of survival) and those linked to the permanence of the State as a sovereign entity. There is a generalized understanding about the idea that the destinies of their institutions are inextricably linked to the existence of the State; and (d) the interest of integration, which is currently the most sought and encouraged interest among the armed forces.

Now, we can point out that at the moment when we perceive a distancing from the nucleus of the power of the State, expressions such as “inter-operability”, “integration between forces”, “joint operations” and others that were little used when each Force was a ministry and the preponderance was disputed together with the power (Menezes, 2016, pp. 296-297).

In this sense, Moreno (2014) considers that the military now has autonomy against the interests that make their identities merge (survival, cohesion, influence, integration) based on the contributions of the conservative modernization generated by ESG<sup>5</sup>.

### **Final considerations**

Taking advantage of the identity built by the Brazilian military and ensuring the desired institutional image gain whenever possible, the integration of the armed forces to improve civil-military relations could come from some moderate environmental initiatives that can be shared and targeted at the military, even if they bring a "militarily way" of an environmental epistemology.

In addition to recommending that military institutions take care of their own environmental impacts, there is another set of roles for the military. The military can assist in strengthening standardized environmental activities, can collaborate with their intelligence agencies to monitor and gather information on environmental degradation, and can assist in nonviolent conservation and restoration roles.

The problem with using the military in this activity is that it enables them to “colonize for the purpose of cooperation”. In fact, this is what justifies the maintenance

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<sup>5</sup> It is not the aim of this study to deepen the important role of ESG in the consolidation of the military identity and the solid construction of a reputation as a civil-military relationship. René Dreifuss (in “1964: The Conquest of the State”) delves into how a technobureaucratic, industrialist and developmentalist arm works in the military regime within the ESG creation strategy.

of the Armed Forces. If the concept of environmental security induces the appropriation of the environmental agenda as it already happens in the United States, then it encourages military coercive engagement with environmental problems, which would be “ecototalitarianism” (Barnett, 2001) and this is not the case. It is permissible because military force should not bring environmental insecurity. On the other hand, the idea of using the military and its intelligence agencies to monitor and process environmental problems is potentially benign.

I think the best strategy is that of a condition of collective responsibility shared by the military institution's technical and installed capacity to act for multiple purposes in coordination and surveillance, monitoring complex systems of an environmental nature. This is already happening in Brazil due to amazon surveillance and protection systems proposal (Andrade Júnior, 2018). Work in this way could integrate civilians and military (with communication, transportation, road, and air infrastructure) into the local communities, it is thought that signs of environmental disturbance would be more effectively identified and addressed.

Military personnel could also contribute to environmental competence, in which the condition of the crisis can be reverted to normality, under more balanced conditions. People who know how to get in and out of rural areas, in harsh or unfamiliar environments, navigating without the use of sophisticated electronic devices, are more likely to survive and suffer less, sometimes irreversible, injuries. People and organisations with self-respect who can discern signs of nature in the presence of climate change and its magnitude, whether, by wind, cold, snow, ice, intense heat, variable humidity, who respect each other and respect the other nonhumans, are environmentally competent.

It should also be noted that the military does not act only in times of war and can share its resources, technology and expertise to mitigate the problems announced by the Anthropocene, expanding civil-military relations on environmental issues. In this sense, it would be welcome to explore lines of research that give new meaning and facilitate the transdisciplinary of the field of Security Studies in the themes of integrated civil-military systems; the expansion of studies and the environmental competence of the military and the population in general; the interaction of the military organizational culture with the population, to mitigate dissatisfaction, anxiety and fear in the face of new environmental problems; the probable creation of military units to be trained for environmental problems with an ecological conscience and with a general strategic plan for environmental management and contingency; mandatory transversal environmental education in military curricula; and its integration with Resilience Studies (military and civilian, in the individual, social, national dimensions).

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