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## **A biocentric definition of ecocide: from human to biological organism**

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Bachelor Project International Relations and Organisations: Climate Justice

# A biocentric definition of ecocide: from human to biological organism

Why should we develop a definition of Ecocide encompassing a biocentric perspective?

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## **I. Introduction**

The Intergovernmental Panel on Climate Change has been the reference to assess climate change development and risks since its creation in 1988. Since the start of the Industrial Revolution, the IPCC estimates that we experienced a warming of 1.0 °C. to 2.0 °C. (IPCC, 2023). This global warming is mainly due to the emission of Greenhouse gases (GHGs) originating from human activity. In 2019, 79% of global emissions were linked to energy, industry, transport, and infrastructure and 22% from land exploitation such as agriculture (IPCC, 2023, p.4 & p.5). Despite some uncertainties due to high variations, the report claims: “This has led to widespread adverse impacts and related losses and damages to nature and people” (2023, p.5).

The distinction between nature and people is problematic because it reflects a specific interpretation of reality that hierarchises beings. It is a concept originating from Europe and reinforced by Christianity. It redefined the role of humans who can detach themselves from nature and entitled them to manage nature depending on their needs (Raim, 2022). Similarly, industrial capitalism tends to undervalue nature’s contributions to the social production of wealth and rests on the assumption that it is a resource to be exploited for human benefits (Crook & Short, 2014). We need to revise our relationship with non-human elements and frame it legally. This call for action was visible when an international legal panel intended and formulated the term “ecocide” (Stop Ecocide Foundation, 2021, p.3).

Scholars still disagree on the definition of ecocide mainly because most of the proposals until now have been taking an anthropocentric framework whether unconscious or not. On the other hand, biocentrism allows us to reconnect with a plurality of views that might help us to prevent the continuation of existing practices that are detrimental towards biological organisms. The following thesis will aim to develop a biocentric critique of the definition of Ecocide while identifying a proper sustainability threshold. Based on those observations the research question is: *Why should we develop a definition of ecocide encompassing a biocentric perspective?* The literature review will explain the historical development of ecocide and introduce general philosophical debates between anthropocentrism and non-anthropocentrism while presenting biocentrism as an alternative view. Chapter 2 will present my biocentric definition of ecocide, identify victims and what we consider harmful. Chapter 3 will define wrongful acts through the use of proportionality, and apply my definition of ecocide in different

situations and some objections. Lastly, the conclusion will summarise the whole argument, highlight its strengths and limitations, and suggest proposals for future research.

## Chapter 1: Literature Review

The upcoming literature review will investigate the general philosophical debate between Anthropocentric and non-anthropocentrism and which approach is suitable when dealing with the ecocide.

### 1) **Anthropocentrism & non-anthropocentrism**

To grasp the concept of ecocide, it is imperative to understand the debate surrounding anthropocentrism and non-anthropocentrism and their definitions. Anthropocentrism oversimplifies and obscures the web of life. Its core involves the planetary-scale subordination of non-human organisms that denies their value in their own right (Kopnina et al, 2018, p.115) and as an ideology, privileges humans above the rest of nature (p.118). Finally, it does not protect non-human elements without utilitarian value (p.118). Anthropocentrism is a significant driver of the environmental crisis which sets humans in a project that neglects the total dependency of humans on nature (Washington, 2013).

Non-anthropocentrism refers to valuing nature for its own sake and not from an instrumental or utilitarian value (Berry, 1999; Preston, 2011)). It requires social practices to incorporate ecological sensitivities and heightened awareness of the intrinsic values of ecosystems and non-living entities (White, 2018). Non-anthropocentrism asserts that humans are just part of a wider community of subjects and that the well-being of each relies on the well-being of earth as a whole (Berry, 1999); Cullinan, 2044; Halsey and White, 1998; Williams, 2013). Furthermore, it is argued that human beings are stakeholders in nature and are responsible for other species' right to live (Gagnon-Thompson & Barton, 1994; Hoffman & Sandelands, 2005; Kortenkamp & Moore, 2001). However, this last claim is controversial when we look at the concepts' development.

The original anthropocentric approach is a system of values focusing on humans. It implies that there is a hierarchy creating a natural order. It originates from Darwin's theory of Evolution, representing the idea that humanity situated itself in the centre of the universe (Campbell, 1983). Finally, humans are considered the only beings seen as intrinsically valuable. However, this vision of anthropocentrism has been argued to be outdated and

inaccurate (p.23, 2013). It is necessary to reevaluate anthropocentrism and non-anthropocentrism to oppose them in a new fashion.

In the modern definition of Anthropocentrism, it is agreed that nature's exploitation is excessive and that we must change the situation. Indeed, Norton suggests shifting the debate around intrinsic or instrumental value to focus on how to confront the problem-solving situation we are in (Norton, 1984, p.358). However, his logic means that humans remain the priority on ethical issues. Norton argues that non-human or future-generation interests cannot be taken into account in ethics. The new Anthropocentric definition defends a paternalistic view that gives humans the obligation to care for the environment (p27, 2013). The existing legal frameworks are anthropocentric. They seek to mediate between people and corporate or state entities. It causes problems for environmental legal questions and proportionality of legal punishment for committing crimes against nature. Non-anthropocentrism scholars have come up with new arguments and tell us that we should view ourselves as members of the biotic community; this perspective is called Biocentrism.

## 2) **Biocentrism**

Individual living organisms have been recognised as possessing inherent capacities, despite diverging views on which capacities are relevant (2018, p.284). There are three perspectives on which we can assign climate change impacts on individual organisms. The first relies on numerical values, as climate change might affect the total number of organisms that have ever lived. The second looks at identity, climate change allows the appearance of new species that would not have existed without it. Finally, climate change may harm living organisms. Biocentrism shares similarities with non-anthropocentrism because it recognises the intrinsic values of beings, human or not (MacClellan, 2023). In contrast to sentiocentrism, as we will see, it does not solely incorporate conscious and sentient creatures but rather goes a step further by including microorganisms, fungi and other types of non-sentient beings (MacClellan, 2023, p.10). Sentiocentrism would be more conducive to an animal right based approach rather than an ecocide approach, because it focuses on specific liberties and freedoms of sentient species. During the 1990s a greater awareness of sentient species, like primates, increased our legal consideration towards them (Legge & Brooman, 2020, p.203). This is how protection from practices such as laboratory testing arise. In 2020, Legge & Brooman made the proposal to develop a definition of animal ecocide in which encompasses wild and kept animals. "Kept animals" are used in industries such as farming, scientific testing and

entertainment are already covered by legislation. Wild animals should be added into consideration to strengthen the ecocide movement overall (p.213). Animal rights are struggling with the incorporation and exclusion of sentient species. By categorising different groups you fail in protecting them because you still hierarchise which species should be given more consideration than others. The claim of Legge & Booman is that sentient animals should receive similar rights to life and freedom. Eventually, the aim is to prevent harm if it is unnecessary (p.213). “Unnecessary” appears the moment an alternative way to do science or food availability exists. A notorious case is the Faroese tradition “gringadráp” in which hunters bring whales and dolphins towards a bay for fishers on the shore to slaughter them with knives (The Guardian, 2023). The practice was vital for the subsistence of the population before but it is not the case anymore. Wording like unnecessary is problematic as we will see in the upcoming section. Furthermore, attributing rights is another task than granting intrinsic value to sentient beings. Biocentrism proposes a narrative that moves away from humanity depicted as the centre of creation and liberates distinctions between humans and non-humans (Fincham, 2018, p.65). Biocentrism is an alternative to ecocentrism because of the unclarity the boundaries of ecosystems are referring to (Thompson, 2017, p. 282). The delimitation of geographic zones is similar to a Scramble of Africa in which actors might benefit from identifying a particular zone as an ecosystem that won’t be affected by exploiting resources. By directly defending the beings composing ecosystems you are ensuring their protection because harming them would entail their partial destruction.

However, biocentrism faces several limitations that are important to take into consideration. MacClellan brought up two problems. Firstly, the Origin Problem which refers to the moral status that biological organisms possess. Moral obligation appears after having recognised the moral status of an entity and that it matters for its own sake. MacClellan criticises biocentrism for not distinguishing what is good and right in their normative claims (2023, p.20). Secondly, the Normativity Problem refers to the Biocentrist's incapability to establish the logical link between value and moral obligation (2023). It is the failure to explain why it matters to recognise the intrinsic value of an organism from a moral value (2023, p.20). The challenge remains in explaining why biocentrism is a good contender to identify a definition of ecocide.

### 3) **Ecocide**

The term ecocide emerged in the late 1960s, during the Vietnam War to criticise the environmental catastrophes resulting from the use of Chemical weapons (White & Hasler, 2019). It is Higgins who came up with the most prominent definition: “*Ecocide is the significant destruction, degradation and diminishment of the environment, in whole or in part as a result of human acts or omissions.*” It was proposed to be added in Article 8 of the Rome Statute in 1988 (Higgins et al, 2013, p.257). The aim is to enable international criminal law to hold individuals responsible for causing environmental damage. However, it is exclusively recognised in times of conflict and not in peacetime. Furthermore, ten countries such as Ecuador, Vietnam and states that were part of the USSR have included ecocide in their criminal penal code. Currently, most of the harm against the environment occurs through peacetime, our practices are systematically damaging the planet. The problem is that harm is so generalised that we forget to condemn it and show the self-destructive dependence we fuel. In 2022 a university group led by Kühne listed 425 sites worldwide that could be qualified as “Carbon bombs” (Kühne et al, 2023). It mainly refers to extraction of fossil fuel or natural resources, like coal for electricity production. A “Carbon Bomb” would produce emissions emitting from 1 to 28 billion tonnes of CO<sub>2</sub>. Being aware that most projects are ongoing and some are yet to start we can affirm that existing laws are insufficient. With this aim in mind, the Expert Panel under the Stop Ecocide Foundation attempted to formulate a new definition of ecocide to add to Rome's Statute. Indeed, they consider international criminal law as a vital role in transforming our relationship with the natural world. In June 2021, the Expert Panel proposed this definition: “For this Statute, “ecocide” means *unlawful or wanton acts committed with knowledge that there is a substantial likelihood of severe and either widespread or long-term damage to the environment being caused by those acts.*” (Stop Ecocide Foundation, 2021). It is closely aligned with non-anthropocentrism because it perceives the environment as having intrinsic values rather than instrumental/utilitarian values to humans. However, as we will observe the claim is difficult to achieve. Due to the tight historical link between the concept of genocide and ecocide, the definition of ecocide has been applied mainly in circumstances that treat ecosystems, mountains or rivers as being granted similar rights to the ones present in humanitarian law. Lemkin identified that genocide had two phases. The first one is about eliminating the national pattern of the oppressed group and the second one is about the imposition of the oppressor’s national pattern (Crook & Short, 2021, p.187). The concept of ecocide in itself is linked with postcolonial thinkers. Crook and Short define ecologically induced genocide as scenarios in which environmental destruction results in conditions of life that fundamentally threaten a social’s group cultural and physical existence (2021. P.188).

The (non-)anthropocentrism debate with concepts like ecocide can be a great example of the duality. Indeed, the definition proposed by the expert panel in 2021 received several criticisms. Heller identified some of them. One of them is the failure of resemblance with the term of Genocide. Indeed, genocide depicts the desire to get rid of specific groups, and there is no sufficient categorisation of who is targeted (Heller, 2021). He also identifies a cost-benefit analysis. The conceptualisation suggests that it may be permissible to cause long-term and big-scale damage if humans can benefit from such developments. Such claims make it very problematic because they promote hierarchy, and preserve a separation of humans from nature. Another difficulty arises if the eco-centric aim is badly defined. In his answer to the panel, Herrer alarms about the sustainability threshold. Is building a school problematic because it potentially harms the ecosystem around it? Similar questions make us think of the struggles we face when having a biocentric perspective. Sustainable development is a development that meets the needs of the present without compromising the ability of future generations to meet their ends (Kruger et al, 2014). This conceptualisation appeared when evidence that planetary systems humans rely on were under threat (2014). The situation pushed forward the need for intergenerational justice and the implementation of new human rights such as the right to an environment adequate for their health and well-being (Barkemeyer et al, 2011, p.17). Within sustainability, two schools face each other. On one hand, the proponents of weak sustainability consider it acceptable to replace natural capital with human-made capital if the same function is accomplished. On the other hand, strong sustainability which has a greater influence on the Brundtland report suggests that natural things and processes must be preserved (Bonnedahl et al, 2022, p.129). A commonly shared perspective is that solving climate change is a primordial factor of sustainability and the failure to make decisions will degrade natural and human systems.

Some scholars focused on the overall environment that explains the definition of ecocide. Cusato & Jones recall that laws are not an objective force. They are under the influence of social, economic and political trends (2023, p.3). This translates into laws fuelling the structural injustice of the modern capitalist system. The authors doubt the international legal system's capability to legitimise acts of ecocide (2023, p.6). There is a tendency to use justice like a spectacle to displace harder questions at play, ecological issues are also affected by the focus on the extraordinary and episodic events. The vocabulary used in the ecocide definition

focuses on the most sensational forms of ecological harm (2023, p.8). Even more worrying, ecocide becomes a marketing tool to promote a particular vision of global justice and is simply inefficient. Therefore, we need to redefine the concept to match it with a plurality of visions.

#### 4) **Knowledge gap & research aims**

Through the literature review, I was able to evaluate what are the current debates around the anthropocentric and non-anthropocentric perspectives. Furthermore, it allowed me to introduce the concept of Ecocide. The Biocentric perspective is missing in theoretical debates about ecocide. The thesis aims at establishing a new definition of ecocide that would take a biocentric stand. I have identified two main gaps in the literature between biocentrism and ecocide; First there is no clear identification of who are the victims of ecocide. Second, what is meant by harm has not been defined in a convincing way. Those two gaps are fundamental to elaborating a definition of ecocide. In other words, a biocentric definition of ecocide has not yet been formulated.

### Chapter 2: Biocentric definition of ecocide: defining the victim

#### 1) **My definition of ecocide**

“Ecocide” means unlawful projects and acts committed with a substantial likelihood of severe and long-term harm to biological organisms caused by those projects and acts.

- a) “Projects” means plans that eventually lead to the acts
- b) “Severe” means damage which involves casualties to any biological organisms
- c) “Long-term” means damage that is irreversible or which cannot be redressed collectively by biological organisms in a reasonable period
- d) “Harm” means if the proportion of individuals affected by the act decreases by 30% in an instant period
- e) “Biological organisms” means any being capable of reacting to stimuli, reproduction, growth and homeostasis

The term “Project” allows the sanction of any attempt to conduct harmful projects before it happens. It pushes actors to be transparent in their planning. The degree of the sanctions should not be comparable to the ones of the acts, it is an extra constraint rather than a pure constraint. It is a way to deal with the fake retrospective problem discussed later. Project allows limited scope actions undertaken by biological organisms and not meteorological phenomena like natural disasters.

I used the Stop Ecocide Foundation definition and modified it to suit a biocentric definition. I got rid of the terms “wanton”, “widespread” and “environment”. "Wanton" is meaningless for a definition that does not aim at highlighting any social or economic benefits. "Widespread" refers to a geographic area, the definition looks at biological organisms within the exact space of the projects and its close surroundings, such delimitation is therefore not needed. "Environment" has been replaced by biological organisms. A biocentric perspective entails that if the biological organisms are harmed then geological or atmospheric components must have been targeted. Some modifications have been brought to some existing terms. I shifted the damage described as “severe” by cutting adverse changes and disruption. The reasoning is that change occurs constantly and apart from looking at it from a cost-benefit perspective, it would be difficult to determine that it is adverse. In the case of “ long-term” the original definition of the agent changed from natural recovery to biological organisms. Humans also have a role to play in mitigating and it reinforces the argument that humans are part of a greater community that does not put them in a special rank.

To understand my definition it is necessary to look at who are the victims of crimes, and if they are, what do we identify as harm?

## 2) **How is the victim in biocentrism understood?**

Palmer highlights the “individual living organisms' perspective and affirms that those organisms are goal-oriented or that they have their own goods” (2018, p.284). When it comes to harm, biocentrism looks at the non-conscious and sentient beings. It is unclear whether or not non-conscious beings will be harmed by climate change. A reason is their life-span, if it's short it might render difficult to assess the damage caused. Despite a growing literature and scientific findings on networks like forests where trees and fungus are interconnected it is a hard task to evaluate how the elimination of one might cause further harm for the rest of the

network. Finally the properties, scale and number of microorganisms hardens the identification of harm (Wienhues, 2022) For sentient animals it is more straight-forward because of the conditions imposed on them within the alimentary industry and the decrease in suitable territory that pushes them to enter in conflict and entails complications of their living conditions. However, for individual living organisms it is a consequentialist framework that is used, which supposes that we are aiming for the best possible outcome (2011, p.208). In my definition such a consequentialist view is taken out because humans and especially the ones formulating proposals like ecocide should not decide what best means. Climate change will bring significant changes and biological organisms will evolve and adapt which permits for the continuity of their existence. The objective is not to go against change or shape those dynamics but to recognise that by harming biological organisms in the immediate and short term you are demonstrating inconsideration towards yourself and the system you are relying on. By referring to casualties it allows us to disregard the various types of harms but allows us to take in consideration all the biological organisms.

### 3) **Defining harm**

In the upcoming section I will look at current laws and assess their advantages and limitations when it comes to defining harm and crimes.

A central debate about climate change and its legal implications refers to its victims and the harm they might experience. John Stuart Mill (Shakiba, 2023, p.4) initiated the principle of respecting the freedom of individuals. It is the belief that human society only succeeds when each member lives a happy life. The achievement of a happy life entails that everyone is free to create and do whatever they want (2023, p.4). However, the freedom of one might interfere with the freedom of someone else. The solution relies on one condition, that individuals' actions should not cause harm to others (2023, p.4). Harm is central to the Western legal system, Mill defines the principle of harm as the only legitimate use of force from society and public authorities to prevent individuals from performing their actions (2023, p.4). To complement the claim civic responsibility describes three fundamental elements. First, a person's freedom of action should directly cause harm to another. Second, only intentional actions can cause harm. Third, the loss should be unfair (2023, p.5). When an individual harms "others" it encompasses only humans (2023, p.11). A limitation of this conceptualisation is that unintentional acts should also be penalised. It is further relevant to climate change which leads us to unknown situations. Furthermore, Mill's conceptualisation is utilitarian (2023). This

utilitarian aspect might enter in conflict in a world that does not aim at the biggest utility, or where at least what would be considered useful might be hard to find. Such a concept is extremely subjective and usually fails to benefit the majority.

In addition, a crime is recognised through the use of sanctions. The two sources of punishment in modern legal systems are the form of fines or loss of money and form of imprisonment which can be translated as the loss of freedom and time (Faraldo-Cabana, 2016, p.490). The widespread use of money applicability to quantify acts or compensation is questionable regarding biological organisms. Indeed, nature does not possess a bank account and because it is exploited, it would not make sense to finance a project for some actors to use those investments in a way that will benefit them later on. We can identify the concept of proportionality, which is applied in my definition of ecocide.

Current laws against crimes are limited in their temporality because they possess fake prospectivity. In other words, you are intending to prevent certain actions in the future by making them reprehensible. However, when a violation occurs it just occurs. For example, you are digging a hole to extract resources with the official motivation to provide enough energy for the population's needs that will have relatively a way bigger negative impact on future generations, while you are taking the measures leading to it nothing can stop you because the crime has not occurred yet. If actors are compelled to invest in projects that contribute to global warming like fossil fuel extraction, it means they have more economic benefits than losses. Legality is used to defend society against any deviant behaviour likely to damage/jeopardise the legal system. Current crimes are not suitable for preventing environmental damage. This is why the "project" is fundamental in my definition. Currently, victims are visualised as objects rather than subjects. It is time to reincorporate non-human elements into the centre and accept that we should not occupy a priority role. Such vision is actually endorsed in some societies worldwide.

#### 4) **Alternative to current understanding:**

In contrast to Western laws that look towards the future without mitigating action, others' perspectives on ethics can be found enlightening. Worldwide different philosophies are composed and inspired by biocentrism. It is the case of intergenerational ethics. Confucianism and African philosophies share a cross-temporal understanding. In Western laws, a crime is

applicable in the momentum. In the case of Confucianism, individuals can only thrive and live a happy life when they are embedded in the networks of relations across space and time (Hourdequin & Wong, 2021). Intergenerational justice that works thanks to the concepts of gratitude and relationality makes Confucianism particularly relevant in our discussion. Intergenerational justice by stretching in time and space leads individuals to be concerned about not only personal ties but the human community and potentially the larger biotic community (2021). Endorsing our relationship with the diverse elements surrounding us and showing gratitude by recognising how they contribute to our well-being, allows us to recognise and understand who we are as individuals (2021). African philosophies also use intergenerational justice as a ground pillar of society. The concepts of generation and merit are central. Generation is not qualified in a time bubble, it is a continuum that links the past, the present and the future of the community together (Mbonda & Ngosso, 2021). This continuum works through the responsibilities generations owe to each other. Current generations have direct duties. Towards the antecedents they need to treat them correctly for having offered the best conditions for them to live comfortably, they also have to prepare the most welcoming world possible for the new generation to experience a life that is at least as good as the past ones (2021). This leads to a societal understanding that pushes current generations to sacrifice for the benefit of the ones to come (2021). The right to live on the land and live off the land, which recognises lands and resources as a gift from God that should be given to all generations and not all of them (2021, p.9). The necessity to endorse sustainability in such framing becomes apparent. This divinity representation is visible in Latin America with the notions of “Buen vivir”. and "Pachamama". It is a biocentric conception that identifies a relation of mutual dependence between nature and humans (Vidiella & Valverde, 2021, p.1). Indeed, the well-being of various beings eventually allows the functioning of the system. Using such ideas can be used to abandon anthropocentric premises and reconfigure our relationship with nature (2021, p.11). The concept of “Buen Vivir” was incorporated in the Ecuadorian and Bolivian constitutions in 2008 and 2011 respectively. The fact that biocentrism is present in various parts of the world is encouraging to imagine a biocentrist definition as acceptable and applicable worldwide in terms of values.

However, several objections to the biocentric approach to victimhood exist. Its incorporations showed the limitations of how existing and different visions of the world might enter into direct conflict and not for the best. In Ecuador, the researchers Kaufmann and Martin analysed thirteen cases in which the right of nature was applied and the entirety of them failed

(Guim & Livermore, 2021, p.1408). The reasoning given was about a sufficient amount of interest for governments to overcome nature's rights. Eventually, they concluded that nature's rights got instrumentalized to justify the operation of state power. Such observation demonstrates the risks of "Green Fascism" that non-anthropocentrism perspectives represent. Nature's rights conflict with other rights, such as the ones defending socio-economic rights. Biocentrism was introduced through a socialist lens and argued that resources are the state's property and should be used to finance national social policy (2021, p.5). A hierarchy has justified which rights had greater priority than others, it undermined biological organisms and failed at their initial aims. Another difficulty is that rights that empower organisations and people will generally be more effective than those using substantive norms (2021, p.1416). Therefore, the symbolism of biocentric laws might have a limited impact (2021, p.1417).

### **Chapter 3: Biocentric definition of ecocide; defining wrongful acts**

#### **1) Proportionality test and sustainability**

A definition of ecocide in essence must act in parallel with current legislation. It is a key stone that allows the defence of any biological organisms from over-exploitation and annihilation. Now the challenge is how to pick a threshold, which is important as it helps identify wrongful conduct.

In the Stop Ecocide Foundation, the economic factors are problematic because it is indirectly granting value to nature and even more controversial to humans. The economic perspective has been used by some theorists who see it as an opportunity. For instance, the social cost of carbon "SCC" has been used to calculate the financial and social risks fuelled by climate change (Broome, 2019, p.2). Sociality could be the only legitimate reason but what does it even mean if it still harms later on populations and deteriorates their living conditions.

The goal with a biocentric definition of ecocide is to separate ourselves from economic or social conditions. For example, economically it does not make sense to make a horse pay for having caused a traffic accident or a person to be fined for having walked on a snail. In addition, forms of economic compensation like money are useless for biological organisms. Indeed it is not by sending 30 EUR to the snails community that it will be helpful in any way. What I try to defend is that despite being Biocentric this definition of ecocide will exclusively be

receptacle to humans but attends to reconnect their considerations towards the rest of the biological community.

The Stop Ecocide Foundation uses the principle of proportionality. The use of proportionality can be seen as useful because it is a principle that has been incorporated in large societies worldwide which suggests that it is a commonly accepted concept (Baumard & Boyer, 2013, p.272 ).

Proportionality here is referred to mathematically and ethically. As observed through the Ecuadorian case proportionality originally refers to the balancing between necessity and considerations (Woodcock, 2023). Legal proportionality is a fundamental principle for adjudicating among conflicting values (Kenan et al, 2016, p.1). It has been mainly applied in military action. In targeted killings of terrorist operatives which involves the use of lethal force against suspected individual terrorists, it is a dilemma to justify how much capabilities (potential killings) is acceptable to achieve the wanted goal (2016, p.356). Let's imagine that an army identified a building in which 25 terrorists are present; if it's decided to launch a bomb it will kill the 25 individuals but the impact may have repercussions on the surrounding might kill 2 people and injure 3. Is it justifiable to still do it if the objective is achieved? Similar dilemmas arise when dealing with a biocentric definition but this time an extra difficulty is added due to the diversity of actors that are taken into account. Let's take the example of the bombing again. If you bomb a piece of land, two cows are dead in a group of 56, it destroys 42 trees out of 300, and annihilates 3 trillions of bacteria. If you take the total number of biological organisms affected then it is 99.999999...% that have been harmed. However you cannot compare a cow to a bacteria like they have the same significance/weight. Despite 3 trillions being an unimaginable number for human awareness it represents nothing in terms of the total number of bacteria worldwide, as a comparison Sender et al, estimated that 3.8 trillion is the total number of bacteria present in a 70kg human body (2016,p.3). The numbers are gigantic and it might render insignificant the claim. People would continue to commit atrocities to biological organisms and commit ecocides without moral shaming because they would argue that it does not have such a negative impact. A solution would be to apply equivalences. We can use the reference of 3.8 trillion bacteria and convert it like it was a human being. This would have to be determined for all biological organisms, for example to cut a 5m tree that englobes 12 trillion bacteria. Then it corresponds to one elephant, 3 humans, 15 cats, 12 one-metre trees, 88 fungus.

My definition is taking its roots from ecological proportionality. Ecological proportionality aims at formulating basic rules to prevent society from using nature in an abusive way (Winter, p.114). Most of its guidelines are recommendations and self-commitment, such as the use of technology that reduces greenhouse gas emissions or efficiency in their consumption (p.114). It is linked with precautionary principle and suggests that natural resources should not be consumed if the consumption can be avoided (p.125). Such formulation highlights what Kortetmäki argued about the transition of an old to new anthropocentrism. Indeed, ecological proportionality is argued by Winter to switch the question by identifying nature as a source humans cannot survive without instead of just separating the two identities in a hierarchical view (p.128). It is a sort of improvement but in our situation such a claim feels like a mirage. Eco-proportionality requires actors to justify their objective, its necessity, its effectiveness and weighing of means (p.129). Such vocabulary entails that it supports action if stressing situations are emerging and need to be dealt with. It is way easier to argue for fossil fuel extraction if you argue that it is still the most effective way of doing it because we have the technology that has also adapted through the years and it is necessary to extract such resources to sustain the living conditions of millions of inhabitants depending on them. This can be applicable in developed countries and developing countries that invested consequently on it. Such proposals despite their intent are giving the illusion for action without actually dealing with the issue because it still gives the opportunity for certain actors, such as banks, assurance companies and extraction companies to justify their actions.

From those observations I suggest taking ecological proportionality and to apply it with englobing biotic organisms.

## 2) **The implications of the definition:**

Now that we have the tools to understand the reasoning behind my definition of ecocide. It is essential to give examples on how it should work in practice through different examples.

Let's imagine you want to build a school. At first just the thought of constructing the infrastructure would create emissions. There is a need for materials, which entails its extraction, process and transportation, in each of those steps the surrounding industries and tools emitted GHG emissions. Then, when the infrastructure is complete you are required to energetically maintain it with electricity and water that again entails further infrastructure to connect it to a

greater network and therefore additional CO<sub>2</sub>. Finally, it presupposes the displacement and killings of the living organisms present in the perimeter. This act could prevent the building of the school because it directly attacks and threatens the constituents. In this logic people will argue that a biocentric perspective is impossible to reach without forcing ourselves to retract from any new infrastructure, life is everywhere and in a way that would mean that nothing can be changed. However, instead of being a canceller, biocentrist perspective aims at pushing for an introspective on how to cohabit with other beings. Indeed, all the resources and practices that might cause harm are usually not trying to adapt in the given environment, rather it is built in a formalised and systemic way which undermines the integrity of the biologic community. Yes at first you might displace beings and harm some in the first place. However, depending on the development of the building and how welcoming it is to beings it might be a new opportunity for them to contribute in the shaping of this space. Therefore, it should not be the biologic life that has to submit to human needs, but the needs of the humans that adapt and hopefully contribute to the biologic life. Humans are part of the living organisms and shape spaces depending on their needs but this needs to take into account the further inhabitants. The use of technology is also obviously acceptable, if well managed as using more renewable energy and more efficient ones in their consumption.

A biocentric definition might be helpful when it comes to materials and fossil fuel extraction due to the scale they represent. Digging and extraction represent greater danger for the beings around such infrastructure that usually spread in huge pieces of land. The success of such exploitation is inconsiderate of the biological beings that might be present.

It questions the agro-alimentary industry and the slaughter-house it represents. If we focus on sentient animals, the amount of domesticated animals that are kept for consumption is greater than wildlife animals. If we argue that a certain proportion of biological organisms should not be harmed, then currently we are experiencing ecocides all over the world. Furthermore, the definition of ecocide is also relevant when taking the huge pieces of land that are exploited to nourish the industrial farming sector, those are mainly monocultures which in order to exist entails the annihilation of other biological beings. The definition might fuel restriction on the use of certain products/chemicals like glyphosate. Here the aim of ecocide is to incorporate in the legal system the practices which are attacking the planet but are not sanctioned. It has been proven that glyphosate negatively affects the health of soils. Originally it got used to get rid of plants and possesses cancerous properties. In consequence, fruits and

vegetables are infected and might have an impact on you if consumed (Ruyssen, 2023). Unfortunately, the consequences are limited to people close to it and it is difficult to draw the link between this molecule and the risk of cancer. In November 2023, glyphosate use got extended for 10 extra years in the European Union. Its production and commercialisation is increasing mainly in Asian and Pacific economies. A biocentric definition would prevent the utilisation of such products because it attacks biological organisms and annihilates the elements composing a space.

### **3) Objections to my definition of wrongful acts:**

The equivalence logic is only applicable in specific contexts like in industrial agriculture. In the case of fuel extraction it is less evident to proclaim that it causes harm. If a pipeline leaks and oil spreads across then yes all the biological organisms will be harmed in the way described in the definition. However, its instantaneity makes it difficult to categorise it as a project that might cause harm to the biological community. Sure the emissions produced might cause further global warming and impact in the long-term the lives of biological organisms in a detrimental way. However, we could argue that with the existing incidents we experienced we are aware of potential risks they realise.

Harm remains difficult to assess for non-human elements. This thesis identifies harm as the killing of biological organisms. However, this is problematic for sentient beings. If humans get cancer because of chemicals that spread in the soil, the harm won't be recognised until they die, however they still would have suffered the rest of their life. Furthermore, the sanctions are only applicable to humans. The issue with the current definition is that I was unable to deeply explore the attribution of responsibility. Let's take invasive species as an example. Now that they are present in new ecosystems you cannot prevent them from spreading if they are in the right condition to do so. Is it permissible to let go of those developments? By taking action then we would fall again in a new anthropocentrism in which as humans we have the mission of dealing with nature. Some people identified invasive species as a way to use them as alternative products. Notably, the "Stalin's Red Army", a kind of crab, is a species that has been imported in Norway during the 1960s and had disastrous consequences on diversity due to the decrease in native seafloor species (The Guardian, 2020). However, it can be argued that by causing harm to other species by killing more than 30% of the existing biological organisms then the

crabs are committing crimes of ecocide. If there are no organisms capable of regulating their spread, then how to deal with this situation without potentially causing another ecocide? Would my definition then need to accept that humans, with the current world, have to manipulate nature to bring it back to life while still being considered ethically acceptable?

The threshold refers to 30% of biological organisms being affected. By using equivalences you are succeeding in dealing with the limitations of focusing on numbers. However I haven't been able to develop what it refers to. Let's imagine that a new chemical has been manufactured and has effect only on specific organisms and it exterminates them but it does not have any consequence on the rest. Instantly, the precise organisms are experiencing a crime of ecocide but because it represents only 5% of the sample it won't be considered one in the short term at least. Long term is uncertain because we cannot forecast how it will impact the other biological organisms that depend on them. Another situation would be with Bubonic Plague pandemics like with the Black death in the 14th century. It represented 75 million deaths for a world population of less than 500 million, in other words it killed 15% of humanity (Boucheron, 2023). Is it then not considered ecocide despite the immensity of its impact? If we had the numbers of people that got affected and it is more than 30% of affected how would we sanction the bacteria? This questions the fairness of my definition.

## Chapter 4: Conclusion

Climate change impact is increasingly visible. Therefore, it is urgent to quickly find solutions to prevent the situation from worsening. Mitigation attempts occurred but until now the few responses have been insufficient. Anthropocentrism by separating human and non-human elements has been a major constraint by categorising nature as exploitable for benefits. Leading to unproductive proposals like carbon taxes. The law needs to affirm itself in shaping new ways of interacting with our world and its different components. The definition of ecocide is a concept worth looking at to change the discourse and practices that contribute to biological organisms' harm and global warming. I have discussed the debate between anthropocentrism and non-anthropocentrism to see which perspective would be best to use for ecocide. Within non-anthropocentrism, biocentrism was identified as the best perspective to be incorporated into ecocide. Until now ecocide did not possess a clear visualisation of victims and neither how to recognise the harm caused to biological organisms. By conceptualising harm as applicable to all biological organisms and recognising them as victims, we can finally provide a pertinent

biocentric definition of ecocide. Biocentrism is deeply linked to sustainability, the idea of providing sufficient resources for the next generation to come. This conception is visible in different societies and also promotes consideration towards biological organisms. The use of proportionality allows the identification of thresholds that make the definition viable. Eventually, this definition is helpful to prevent the agroindustry from following monocultures, having infrastructure that includes biological organisms, and limiting the extraction of resources.

The thesis has several strengths. It is a critical analysis of existing legal perspectives which presents various and alternative philosophies. It shows how our current systems can help identify the definition of ecocide but highlight the need for further inclusivity. The inclusion of non-Western perspectives helps to deal with anthropocentrism and issues such as fake prospectivity that until now limited the efficiency of a proposal of ecocide. The thesis successfully incorporated biocentrism into ecocide while preventing a new-anthropocentric framework such as the cost-benefit analysis from taking over. Moreover, biocentrism succeeded in dealing with the sentient and non-sentient distinction and the issue of micro-organisms incorporation. It opens the bridge for a new way to conceptualise ecocide while reinforcing biocentrism.

However, the thesis possesses few limitations. It failed to explain why we should attribute intrinsic moral value to biological organisms. Furthermore, when discussing the Western understanding of harm it solely focuses on Mill's conceptualisation. Despite, allowing us to understand the way harm is understood it is also a pretty old statement. Concepts meaning evolve fast and therefore the point might be a bit outdated and biased. Another limitation remains in its applicability. By being extreme for some in the current setting it fails at compromising. It imposes a certain vision of the world that contrasts with the current norms, and can be considered unfair if only humans can commit it. Finally, it is uncertain in which type of law refers to, making the argument difficult to follow.

For future research, I would suggest going deeper into the proportionality model. In the thesis, 30% does not refer to scientific findings. To have an accurate estimation of the number of biological organisms would allow us to develop proper percentages and identify logical equivalences. It would also be interesting to go deeper into the attribution of responsibility for harm to non-human elements. The definition should act in parallel with legislation. Therefore, a comparative analysis of different legislations to evaluate how the definition would suit the

context would bring a great contribution. In addition, ecocide through a biocentric stand flirts with various types of law, whether it is criminal, animal or environmental. Analysing the impact of the definition in the network of legislation is important to make the overall aim of stopping climate change achievable. The effects of my definition lack an analysis of the economic effects due to the strong shift it requires industries and modes of production to enhance. Exploring alternative economic systems like degrowth might be interesting. Finally, it shall be seen how to include people in the participation of this legal framework to ensure transparency and accountability, which allows to fight against the risk of green fascism.

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