On Ecocide: Toward A Conceptual Framework

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Abstract

The extent to which ecocide should be treated within the existing framework of genocide has been hotly debated, and recent literature on what some have called the *anthropocene epoch* has further highlighted the extent of human responsibility for environmental destruction. This paper contributes to those debates by locating ecocidal practices and the corresponding ecological resistance within a paradigm shift from the anthropocentric economic knowledge of Western industrial capitalism towards an eco-paradigm found among many indigenous communities. Such communities exist in close relationship to their environments, but such ways of life are threatened by the activities of multinational corporations, such as the oil companies operating in and around the Amazon region of Ecuador. By appreciating the impact of such activities upon indigenous ways of life, we are obliged to treat ecocide as a genocidal project within a human rights framework.

Keywords

Anthropocene; Ecocide; Genocide; Human Rights; Oil Energy in Ecuador; Paradigm Shift; Traditional Environmental Knowledge

1. Introduction

This paper is a contribution to the growing literature on *ecocide*. In particular, it seeks to engage with and make a contribution to the debate on this contested topic by presenting a conceptual framework for ecocide, which will locate it, firstly, within the *sociology of human rights*, and secondly, within the broader framework of *genocide*. While ecocide is certainly an issue of major concern for lawyers, activists and politicians as well as scholars, the debate has largely been shaped by questions of definition and interpretation. While we acknowledge and endorse the necessity of such questions, we seek to offer a sociologically-informed argument for recognising ecocide as an inseparable extension of genocide, understood in the context of a *paradigm shift*, which we term 'eco-change', which manifests itself in the human-caused destruction of the social and cultural as well as environmental ways of life of entire groups. Research into the consequences of the so-called 'anthropocene epoch' has already begun to shift the debate in such a direction, and our application of a social constructionist sociological approach is intended as a contribution to this.

That research into ecocide constitutes a sub-field of the inter-disciplinary study of human rights should not be problematic, but it is. Human rights remains a hotly contested field, with scholars and activists competing vigorously to present as authoritative their own interpretation of what it should and should not include, such interpretations frequently being defined by the conventions of particular academic disciplines, or by the ideological dispositions of the contributors. There is certainly no consensus on whether concerns that are environmental in origin or impact should be appropriately debated within the discourse of human rights, given that for many, still, the latter is popularly limited to issues that are principally political or legal in character. While ecocide might well be viewed as a human rights concern within more recent sociological definitions, it remains outside the scope

adopted by more traditional liberal definitions. Equally, it is not altogether clear whether it is compatible with more radical approaches to human rights, such as Marxism, which traditionally foreground economic and social rights. Such inconsistencies demand our attention if we are to treat the problem of ecocide seriously.

The relationship between ecocide and genocide is, perhaps, even less straightforward. Ostensibly, the term itself suggests that ecocide is a derivative of genocide, and thus by extension that research into ecocide should appropriate the conceptual tools utilised within the now-established field of *genocide studies*. Indeed, the history of the term is deeply immersed in debates within genocide studies. The term derives from the Greek *oikos* ('house' or 'home') and *caedere* ('strike down', 'demolish' or 'kill'), and thus loosely translates as *killing Earth*. It was apparently coined in 1970, during a conference on war and national responsibility, amidst demands to create a new international law that protects rights to health and life from the "massive use of chemical defoliants and herbicides" (Galston 1970, 72). Largely as a result of these demands, the Environmental Modification Convention was established, which prohibits, during wartime, contracting parties from engaging in "military or any other hostile use of environmental modification techniques having widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State Party" (UN General Assembly 1976, Article 1). Subsequent to this, in 1973, the scholar and human rights activist Richard A. Falk proposed a draft International Convention on Ecocide during discussions on the effectiveness of the United Nations' 1948 Genocide Convention, but this was not put to vote, for "reasons unknown" (Gauger *et al* 2012: 9). The proposal sought to address the limitations of the Genocide Convention and acknowledge, in law, "that man (*sic*) has consciously and unconsciously inflicted irreparable damage to the environment in times of war and peace" (ibid: 21). It is worth noting the emphasis here on establishing a legal doctrine covering acts of ecocide

during peacetime, rather than simply as a consequence of war (Falk 1973). In the absence of any peacetime sanctions, standards, duties and obligations in respect of the problems Falk and others have identified fall within the mandate of environmental law, which, according to critics such as Neil Popovic (2009), is inadequately equipped to address the impact of environmental change upon individuals This inadequacy has prompted such critics to identify an opportunity to expand the scope of human rights law. The issue at stake, they suggest, is the extent to which people can survive culturally or physically in their lands following environmental degradation; i.e. the extent to which environmental damage constitutes a threat to the right to life. Although the link between human rights and the environment was acknowledged at the 1972 United Nations Conference on the Human Environment held in Stockholm[i], this declaration on the *right to a healthy and safe environment* did not really develop into a well-recognized and applicable standard. For some sceptics, the limitations of human rights legislation are apparent: its frameworks do not suggest a specific reference to the conservation of the environment (Boyle 2010). Even so, interest in the relationship between human rights and environmental protection, focusing on the human dimensions of climate change, has expanded considerably in recent years (Shelton 2009).

At present, then, although UN agencies such as the International Panel on Climate Change (IPCC) and the United Nations Environment Programme (UNEP) fully acknowledge the impacts of human-caused climate change on social life, no practical mechanisms exist to protect individuals or groups from its severe effects. There is, however, an emerging interest in the criminalization of environmental destruction within international law generally (Higgins 2010). In 2010, a proposal was made to the International Law Commission (ILC) to amend the Rome Statute so as to facilitate the criminalization of environmental harm. The proposal defined ecocide as “the extensive damage to,

destruction of or loss of ecosystem(s) of a given territory, whether by human agency or by other causes, to such an extent that peaceful enjoyment by the inhabitants of that territory has been severely diminished" (Eradicatingecocide.com n.d.). Many would go further and fully embed ecocide within the existing genocide framework. The deficiencies of Genocide Convention and the challenge of extending it to incorporate ecocide also find voice in scholarly works[ii], and even in the UN reports[iii]. The Ecocide Project in particular locates the challenge in a re-reading of Raphael Lemkin's original definition of genocide, which attaches great importance to the prohibition of both the physical and cultural destruction of a nation or ethnic group:

> Lemkin's original definition crucially identified the destruction of people by means other than direct physical extermination, which could include the destruction of the environment. Ecocide is the direct physical destruction of a territory which can in some instances lead to the death of humans and other beings. Ecocide can and often does lead to cultural damage and destruction; and the direct destruction of a territory can lead to cultural genocide. For example, destroying an indigenous peoples' territory can critically undermine its culture, identity and way of life (Ecocide Project 2013: 6).

Herein the intention is clearly to reanimate Lemkin's original understanding of genocide by focusing on *loss of culture*, and thus to challenge the "the popular (mis)understanding of the crime of genocide as simply racially-motivated mass killing" (ibid: 7). This, of course, is not a challenge specific to the problem of ecocide. A sizeable body of work within genocide studies has been etymological, concerned with defining and redefining the term. The best-known example of this kind of work has come from scholars who identify, rightly, that the legal definition of genocide excludes the mass killings of groups on the grounds of *political* beliefs. Such scholars have posited the crime of *politicide* as a companion to that of genocide as it is understood in strictly legal terms, while advocating its formal inclusion into the legal framework (Harff and Gurr 1989). The absence of any such legal inclusion and recognition notwithstanding, it is now widely accepted that the

scholarly, and in particular sociological, understanding of genocide should incorporate politicide. This broader definition seems as well to have been welcomed by many human rights activists and experts, although some continue to treat it with caution, fearing that it weakens the legal and political force of genocide itself.

The relationship between genocide and ecocide parallels, to some extent, these earlier debates over the inclusion of politically motivated mass killings. Commonly, activists use the terms in close conjunction when condemning injustices. For instance, a statement of vision toward the next 500 years, released on October 14, 1992 by 100 native writers, artists and scholars from throughout the Americas declares:

> We, the Indigenous Peoples of this red quarter of Mother Earth, have survived 500 years of genocide, ethnocide, ecocide, racism, oppression, colonization and Christianization … We call for the immediate halt of the abuse, neglect and destruction of life (Race, Poverty and Environment 1992: 4).

Similarly, many scholars agree on the destructive effects of environmental conflicts (Higgins 2010; Shiva 2005; Short 2016). They maintain, as previously stated, that the legal doctrine on genocide departs from Lemkin's original conceptual framework, and condemn the inadequacy of its institutional implementation within the international community and the United Nations framework (Short 2016; Zierler 2011). That genocide is a legal as opposed to merely sociological concept gives it authority and force. Ecocide becomes an 'add-on', a convenient extension to the dominant term, rather than a constituent of it. For sure, a case can be made for making ecocide a legal concept *distinct* from genocide, insofar as genocide refers to peoples' physical integrity, while ecocide relates to both people and ecology in terms of cultural and biological integrity. But it needs noting that the concept of ecocide is as heavily politicized as genocide has been, and it is perhaps for this reason that it has yet to be incorporated into the Genocide Convention.

2. Six Frameworks for Ecocide Research

We now turn to the existing literature on ecocide and environmental threat, with a view to identifying opportunities for expanding the existing human rights framework to incorporate ecocide. To this end, we introduce six possible conceptual frameworks, which we identify as *Marxist ecology*, *the theory of risk society* associated primarily with Ulrich Beck, the *atrocity paradigm* developed by Claudia Card, *deep ecology*, *eco-feminism*, and the *social constructionist* theory of 'paradigm shift', influenced by the work of Thomas Kuhn.

Marxist Ecology

While no doubt there is considerable unrecorded debate within Marxist circles on the extent to which Marxism and ecology are compatible paradigms, the relationship between the two, between environment and economics, was in fact recognised by Marx himself. In presenting his critique of capitalism and his views on the 'ownership' of the earth, Marx (1976: 328) posits: "(that) man's physical and mental life is linked to nature simply means that nature is linked to itself, for man is a part of nature." From this emerges a generic theory of Marxist ecology capable of viewing the transition from agricultural to industrial society through a green-tinted as well as red-tinted lens. In this vein, scholars such as Schnaiberg (1980), Foster (2008) and Marcuse (1964) examine *Capital* and other works of Marx and Engels in order to identify current problems of society and relate them to environmental debates. Marxist ecology thus becomes a social framework derived from this red-green reading of orthodox Marxism. Although it has been suggested that Marx and Engels, as theoreticians of capitalist development, do not "put ecological destruction at the centre of their theory of capitalist accumulation and socioeconomic change" (O'Connor 1998: 124), neo-Marxist eco-sociologists have focused on metabolic/ecologic

rift, the commodification of nature and alienation. Here, Marxist ecology drives a powerful argument on the inter-connectivity of ecological crisis and social injustice. Firstly, Marx's theory on metabolic rift between nature and society resulted from his observations of the nineteenth-century soil crisis, which caused high levels of water and air pollution after the removal of nutrients (nitrogen, phosphorus, and potassium) from the soil (Foster 2008). For Marx, this industrial interruption resulted in a break in the metabolic cycle between nature and society, which necessitated an ecological "restoration" for the "successive generations" (ibid: 636-639). Secondly, Marx theorizes that this industrial capitalism, in which nature itself is commodified, creates a tension in the pursuit of surplus, resulting in an escalation of consumption and environmental concerns (Schnaiberg 1980). The structure of the problem is "irreparable under capitalism" and technological aid, such as the development of synthetic fertilizer in the case of soil crisis, is just a "temporary remedy" (Foster 2008). For Marx, these ecological crises result in the exploitation of labour processes, which itself leads to ecological rifts. As a result, the dehumanization of human beings, which Marx defined as alienation, is produced by the capitalist mode of production. Beyond these identifications, Marcuse's Marxist observations link the ideas on *complete environmental degradation and serious social irrationality* (Luke 1994: 194), which results in an overwhelming need by society to produce, consume, and control waste. This triggers the need to maintain deceptive liberties "as free competition at administered prices, a free press which censors itself, free choice between brands and gadgets" (Marcuse 1964: 7).

The generic Marxist ecology of Marcuse and others provides the foundations for a Marxist theory of ecocide. Contemporary neo-Marxism, of which Marxist ecology is a sub-theory, has gone to great lengths to expand the scope of Marxist theory to incorporate environmental and human rights discourses which an earlier generation of economic

reductionists may have considered incompatible. Leslie Sklair's (2002) neo-Marxist contributions to the sociology of human rights provide a good example. Sklair's account relies upon a conviction that contemporary post-industrial *global* capitalism is qualitatively different from earlier industrial capitalism. Notwithstanding the contestable nature of such a conviction, there is of course a well-established Marxist theory of *genocide* which derives coherently from Lenin's theory of imperialism (Barta 1987; Sartre 1968). The union of this Marxist theory of genocide and the neo-Marxist analysis of global capitalism provides the springboard for a relevant and credible Marxist ecology equipped to foreground the problem of ecocide.

A good illustration of this is research by Martin Crook and Damien Short (2014, 311), which investigates ecocide through Lemkin's cultural understanding of genocide by linking "culturally genocidal tendencies of global capitalism and its path of accumulation". The authors use a Marxist framework in order to understand the reasons for the "sorts of episodes of ecocide and genocide currently being experienced by the indigenous peoples of northern Alberta and of the Northern Territory in Australia". They argue that the link between current structures of capitalism, ecological imperialism, the global market, and world division of labour defines a new form of global capitalism which has the potential to destroy local environments and ecosystems. They conclude that metabolic rift imperils "the very biosphere itself and potentially induce(s) forms of pan-global ecological genocides and auto-genocides" (ibid: 311). Although their case study focuses on indigenous lands, the authors admit, albeit implicitly, that the dangers of this process "will condemn whole human societies or all" (ibid: 311). Crook and Short thus present a coherent defence of the relevance of the Marxian conceptual framework for the understanding of ecocide.

The Theory of Risk Society

Marxist ecology, then, is reliant upon a theorization of contemporary global capitalism as a foundation for its analysis of ecocide. The theory of risk society developed by the German sociologist Ulrich Beck equally relies upon a complex theory of the contemporary global condition, commonly identified as *reflexive* or *late* modernity. Beck introduces the concept of risk society to expose the impacts of human caused environmental degradation on humans in conditions of globalized risk brought about by unrestrained modernization. Risks, for Beck, are "the probabilities of physical harm due to given technological or other processes" (1992: 24), and "not the same as destruction…not yet destruction/disaster" (Beck 2000: 212-213).

According to the theory of risk society, it is almost impossible to estimate contemporary environmental degradation and its symptoms, like ozone depletion, because of the "gap between source and perceivable symptom" (ibid: 221). Beck draws attention to the "institutional production of risks". Scientific research is dismissed as an unhelpful method for risk elimination because it is implicitly incapable of producing solutions. Utilising a sociological and constructivist approach, Beck (1995: 127-128) underlines that "risks are industrially produced, economically externalized, juridically individualized and scientifically legitimized … Devastation is normalized and legalized". The crisis of modernity accumulates within socially constructed institutions. For example, structured training curricula for industry lead an expert accumulation of knowledge on pesticides in foods. These intuitions mostly tend to avoid sharing the knowledge on risks, such as increasing health problems due to obesity. Thus, "the less risks are publicly recognized, the more risks are produced" (Beck 2000: 220).

Although Beck does not elucidate the effects of risks on human rights, he recognizes that all ecological issues jeopardize fundamental rights especially the right to life, security and freedom from bodily harm (Beck 1995: 8; Beck and Willms 2004: 122-123). This also leads to a conflict of accountability in which "the calculability of the compensations for the victims of those hazards becomes more complex" (Beck 1992: 2). The neglect of risks is seen as a future risk that goes beyond national borders (Beck 2009: 160-188; Beck and Willms 2004). It is therefore not difficult to extrapolate from Beck's analysis of risk society to a theory of human rights, and indeed this is precisely what the sociologist Bryan Turner has done. Turner posits that the contemporary discourse of human rights emerges as a response to these increasingly risky social conditions by reflexive actors aware of their own inherent frailty or vulnerability (Turner 1993). Similarly, it is not too large a step to extrapolate from this a theory of ecocide, as a constructed but embedded result of risk-production.

The Atrocity Paradigm

Beck's theory of risk society foregrounds both the intentional and unintentional social costs of environmental degradation. Claudia Card's 'atrocity paradigm' begins with a clear distinction between the two types of consequence. For example, Card highlights the use of Agent Orange as an *intentional act* and not an *accident* (2004: 23). The focus, for Card, is on "the depth of harm to victims, rather than perpetrators' motives" (ibid 24), because this is "what distinguishes evils from other wrongs" (ibid). Such evils include the Holocaust, the genocides in Rwanda and the former Yugoslavia, and "the threat to life on our planet posed by environmental poisoning, global warming, and the destruction of rain forests and other natural habitats" (ibid 8). Atrocities, like Beck's risks, are "difficult to detect" (Card 2002: 8), but environmental degradation and ecocide count amongst them because of the extent to which they cause intolerable harm.

Card presents the focus on *atrocities* as a more flexible alternative to genocide, ecocide or even human rights, insofar as these are restricted by rigid legal definitions. However, by presenting ecocide as analogous with genocide (Card 2004: 37-39), or indeed genocide with mass murder (ibid: 31-39), she runs the risk of devaluing the distinctiveness of each particular atrocity. In this respect, though the atrocity paradigm is clearly useful in understanding atrocities in a very general sense, it offers little to help us appreciate the historically specific problem of ecological destruction and its implications for human rights.

Deep Ecology

Deep ecology is an eco-centric philosophical movement, developed largely by Arne Næss. At the heart of the movement is a commitment to a deep ethical identification with all life (Næss 2008: 173), an environmental ethics of 'ecological consciousness' that is necessary for a balanced society (Devall 1982). Advocates of deep ecology maintain that human salvation, progress, economic growth, peace and national security depend upon a policy of 'ecological resistance' (ibid: 184). Ecocide is a consequence of an absence of ecological resistance – Devall cites the use of Agent Orange in Vietnam as an example. Ecological resistance "challenge(s) the public or private right to pollute the environment" and condemns "the extinction of species of animals and planets, the domestication of the sea ..." (Shepard 1969: 9).

Bender (2003) aims to go beyond Næss's theory. He views ecocide as resulting from a *culture* of extinction. Like others before him, he highlights the importance of a "shift of awareness, from anthropocentrism to eco-centrism, around which to redesign new ways of life" (ibid: 157-158). He suggests that the relationship between nature and human is reciprocal: "Like everything else, we are linked interdependently to all other beings... what

we do to the ecosphere we also do to ourselves" (ibid: 120). There is much of value in the deep ecology perspective for our own project, not least that it presents an ethical response to a problem rooted in an anthropocentric culture. What it lacks is a substantial sociological theory of social change.

Eco-Feminism

Like deep ecologists, eco-feminists maintain that nature and human beings are inseparable, and eschew anthropocentrism in favour of environmental protection. However, many eco-feminists criticize the deep ecology discourse for betraying an implicit male bias (Salleh 1992; Mellor 1992). For some eco-feminists, deep ecology encourages a male individualist view by neglecting female exploitation and the patriarchal power structure. Eco-feminism explicitly addresses issues of gender, power and equality. It targets the male gender bias in respect to feminist heritage, but adds an ecological perspective (Warren and Wells-Howe, 1994). It proposes a connection between "domination of women and domination of nature" by analysing environmental exploitation in parallel with sexism. While some eco-feminists advocate a spiritual perspective emphasising the "elementary closeness to nature of women", most adopt a more cultural or historical perspective (Littig 2011: 14). However, predominantly eco-feminists adopt the idea that the human body is "embedded in nature" (Field 2000). For some, this doctrine embraces not only women but all people and non-human beings, and also, future generations (Mies and Shiva 2014: 14). Crawford (2013) offers an illustration of this connection between social injustice and patriarchal oppression from Mena's 'John of God, the Water-Carrier', which details atrocities committed against indigenous Mexican women and against nature. She suggests that Mena creates a link "between sexual violence and the water crisis in Mexico City as a result of Spanish conquest and U.S. neocolonialism" (ibid: 87). For Crawford, this is an explosion of "the profound interconnectedness of colonialism, modernization, water rights,

and sexual violence for indigenous Mexican women" (ibid: 97). Therefore, Crawford (ibid: 88) frames "genocide, deculturation, and ecocide as intertwined outcomes of Spanish colonialism which indigenous women in Mexico have survived and continue to fight for their long-term survival". The sensitivity of eco-feminism to such interconnected forces, rooted in a theory of intersectionality, thus renders it entirely compatible with alternative approaches, not least social constructionism.

The Social Constructionist Theory of Paradigm Shift

Social constructionism is a broad social philosophy, which focuses on how human actors engage with and construct the social world, and how their perceptions or understandings of the world are framed within specific forms of knowledge, or discourses. Social constructionists have made important contributions to the theory of human rights (Waters 1995; Wilson 2006). In contrast to traditional liberals, social constructionists seek to divorce the idea of human rights from any foundational moral authority, and treat rights instead as a *discourse* in which particular desires or demands are articulated (Douzinas 2000; O'Byrne 2012, 2015). Such discourses reflect wider social conditions and challenges. Social constructionism, then, treats human rights not as a catalogue of universally-grounded entitlements, but as a language designed to respond to such challenges. It provides a sufficiently flexible conceptual framework to facilitate the inclusion of ecocide and environmental degradation within the language of human rights.

An important contribution to social constructionism has been the work of Thomas Kuhn within the philosophy of science. Kuhn suggests that human knowledge is reflective of socially constructed patterns or *paradigms* (Kuhn 1996), clusters of beliefs, values or shared understandings common to a group or community which exhibit both *solid* and *dynamic* aspects. How might this relate to the problem of ecocide? One might suggest that

the solid aspect occurs with respect to a dominant ideology or paradigm, specifically the prevalence of Western scientific knowledge, which is manifested in United Nations human rights frameworks such as the ICCPR and ICESCR. Its dynamic aspect emerges through the search for solutions to such problems as environmental degradation. Those problems, if not solved within a paradigm, become anomalies, which challenge the existing paradigm (ibid), forcing a dynamic *paradigm shift*.

3. The Case for a Social Constructionist Approach

Insofar as environmental degradation, whether resulting from human action or non-human causes, presents a clear threat to the biological and cultural survival of individuals and communities, it seems self-evident that it needs to be addressed within a human rights framework. That it does not form part of the traditional, liberal theory of human rights is an accident of historical context, but the contemporary problem of ecocide is evidence of a significant paradigm shift, to which a dynamic response is required. What is equally evident, though, is that at present legal mechanisms for the protection of human rights are ill-equipped to address the problem.

So far in this paper, we have discussed six conceptual frameworks with respect to the relationship between the human (as proposed bearer of rights) and the environment, in order to assess their respective strengths and weaknesses for the task of incorporating the problem of ecocide into the human rights framework. Each of the theories can be applied, to some degree, to the problem of ecocide. These can be summarised thus:

[Authors Table 1 near here]

While there are clear benefits to each of the perspectives outlined above, each also has its limitations in respect of its ability to provide a theoretically robust conceptual framework

for understanding ecocide. It is our contention that the social constructionist perspective offers the most potential and is capable of incorporating many of the strengths of other perspectives. We suggest that, through Kuhn's concept of paradigm shift, and his related distinction between 'normal' and 'revolutionary' science, we can conceptualise the emergence of ecocide as a human rights problem in terms of *eco-change*.

For Kuhn (1996; see also Barnes 1982; Bird 2003), *normal* science is defined in terms of its conservative qualities and associated limitations. It serves to maintain existing rules and standards, preserve an established research tradition and an almost hereditary history of ideas, venerate the knowledge of an often self-regulating community of experts, justify generalizations grounded in pre-determined beliefs, and go through the motions of solving scientific problems using the same tried and tested methods without real creativity or innovation. As a result, science becomes self-justifying. Instead of being about actually solving problems, it becomes more of an exercise in legitimizing scientific practices and beliefs.

For Kuhn, then, normal science is a highly determined *and determining* activity. Paradigms provide the structures within which the 'rules of the game' are negotiated and enforced, and at the same time emerge from the game itself. Paradigms serve to "guide research in the absence of rules" (Kuhn 1996: 42). Paradigms, he argues, "gain their status because they are more successful than their competitors in solving a few problems that the group of practitioners has come to recognize as acute" (ibid: 23). *Anomalies* occur against the background of the accepted paradigm, and facilitate revolution, "an occasion for paradigm change" (ibid: 65), an opportunity to "demolish the existing tradition" (ibid: 6). Necessarily, this results in conflict between rival parties, those who seek to maintain the existing paradigm, and those who recognise and advocate the need for change (ibid: 92-93).

Kuhn's theory of scientific knowledge can clearly be read as a major contribution to social constructionism within the social sciences (Marcum 2015: 117), and his critical analysis of normal science effectively demonstrates how knowledge is reproduced, "acquired through socialisation and maintained by the application of authority and forms of social control" (Barnes 1982: 10-11). By understanding *eco-change* as a paradigm shift, we are also able to develop a better understanding of the problem of ecocide.

It is our contention that the dominant paradigm of traditional environmental knowledge can be defined as an *anthropocentric paradigm* that foregrounds human-centred – i.e. *economic* and *unsustainable* – knowledge rather than environmental protection. In the 21st century, the so-called 'anthropocene epoch', the global and collective industrial activities of human existence are now shaping earth systems (Steffen *et al* 2015). Planetary limits are challenged by increasing levels of carbon dioxide and nitrous oxide, biochemical loading, global fresh water over-use, and so on. In return, people all around the world are faced with the impacts of human-caused environmental issues, such as the melting Arctic, higher sea levels, droughts, and the extinction of entire species. Fragile planetary boundaries facilitate ecological conflicts that underpin social, economic and political instabilities, resulting in intense human rights violations. Because of the ecocidal impacts of the this anthropocene epoch, entire communities of people, for example indigenous tribes in the Amazon region or inhabitants of the smaller island states in the Pacific Ocean, have experienced traumatic social upheavals. In such context, ecocide can no longer be treated as an environmentally-focused companion to genocide, but rather as genocide.

4. A Case Study: Oil Extraction in Ecuador

We have argued that while five popular social theories of the environment may help us to evaluate the socio-ecological issues triggered by ecocide, the sixth, Kuhn's paradigm shift approach, better enables us to treat that discourse as reflective of socially constructed

patterns, or paradigms, and thus to treat the problem of ecocide as one that is constructed through social dynamics. It enables us to see how the overall accumulation of *human-centred economic knowledge* pushes planetary boundaries, which results in environmental destruction and manifests itself as ecocide. The impacts of this are increasingly visible on communities whose survival is directly linked to their relationship with nature. We now present an illustration of this.

Our example[iv] focuses on the threats posed by oil operations on tribal communities in Ecuador's Amazon region. Ecuador is a country with a high level of biological and cultural diversity amidst the Amazon rainforest to the east, known as *El Oriente*. Several indigenous communities and isolated indigenous peoples benefit from this biodiversity, "through forest management, sustainable fishing, ecotourism, and watershed management" (European Commission 2013). It is not surprising that a concept called *'buen vivir'* (good living), meaning living in harmony with nature and without harm to any form of existence, has emerged in such a diverse environment (Huanacuni Mamani 2010: 32). Indeed, the Ecuadorian constitution accepts *buen vivir* as a legally binding norm of the Rights of Nature (Republica del Ecuador 2008). However, while Ecuadorian policy seems to be progressively respectful towards the environment – perhaps even beyond UNFCCC regulations – the situation on the ground is not quite so progressive. Oil extractions carried out by multinational corporations such as Texaco-Chevron result in systematic pollution, which poses a serious threat to communities in this region of Ecuador and neighbouring Peru, and has global consequences (Amazon Watch n.d.; O'Hagan 2014; Hinton 2015; Sheehan and Wilson 2015; Miño 2014). According to Humberto Piaguaje, a leader of Ecuador's Secoya indigenous community and representative of Union de Afectados Por Texaco (UDAPT) which represents the interests of victims of this pollution, toxic water was routinely dispatched through Peru to the Atlantic Ocean, causing considerable harm:

> (B)etween 1974-99 ... when the company left, there was always petrol, oil flowing to the rivers. We saw fishes are dying and … more illness ... our kids, women becoming ill ... and after ten years we started to see there was cancer. Six people in my family died ... Throat, stomach cancer, miscarriage, uterus, leukemia .... (Piaguaje 2015).

Such systematic interventions in indigenous lands continue to this day. Several national and international oil companies conduct regular seismic research in Ecuador's forests, especially in the Yasuni land which comprises the Waorani Ethnic Reserve (*Territorio Huaorani*), Yasuni National Park (*Parque Nacional Yasuni*) and an 'untouchable zone' selected to protect indigenous peoples and wildlife from environmental and cultural exploitation. Apart from its bio- and cultural diversity, the land is rich with crude oil (Martinez and Acosta 2010; Le Quang 2013; Sovacool 2013). This extraction of this oil poses a threat to the existence of tribes such as the *Tagaeri* and the *Taromenane* who have chosen voluntarily to live isolated. Despite significant interventions on their behalf by the international community, co-operation continues between the oil companies and the Ecuadorian government, which requires the flow of oil through the Yasuni Park (Vidal 2016).

The ecocide in Ecuador results in the application of an anthropocentric paradigm that adheres to human-centred economic and unsustainable knowledge and does not concern itself with environmental protection and human rights. Its priorities are economic. The experiences of indigenous communities in El Oriente expose the failure of Ecuador's responsibilities to protect individual and group rights, not least the rights to life, privacy, property, health, food, housing, water, self-determination, culture, land and spirituality.

Through an eco-Marxist lens, we can say that *capitalism,* and through an eco-feminist one, *gender inequality*, serve to maintain the dominant economic knowledge, which sacrifices human rights in order to increase profit and sustain authority. There is clearly truth in this.

We might also suggest, drawing on Marcuse (1964), that this process has been legitimized through a system that is defined by the same emphasis on economic knowledge, and that what manifests itself as 'free choice' within the market is reflective actually of an anthropocentric obsession with the false needs of production and consumption. The theory of risk society would in turn focus on the extent to which risks are institutionally produced and legitimized so as to sustain the hegemony of economic knowledge. Nevertheless, the co-operation between the Ecuadorian authorities and the oil companies stands in violation of the country's constitution, which explicitly recognizes the right to a healthy environment and the rights of nature, and its legal human rights framework, which demands respect for and protection of indigenous communities following the case of *Kichwa Peoples of the Sarayaku Indigenous Community vs Ecuador (2004)*.

In reality, though, the problem is more complex than perhaps these perspectives acknowledge. Societies generally, and Western societies specifically, tend to express evaluations of the scope and mode of the validity through human-centric economic and scientific knowledge, particularly in West-Other relations (Kalkandelen 2016). This became evident at the Nature Rights Tribunal, where indigenous leaders from Ecuador were obliged to justify their ecocide claims through the provision of scientific evidence, for example medical reports or statistics. Evidently, the patterns of social control that drive the discourse on ecocide are not just embedded within the capitalist mode of production, gender inequalities or risk society, but rather within a broader paradigm that exists and is reproduced through everyday social practices, discourses and institutions. This, we argue, is the dynamic that underpins and enables the transmission of the anthropocentric heritage, i.e. the deep structures within the economic and cultural institutions which police the exclusion of alternative eco-paradigms. The hierarchical understanding of normal science provides perfect protection for the anthropocentric paradigm, masking the anomalies

within the paradigm. It is precisely within these anomalies that the term *ecocide* is constructed, emerging at the intersection of biodiversity and cultural decline. As Pablo Fajardo (2015), who has defended indigenous communities in the Texaco-Chevron case, states, the *real* information which derives from ancestral beliefs, as distinct from that which emerges purely from economic and scientific knowledge, should be a global resource.

Accordingly, traditional environmental knowledge is a revolutionary science that challenges existing anthropocentricism and facilitates a paradigm-shift, *eco-change*, towards a more holistic understanding of nature and sustainability. In this respect, there are apparent similarities with the position of the deep ecologists, but there are also clear differences. What deep ecologists might define as an emerging ecological resistance is, for the eco-change scholar an articulation of emerging eco-paradigms that challenge the anthropocentric one. In the case of oil extraction in Ecuador, eco-paradigms start locally within communities who are more vulnerable to the impacts of human-caused environmental degradation. The Rio+20 (2012) outcomes have already acknowledged that "many people, especially the poor, depend directly on ecosystems for their livelihoods, their economic, social and physical well-being, and their cultural heritage". Socio-ecological problems resulting from ecocide increase the environmental victimization of indigenous communities and local populaces, and these are enhanced in habitats where isolated indigenous communities have become more vulnerable due to the activities of oil corporations. In other words, local and global necessity has facilitated the construction of such eco-paradigms drawing on traditional environmental knowledge, which foreground climate justice and challenge the anthropocentric paradigm.

Card (2002) and Beck (2016) both suggest that it is difficult, almost impossible, to properly detect the symptoms of environmental harm. However, this case shows that

"perception of risk and vulnerability, and even impact, is clearly mediated through linguistic and cultural grids, accounting for greater variability in assessments and understandings of disaster" (Oliver-Smith 2004: 17). Although indigenous communities do not have the same facilities for scientific research, their traditional knowledge implies that any harm given to *pachamama* will cause harm, loss, and disaster. As José Gualinga (2015), the former chairman of the Sarayaku people, states, indigenous communities' experiences and conclusions based on ancestral knowledge are not viewed internationally as acceptable 'proof'. Nonetheless, such communities resist oil exploitation in Ecuador to protect nature and their habitats, and thus indirectly challenge anthropocentrism through their narratives based on local experiences and traditional environmental knowledge.

Risk society conceptualizes environmental problems in terms of risks rather than as destructions or disasters. In contrast, we suggest that environmental degradation damages the capacity for human survival. As a result of oil pollution in Ecuador, local communities ask for global initiatives, especially for countries with extreme carbon dioxide emission rates to reduce their pollution rates. In Western discourse this has been called 'climate justice', a recognition that "industrialized countries have overused what can be considered their entitlement to the atmospheric sink" (Lawrence 2014: 12). The climate justice paradigm demands action to stop climate change as part of a broader obligation to protecting human rights.

The more we question the oil operations in Ecuador, the more we recognize the dialectical relationship between anthropocentric knowledge and emerging eco-paradigms. Anthropocentrism contradicts both the Ecuadorian constitution, which recognizes *buen vivir,* and international human rights norms, but both the Ecuadorian authorities and the oil companies show disregard for environmental and human rights policies. Human rights laws and the internationally accepted responsibilities of corporations seem insufficiently

robust at present to respond to the Ecuadorian ecocide.

5. Conclusion

This article has considered the issue of ecocide and its human rights implications, its aim being to more clearly identify ecocide as the product of anomalies in this anthropocene epoch, and also as a new paradigm in human rights knowledge using Kuhn's theory of paradigm shift, which we present as an exemplary application of the social constructionist approach. To illustrate this, we have documented an emerging eco-paradigm, which from its origins among indigenous people in Ecuador has, in response to major environmental threat, articulated itself as a globalised voice. This challenges not only the major corporate and governmental actors who operate within a framework dominated by an anthropocentric paradigm and driven by the pursuit of economic knowledge, but also the dominant human rights framework, which is embedded in Western liberal values. Furthermore, it challenges the international community to recognise that ecocide is a manifestation of the original definition of genocide executed within a new paradigmatic framework. A number of recommendations result from this, not least the need for further research at both the macro- and micro-levels to better understand the specific eco-changes emerging within incidents of ecocide.

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[i] "Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations." (UN General Assembly 1972: Art.1)

[ii] See Ecocide Project http://sas-space.sas.ac.uk/4830/1/Ecocide_research_report_19_July_13.pdf

[iii] Although they did not come up with any concrete results - see Sub-Commission on Prevention of Discrimination and Protection of Minorities. Study of the Question of the Prevention and Punishment of the Crime of Genocide, prepared by Mr. Nicodème Ruhashyankiko, 4 July 1978. E/CN.4/Sub.2/416, p.124 and p.130 and for further reading see "Ecocide and environmental destruction in the UN system: revising the Genocide Convention?" sub-title in Short, 2016

[iv] The data presented here is based on the Mock Trial that is organized by Global Alliance for the Rights of Nature (Nature Rights Tribunal) during the United Nations Framework Convention on Climate Change (UNFCCC) in Paris Climate Change Conference (Conference of the Parties–COP 21) on December 2015. For further please see (Kalkandelen, 2016)